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HEARING
ON
NATIONAL DEFENSE AUTHORIZATION ACT
FOR FISCAL YEAR 2025
AND
OVERSIGHT OF PREVIOUSLY AUTHORIZED
PROGRAMS
BEFORE THE
COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
ONE HUNDRED EIGHTEENTH CONGRESS
SECOND SESSION
SUBCOMMITTEE ON STRATEGIC FORCES HEARING
ON
FY25 STRATEGIC FORCES POSTURE

HEARING HELD
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FY25 STRATEGIC FORCES POSTURE

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON STRATEGIC FORCES,
Washington, DC, Thursday, March 21, 2024.

The subcommittee met, pursuant to call, at 3:31 p.m., in room 2212, Rayburn House Office Building, Hon. Doug Lamborn (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. DOUG LAMBORN, A REPRESENTATIVE FROM COLORADO, CHAIRMAN, SUBCOMMITTEE ON STRATEGIC FORCES, COMMITTEE ON ARMED SERVICES

Mr. LAMBORN. Thank you all for being here. We appreciate that.

We do have votes coming as early as 30 minutes from now, so I think there are some of us here who are going to want to ask questions. We will have one round of questions. And mine will be very brief. And then we will go into a classified session and see how much we can cover before votes are actually impending and we have to leave.

So we appreciate your attendance here. I have an opening statement, but I am going to submit it for the record for the sake of time.

Mr. LAMBORN. And I will now call on the ranking member to see what he would like to do.

OPENING STATEMENT OF HON. SETH MOULTON, A REPRESENTATIVE FROM MASSACHUSETTS, RANKING MEMBER, SUBCOMMITTEE ON STRATEGIC FORCES, COMMITTEE ON ARMED SERVICES

Mr. MOULTON. I am going to take the wise counsel following the chairman's leadership and also submitting my statement for the record.

We would like to expedite things so that we can get the votes and then get to the classified session.

Thank you.

Mr. LAMBORN. Okay. Then let's go right into our distinguished witnesses.

We have the Honorable John Plumb, General Anthony Cotton, General Stephen Whiting, and General Gregory Guillot, if I said that correctly.

Guillot. Okay, I am way off. I will get that before—okay, Guillot.

Mr. Plumb, can you start, please?

**STATEMENT OF HON. DOCTOR JOHN F. PLUMB, ASSISTANT
SECRETARY OF DEFENSE FOR SPACE POLICY, OFFICE OF
THE UNDER SECRETARY OF DEFENSE FOR POLICY**

Dr. PLUMB. Yes, sir. Thank you, Chairman Lamborn, and thank you, Ranking Member Moulton, Members of the committee. Thanks for inviting me to testify here. I will keep my remarks short in the interests of moving to questions.

But just briefly, we are in a very highly dynamic and challenging security environment. We have competitors who are modernizing, and diversifying, and expanding their nuclear arsenals. They are also rapidly fielding space and counterspace capabilities and developing and fielding advanced missiles in greater numbers and greater diversity.

The President's budget request for fiscal year 2025 makes critical investments in the Department's strategic forces posture: 49 billion for our nuclear enterprise; 33.7 billion for our space capabilities; and over 28 billion for missile defense. And across each of these portfolios we are investing not only in capabilities but in our network of allies and partners, both of whom provide advantages that our adversaries, or potential adversaries like Russia and China could never hope to match.

All of these capabilities, nuclear, space, missile defense, remain central to our ability to deter, and also central to our ability to prevail in conflict if deterrence fails.

The Department is committed to making the critical investments necessary to strengthen our strategic forces posture. Thanks to this committee for its tireless dedication to the Department, to our men and women in uniform.

And I look forward to answering your questions.

[The prepared statement of Mr. Plumb can be found in the Appendix on page 21]

Mr. LAMBORN. General Cotton.

**STATEMENT OF GENERAL ANTHONY J. COTTON, USAF,
COMMANDER, U.S. STRATEGIC COMMAND**

General COTTON. Good afternoon, Chairman Lamborn, and Rankin Moulton, and distinguished members of this committee. It is an honor to be here today with my command senior enlisted advisor, senior enlisted leader Sergeant Major Kreamer, and our privilege to represent the servicemembers and civilians of the United States Strategic Command.

I have submitted my statement for the record.

As a global warfighting command, STRATCOM [U.S. Strategic Command] sets conditions across the globe as the ultimate guarantor of the national and allied security. Excuse me. We do this in the face of challenges unlike anything America has encountered.

We are confronting not one but two nuclear peers, the Russian Federation and the People's Republic of China. This reality, compounded by missile developments in North Korean, Iran's nuclear ambitions, and the growing relationships between these nations adds new layers of complexity to our strategic calculus.

While our legacy systems continue to hold potential adversaries at risk, it is absolutely critical we continue at speed with modernization of our nuclear triad. This includes the land-based ICBMs

[intercontinental ballistic missiles], the B-21, the B-52J, the Columbia-class submarine, the Nuclear Sea Launch Cruise Missile, the long-range standoff weapon, and numerous related systems, while also focusing on NC3 [nuclear command, control, and communication] enterprise upgrades and cybersecurity.

The most important message I want to deliver is this: while modernization will continue to be the priority, U.S. STRATCOM and its component forces are ready to deter our adversaries and respond decisively should deterrence fail.

Thank you. And I will look forward to your questions.

[The prepared statement of General Cotton can be found in the Appendix on page 43]

Mr. LAMBORN. Thank you.

General Whiting.

**STATEMENT ON GENERAL STEPHEN N. WHITING, USSF,
COMMANDER, U.S. SPACE COMMAND**

General WHITING. Chairman Lamborn and Ranking Member Moulton, members of the subcommittee, thank you for this opportunity to testify. I am pleased to be here beside Dr. Plumb, General Cotton, and General Guillot.

And I will also abbreviate my opening statement.

Our strategic competitors now hold at risk U.S. and allied space capabilities. The People's Republic of China and Russia's actions have transformed space into a contested warfighting domain. U.S. Space Command's moral responsibility to the Joint Force, the nation, and our allies is to provide space capabilities through all levels of competition and conflict.

The U.S. military services are sized with the assumption of always having access to space. And this is why U.S. Space Command must protect and defend our critical space systems to ensure they are available in the face of the growing threats now arrayed against us.

Inherent in this responsibility is our ability to protect the Joint Force from space-enabled attack. The Command seeks to expand our competitive advantage by leveraging every available asset of the Interagency Joint Force, our allies, partners, and industry. Yet, it is vital the Command is delivered improved capability and capacity by 2027 to attain an enduring advantage over any determined adversary.

I am grateful for Congress' commitment to advance America's leadership in space. With your continued backing, U.S. Space Command will ensure space remains sustainable, safe, stable, and secure for all.

I look forward to your questions.

[The prepared statement of General Whiting can be found in the Appendix on page 71]

Mr. LAMBORN. Thank you.

And General Guillot.

STATEMENT OF GENERAL GREGORY M. GUILLOT, USAF, COMMANDER, U.S. NORTHERN COMMAND, NORTH AMERICAN AEROSPACE DEFENSE COMMAND (NORAD)

General GUILLOT. Chairman Lamborn, Ranking Member Moulton, and distinguished members of the subcommittee, it is a profound honor to command and represent the women and men of North American Aerospace Defense Command and the United States Northern Command.

I am also pleased to appear alongside General Cotton, General Whiting, and Dr. Plumb.

NORAD [North American Aerospace Defense Command] and NORTHCOM [U.S. Northern Command] depend on robust space-based capabilities to execute each of our critical missions. And the strategic deterrent remains the foundation of our homeland defense. The strong partnerships I enjoy with my fellow witnesses are crucial.

The United States and Canada face an extraordinarily complex strategic environment. Our competitors have fielded advanced kinetic systems designed to strike civilian and military infrastructure in North America both above and below the nuclear threshold.

As stated in the National Defense Strategy, the People's Republic of China remains our pacing challenge as the People's Liberation Army modernizes and grows at a rapid pace.

The PRC's [People's Republic of China] expanding nuclear capability and capacity, along with its development of modern submarines, missiles, hypersonic weapons all present significant challenges for homeland defense.

While the PRC's capabilities are growing quickly, Russia is a threat to the homeland today and is an immediate concern. Russia retains the world's largest stockpile of strategic and non-strategic nuclear weapons, and has the capacity to strike inside North America with air and sea launch precision conventional weapons.

Despite heavy losses to its ground forces in Ukraine, Russia has invested heavily in systems that can threaten the United States, such as advanced guided missile submarines, hypersonic glide vehicles, and ICBMs. Russia also maintains significant cyber and undersea capabilities and developmental systems such as a nuclear torpedo and a nuclear-powered cruise missile.

Meanwhile, North Korea continues its rhetoric while testing, test launching increasingly advanced long range missiles and expanding its ties with Russia and China.

While Iran currently lacks the capability to strike North America with long range missiles, it is investing in that capability. Iran also supports violent military groups in the Middle East and maintains a worldwide network of operational surrogates.

With those risks firmly in mind, NORAD and NORTHCOM strive to begin homeland defense well beyond North America. To do so, both commands are working with the services and Congress to improve domain awareness in order to detect, track, and defeat threats ranging from long range ballistic missiles to small UASs [unmanned aerial systems].

Finally, upon taking command, I began a 90-day assessment to inform the Department, the Joint Force, and Congress on NORAD and NORTHCOM's ability to execute assigned tasks and make

recommendations on where the Command can and should do more. Once complete, I will share my findings and updated vision for how NORAD and NORTHCOM will best execute the noble mission of homeland defense.

The challenges facing our nation are real, but there should be no doubt about NORAD and NORTHCOM'S resolve to deter aggression and, if necessary, defeat threats to our nation and our citizens.

Again, thank you for the opportunity to appear this afternoon. And I am happy to take your questions.

[The prepared statement of General Guillot can be found in the Appendix on page 96]

Mr. LAMBORN. Thank you all of you for your opening statements.

I will reiterate what I said earlier. There will be votes called as early as 4 o'clock. I have some questions I will submit for the record.

Mr. LAMBORN. I am going to ask one very brief question of Dr. Plumb and then turn it over to my ranking member. And then everyone has a chance to ask questions. And then if we have time we will go into a classified session upstairs.

But in no event will we come back and have any continuation of this hearing after votes are called. It will be a fairly lengthy vote series and I don't want to keep everybody. And so we will adjourn whenever votes are called, with about a 10-minute gap, grace period for us to finish, wrap up what we are doing and get over for the votes.

Dr. Plumb, very quickly, in its 2022 nuclear posture, the Administration affirmed the continued need for the triad. Has there been any changes in the Administration's policy in this regard?

Dr. PLUMB. No, there has not.

Mr. LAMBORN. Thank you.

Ranking Member Moulton.

Mr. MOULTON. Mr. Chairman, thank you very much.

I will also just ask one question. I am going to direct it to Dr. Plumb and General Cotton if either of you have comments on this.

What thinking has the Department done or been doing on what strategic deterrence looks like with two nuclear peers? What does the world mean, what does that world mean for our nuclear posture, our strategy, and our strategy of deterrence?

Dr. PLUMB. If it is all right, sir, I will start and then I will hand it to General Cotton.

So taking it very seriously. I know you and I have talked about this. The Strategic Posture Commission, helpfully a bipartisan report that has come out looking at this specific problem, the Department is using that as a bit of a—as a reference guide to help us examine and go forward.

The fundamental issue here, as you have pointed out, is China's growth in their nuclear arsenal—and it's a, you know, continental-level nuclear arsenal—changes the calculus. We don't want to be in a situation where we have to have as many nuclear weapons as Russia, plus as many as China, plus one more. But we do have to be able to deter both.

And so we are looking at that. I would say roughly we think, you know, we continue to be sufficient now, program of record is okay

now. But in the future we are going to have to make adjustments because of this growth of China.

And so we are looking at what things can we credibly do to help ensure the deterrence will continue to hold through the 2030s, both through our transition and in the face of China's growing threat.

General Cotton.

General COTTON. Thank you.

Ranking Member Moulton, I would like to add that we have been looking from Strategic Command ever since I took command last 15 months ago, and what we are looking at is the strategic piece that is linked to the NPR [Nuclear Posture Review] because the NPR allows us to look at posture and sizing. So we immediately looked at that.

But as I, you know, as I mentioned to you in the office call, I think it is really about strategy as well. So we have actually commissioned a study within STRATCOM with another group of bipartisan representation to really look at it from a strategic level when you have two near peers in which you have to fight, and how do you hold them at risk in order to do that?

And as well, as you know, the triad itself, all legs of it from delivery systems to the weapons themselves are all being modernized. So just as important is what does that transition from legacy system look like to modernize systems moving forward?

And we have a study that is well underway to make sure that we don't create any gaps in that transition going forward.

Mr. MOULTON. Well, I think that is very encouraging because the world has certainly changed.

Mr. Chairman.

Mr. LAMBORN. Thank you.

Representative Wilson.

Mr. WILSON. Thank you very much, Mr. Chairman. And thank each of you for being here today and your service on behalf of the people of the United States.

General Cotton, in your testimony you state there is a critical need to modernize our stockpile, infrastructure, and a robust science and technology base for our strategic deterrent force. I am grateful to represent the Savannah River Site where they are working around the clock to bring the plutonium production facility into operation as soon as possible.

They are also working to replace a 1950s era's building at the Savannah tritium enterprise.

As the only member of Congress who has ever worked at Savannah River Site, I know personally of how dedicated the personnel are to the people of America. With this, with delaying the modernization put our security at risk. And we are really grateful that plutonium pit production, which is so crucial, is absolutely a two-state—two site solution with Los Alamos and Savannah River.

So what is the status of maintaining our capabilities?

General COTTON. Representative, thank you so much.

And I had the opportunity of actually visiting Savannah River twice in my recent job and in my former job. You are absolutely right, the men and women that are there are incredible Americans and dedicated patriots.

To your point, I think when we think about the products and components that are going to be required from NNSA [National Nuclear Security Administration], I want to keep the throttle, throttle pressed and ensuring that we get pit productions in the numbers we want.

I also think that we also need to pay attention to the other rare earth materials that are warranted and needed, not only tritium, but also lithium and other components that might be something that can hold them back, if you will, as far as NNSA and their production.

And then, finally, I think industrial base and making sure that the brick and mortar, as you know, the things that are actually being produced and built there, the facility itself across the enterprise for NNSA to ensure that they can accomplish all of that to get the buildings built in order to get the production done.

Mr. WILSON. And, General, thank you so much. And you are always welcome back to Savannah River Site any time. And please let me know when you are there because I would like to be with you. Thank you for your service.

And, Secretary Plumb, you stated in your testimony that Iran continues to expand their nuclear activities. Additionally, you also state that at this time “we believe Iran is not currently pursuing nuclear weapons.”

Secretary Plumb, I just—that is amazing to me because the regime in Tehran is pursuing an effort of increasing their stockpile of highly-enriched uranium. The regime in Tehran is continuing to develop ICBMs which can only be used with the intent of striking the United States.

And they make it clear as they chant “Death to Israel, Death to America.” And so it is just really appalling to me that we are in a war we didn’t choose, and that is a war with dictators with rule of gun invading democracies with rule of law. And we know that it began February 22, 2022, with war criminal Putin invading Ukraine. And then October 7, the puppet Hamas of Iran invaded Israel with mass murder.

The dots are so easy to connect between the Axis of Evil. And Iran is we know providing drones and missiles to Putin to murder Ukrainians. In return, their collaboration I just can’t imagine would not include nuclear missile development.

A nuclear bomb would destabilize the Middle East with a vaporization of Israel. And Saudi Arabia, Egypt, and our Persian Gulf allies are threatened.

How close is the regime in Tehran to a nuclear weapon?

Dr. PLUMB. Thank you, sir.

I don’t have a specific time frame for your exact question, but I will just say my testimony is based on intelligence assessments, which is you can enrich uranium without pursuing a nuclear weapon. Obviously you need enriched uranium to build a nuclear weapon. So I take your point.

As far as how close it is, I don’t—perhaps General Cotton has a, has a kind of an infill from his testimony I don’t have off the top of my head.

Mr. WILSON. My time is up. But, hey, we are dealing with Iran. They have enough energy and capability, oil and gas, they don’t

need to have enriched uranium. There is only one purpose for them to have enriched uranium, and that is to develop a nuclear weapon to attack the United States.

I yield back.

Mr. LAMBORN. Representative Carbajal is next on the list.

Mr. CARBAJAL. Thank you, Mr. Chairman.

We all know space is essential to our everyday lives. And I don't think most people understand this. Not only is space critical to our national security programs, but we rely on space to check our weather, our phones, to use a credit card, and now in some cases for internet connection, just to name a few.

These capabilities are primarily because of our nation's robust commercial space industry.

General Whiting, can you speak to the partnership between Space Command and commercial space companies?

How do commercial space companies help you fulfill your mission?

General WHITING. Congressman, thank you for the question. I think one of our nation's principal advantages is our commercial space industry. It is moving at incredible speed with innovation, and it outpacing commercial industry from the rest of the world.

And so today we partner with those companies in a number of ways. One way is through information sharing, a cell called the Commercial Integration Cell at Vandenberg Space Force Base in California.

And then we also leverage services provided by commercial companies. And so we are always looking at how we can better both share information and leverage the capabilities that commercial brings us because we believe that makes us more effective.

Mr. CARBAJAL. Thank you.

For those watching, Vandenberg is in my district.

General Whiting, what do you think the biggest challenge is in space domain? And how can Congress help you overcome this challenge?

General WHITING. Thank you, Congressman.

Our biggest challenge today is the speed at which the People's Republic of China continues to develop its space capabilities. And, in particular, they are developing a number of counter space weapons systems to hold at risk our space systems.

They are also using space to enable their terrestrial forces, their army, their navy, their air force, marines, to make them more lethal, more precise, and more far-ranging.

So I would ask for Congress' support to continue to invest, particularly in the United States Space Force, but also in the other services that provide us capability at U.S. Space Command, because they have to now take our current constellations and make them more resilient. They have to develop systems that we can protect and defend those constellations. We need capabilities to protect the Joint Force from the space-enabling capabilities of others. And then we need a testing and training environment that allows us to know with confidence that our space systems will work the way we need them to.

And that is all a lot, that is a lot of new work. And we need to make sure that we are able to do that.

Mr. CARBAJAL. Thank you. Space Command's and Space Force's ability to move quickly has been impressive.

Dr. Plumb, can you elaborate on why a mission like VICTUS NO_x is important?

And why do you think we have seen success when moving quickly when it comes to space, whether it be Tactically Responsive Space or Space Development Agency proliferation satellite architecture?

Dr. PLUMB. Thank you, Congressman, for the question, sir.

VICTUS NO_x, which is a tactically responsive launch. I am a big fan of this concept of being able to launch quickly, in particular in the way it was done there, which is in response to, you know, simulated threats.

So I think the idea of what you use tactically responsive launch for, the original thought was maybe use it for reconstitution, which may have a play here. But I really do think the idea if there is something new we want to go look at, how fast can we stack a rocket, get a payload on there, and to go inspect the thing or, is a really interesting question.

And I think the service has really knocked it out of the park on that particular— on that particular mission.

Your second question was about moving faster, I think, in the Space Development Agency. And as General Whiting just said, you know partnering with commercial space, which is currently an economic engine for the United States which we should all be proud of, one of the things the business community needs to do is actually innovate its speed so they can close their business case. And we are trying to figure out how to harness that.

And I think what Derek Tournear is doing at SDA [Space Development Agency] is really impressive, which is trying to get the Government to move faster and trying to build on best of current available and do replenishment with an increasing technological upgrade as we go. It is a really impressive thing he is doing. And I think we need to continue to encourage it.

And as I have said in this committee before, that also means we would need congressional help to make sure that if something fails or not every single satellite works that we don't shut down that effort. That is actually built into the way we want to design going forward.

Mr. CARBAJAL. Thank you.

I won't have time for your response but I want to put this question in the record.

Responsible behavior in space is critical to the productive use of this domain, not only for future generations.

Dr. Plumb, how does the Department encourage responsible behavior or detour dangerous behavior in this domain?

You don't have to answer. I am out of time.

[The information referred to can be found in the Appendix on page 121.]

Mr. Chair, I yield back.

Just send me the answer.

Dr. PLUMB. Yes, sir.

Mr. LAMBORN. Thank you.
Representative Stefanik.

Ms. STEFANIK. Thank you so much, Chairman.

General Guillot, as ballistic missile threats from North Korea and Iran continue to advance, do you believe that it would be strategically worthwhile to construct a third homeland missile defense site at the DoD [Department of Defense] and Congress' chosen East Coast location at Fort Drum, New York?

General GUILLOT. Congresswoman, I am aware that there was a recent assessment that said that such a site was not an operational necessity.

However, as an operational commander that watches very closely the advances that our adversaries are making, primarily Iran and, even more so, North Korea, I think that it is important for me as the commander to have continually assessed the threat and see if there are any changes in the threat environment that would necessitate additional capabilities to defect—to affect the homeland.

And so I would—sorry.

Ms. STEFANIK. General, in my office when you were kind enough to visit you said it would be strategically worthwhile and you supported the construction. I understand the assessment process. But as you and I spoke in my office you said this would be strategically worthwhile, particularly as we are considering threats not just of today but of the future as well.

General GUILLOT. Yes, Congresswoman. If the assessment came back that those threats I thought it would be worthwhile to build that site, a site.

Ms. STEFANIK. What would an operational requirement for a third homeland missile defense site look like?

Dr. PLUMB. Congresswoman, that would depend on the threat. But I think dispersal away from the sites that we have now so that we don't have all of our proverbial eggs in one basket would be very important.

And the other would be to make sure that it was located somewhere in the continental United States where it would have the kinematic responsiveness to intercept threats that are coming from a different avenue.

Ms. STEFANIK. And Fort Drum meets those requirements.

Dr. PLUMB. Well, I would—

Ms. STEFANIK. That is the DoD's position, that is Congress' position that Fort Drum is in fact the location of its potential East Coast missile defense site. You are aware of that?

Dr. PLUMB. I am aware of that. Yes, ma'am.

Ms. STEFANIK. And it meets those requirements?

Dr. PLUMB. Well, it does. What I am—I think I am asking a different question is with future capabilities that we may have I think we would have to assess that. But based on the previous, yes, I know that Fort Drum was, was the primary location.

Ms. STEFANIK. Great.

And you understand if and when Congress establishes a requirement for a third homeland missile defense site on the East Coast you understand that it is DoD's responsibility to execute that requirement?

Dr. PLUMB. I would be the strongest advocate to execute that requirement if the, if the threat required it. Yes, ma'am.

Ms. STEFANIK. And then shifting gears here.

Upstate New York, in addition to being home to Fort Drum in my district, we also are home to another key Arctic unit, the New York Air National Guard 109th Airlift Wing. And the 109th Airlift Wing operates the LC-130Hs, or known as the "Skibirds". These planes, as you know, are the only platform in the world that can provide critical logistical support in and around the Arctic. Yet, they are at the very end of their operational capability.

Do you believe that the LC-130s have enabled the U.S. maintain a strategic presence and lead in the Arctic?

Dr. PLUMB. Congresswoman, yes, without a doubt. In fact, just this past week they were in AOR [area of responsibility] up at Arctic Edge and Ice Camp operation performing that unique capability.

Ms. STEFANIK. We believe, and this is a bipartisan issue for members of the New York delegation, I just offered a letter with my colleague Paul Tonko, so bipartisan support, about the urgent need for their recapitalization.

So I would refer you to that. We will make sure your office has a copy of that. But that is very important to maintain our leadership strategically in the Arctic region.

Yield back.

Mr. LAMBORN. Thank you.

Representative Norcross.

Mr. NORCROSS. Thank you, Chairman.

General Cotton, we recently heard that the Sentinel program, or you heard it triggered the Nunn-McCurdy Act, indicating there were serious concerns of cost overrun. And getting less into the actual dollars and cents and time delay, we are about to approve, hopefully approve a budget and some money that is going to go into fund the Department of Defense. And we are facing increasing pressures to fund all our programs.

We have had the three legs of triad, incredibly important.

If the Sentinel program continues and in the projections where it is going, it could come to the point that it almost becomes unaffordable in the way that it is laid out. At what point do we look at that program and say do we go back to the drawing board, not so much to recapitalize our existing Minuteman-IIIs but the requirements, look at a different way of that third leg of the triad?

Can you comment on that?

General COTTON. Representative Norcross, thanks for the question.

We have. So, you know, in regards to three Administrations doing assessments in regards of do we keep a triad or do we go to something different, all said, we must maintain a triad.

Mr. NORCROSS. And I am not suggesting that. But within one of the legs do we look at it differently, not just replicate and update what the existing ones, but look at a different configuration?

General COTTON. Well, I don't know about a different configuration. And I guess I don't know what you, what you mean by a different configuration.

Mr. NORCROSS. Probably not a good idea in open session.

General COTTON. Yes, sir.

Mr. NORCROSS. But the idea of just modernizing what we have to make it more acceptable to, obviously, Father Time. But—

General COTTON. Well, I can answer from this perspective, Congressman. As far as the requirements that we lay, and that is my responsibility at STRATCOM——

Mr. NORCROSS. Sure.

General COTTON. —and then the provider of that capability has come back to say that we can no—we can only meet that requirement at a certain amount of time in which that needs to then be replaced by a more modernized system.

So if that answers your question, and that is what I think we still must maintain an ICBM leg of some, of some semblance that probably looks a little different than a Minuteman 3.

Mr. NORCROSS. So the cost factor, there is no price that we can put on it? We will pay whatever it takes to get it in?

General COTTON. Well, I would hope, you know, that the Air Force and everyone will be able to take a look at that and be able to come to some conclusion on how you can take and make that. But the requirement for the land-based ICBM has not changed from my perspective.

Mr. NORCROSS. There is no question about that.

So, Dr. Plumb, this is I want to throw it into your lane.

Is it time that we look at that leg of how it is currently required, and then what we might do differently to bring in those cost issues? I am not suggesting we do away with it, but do we look at it differently?

Dr. PLUMB. So we ought to be careful here because we are now in a Nunn-McCurdy breach situation, sir. But my understanding is that one of the requirements of the Congress, and this is Under Secretary LaPlante's purview in A&S [acquisition and sustainment] specifically, and not ours, is to re-look at the requirement and look at other ways it could be possible to do it, as all requirement under Nunn-McCurdy breached the congressional statute.

Mr. NORCROSS. All right. Then let me switch things over to an easy one.

Let's talk about the electromagnetic spectrum. Something easy and noncontroversial.

Obviously this is—rears its ugly head quite often. We recently went through what Department of Defense wants to keep versus what the cellular carriers would like to obtain. It is not going to get any better soon.

What is your assessment, not of where we just came from but where we are going to be in 5 years with technology, not only from what the cellular carriers might need for our private side, but what we might need as a spectrum, and then whether it's 3.45 GHz [gigahertz], and then it keeps expanding in different ways that we can get into the spectrum?

Can you give us an assessment of where we are with that, in 5 minutes or less?

Dr. PLUMB. Yes, sir.

So I actually just had the pleasure of getting down to Eglin Air Force Base and seeing some of our electronic warfare squadron in the Air Force. And I will just say the value of spectrum to the war fight and the ability to operate in these bands that we have carved out for ourselves is only going to grow in importance, and in par-

ticular as we focus on China as our pacing threat where they have been aware of this for a long time.

We have to maintain what we have to be able to compete. EW [electronic warfare] in the Ukraine-Russia conflict is providing lessons for everyone. It is being used every single day. We have to be ready for that. We have to be able to fight our, you know, near peer adversaries, not places where we just have superiority.

Mr. NORCROSS. My apologies. I yield back.

Mr. LAMBORN. Thank you.

Representative Bacon.

Mr. BACON. Thank you, Mr. Chairman. And thank you, gentlemen, for being here. It has been a treat for me to work with many of you on the dais out here.

Got to talk to General Guillot about a week ago, so just some questions that you have done. So I am going to focus a little more on the STRATCOM and space side.

First of all, I believe it is imperative that we have 400 ICBMs. We can't extend it any longer. So it is real imperative that the Air Force gets this right and learn from the mistakes of and get these 400 missiles installed.

This committee is committed overwhelmingly to have three legs of the triad and do the modernization. So one of the things that we sometimes think doesn't get the attention it deserves is the Nuclear Command and Control and, in particular, from my vantage point, the survivability part of that.

So, General Cotton, can you share with us the current status of STRATCOM's NC3 modernization efforts and your roadmap?

General COTTON. Congressman Bacon, thanks for the question.

I am actually quite proud of what the team has done in the last 15 months in regards to create a roadmap for NC3. I think when I talked to this committee last year one of my "go dos" was to ensure that we could articulate the requirements from a near term, midterm, and long term perspective.

We were able to do that. It actually culminated with a deputy's, the DSD, department deputy secretary of defense meeting which turned into yet a "go do" for the service components on what we need to fight tonight, what we need for the midterm on activities and modernization of NC3, and then what will it take for the out years.

We are in the middle of a trade study right now to find the best fit for, to be frank, the midterm, 0 to 5 years, because we are already funded. And thank you for being able to fund us for getting the near term and fight tonight activities done.

So as we prosecute that roadmap it will, it will be able to show us gaps in seams that could potentially be seen between zero, five, and five and ten moving forward. So we are quite proud of the work that is being done there.

Mr. BACON. Thank you.

One of the survival aspects for the nuclear C3 is the E-6B Mercury mission where we have an Airborne Command's command post for the flag officer onboard that can take over if STRATCOM is hit, the White House, and the Pentagon. So as you know, the E-6B is approaching retirement. And this timeline may accelerate

once the Navy has this in its program schedule to transition in the TACAMO [Take Charge and Move Out] mission to the C-130J.

So are you confident that the Air Force has a solution or a program to replace the Airborne Command Post and Looking Glass missions which today fly on the E-6B?

General COTTON. So part of that trade space study actually looks at that because that is a gap. And the requirement is that the E-6B will fly through the 2036 time frame.

So as you have mentioned, the TACAMO acquiring—acquisition is already underway in the Department of the Navy. So as that trade space study comes to closure it will identify that gap. And at that point in time we will need to find, you know, what is going to be the replacement for the back end of that airplane, as you mentioned.

Mr. BACON. And it is imperative that we have this mission.

General COTTON. And it gives second launch capability for our ICBM force.

Mr. BACON. Yes.

And so this is very important, Mr. Chairman, that we follow the Air Force on this because we have got to have this mission. And we don't have a plan for it yet. We are going to have to work this, work this part hard.

But, General Whiting, when I came into Congress I turned a lot of attention on the electronic magnetic spectrum operations as an old guys coming to CW. But we, we still have a lot of work to do there. And I know STRATCOM has picked up the leadership on it.

But I know you were telling me how important EW is to the space mission. So could you talk a little bit about your role in the EW realm?

General WHITING. Thank you for the question, Congressman.

You know, our satellites on orbit the only way they can get their information down to planet Earth is through the EW spectrum. So it is absolutely vital to all that we do.

And we appreciate the leadership role that the Congress has taken. And now by U.S. STRATCOM having the military responsibility for that we have stood up an EM, joint EM office inside of the U.S. Space Command that is already very busy, and it is only about 7 months old, that is making sure as we see EMI in the environment, jamming in the environment, how are we assessing that? How are we operating through that? And it is just foundational to all that we do, Congressman.

Mr. BACON. Thank you very much.

I will put a question in the record asking about the importance of the future roles for the B-52 and why it is so vital to the strategic mission.

But I am out of time, so I will put it in for the record.

Mr. BACON. Thank you. I yield.

Mr. LAMBORN. Thank you.

Representative Garamendi.

Mr. GARAMENDI. Thank you, Mr. Chairman.

Mr. Plumb, you spoke in response to Mr. Norcross about the Nunn-McCurdy requirement. You went through it very quickly.

There are five specific elements of the law that must be answered. Are you and the Air Force prepared to answer all five fully, completely, and honestly?

Dr. PLUMB. Congressman, so just to be clear, I don't have any Nunn-McCurdy statutory authority myself as an A&S thing. But, yes, of course, the Department will be answering them fully, and honestly, and correctly.

Mr. GARAMENDI. General Cotton, same question.

General COTTON. The answer is yes.

Mr. GARAMENDI. Very good. I think that takes care of that.

Well, I expect that. And we would expect nothing less, sir.

If we were to define strategy in military terms we would probably say it is aligning unlimited aspirations with limited amount of money. Unless somebody has found some way to continue to increase by perhaps 10 percent or 15 percent a year the Department of Defense budget, strategy means making choices by the military as well as by us.

General Cotton, you spoke earlier about the need for the ICBM. You said it is a require—it is required. Can you tell me in specificity what can not, what can not be done by the other two legs of the triad that only the ICBM can do?

General COTTON. Congressman Garamendi, I can. The ICBM provides a responsive—the ICBM provides a responsiveness to the President of the United States that no other two legs can provide.

Mr. GARAMENDI. Really?

General COTTON. That is correct.

Mr. GARAMENDI. The bomber force and the submarine force is not responsive?

General COTTON. They are responsive but not as responsive and quickly can it provide a response as quick as the ICBM if it was warranted by the President if I was to present, present options.

Mr. GARAMENDI. What would be a response?

General COTTON. Well, I would rather not talk in open session.

Mr. GARAMENDI. Well, let's say that there is a warning coming from Mr. or General Whiting that there are incoming missiles. What is the responsive?

General COTTON. Well, it would be, obviously, up to the President of the United States on does he want to—

Mr. GARAMENDI. And how many minutes does he have to decide?

General COTTON. I will not say that here in open, in open hearing.

Mr. GARAMENDI. Well, in the public domain it is 15 minutes. You don't need to respond, but I don't know anybody is going to be disagreeing with that.

Is that the nature of, is that the definition of responsive, 15 minutes to make a decision about the launch of those weapons?

Now, let's assume they were launched, would it make any difference if it was 15 minutes or 30, 40 minutes that a submarine—

General COTTON. Well, you are making the assumption, Congressman, that the difference between the other two legs is yet another 15 or 20 minutes. And I can get in more details if we were in a closed environment to tell you what that difference would really be.

Mr. GARAMENDI. So they are less responsive.

General COTTON. The survivable leg is the sea leg. The flexible leg is the air leg. Responsive leg is the ICBM leg.

Mr. GARAMENDI. In other words, immediate launch or lose it? It is the use it or lose it, isn't it?

It is not the effect of the launch. The launch would be the same if it were launched from the submarine or from an airplane.

General COTTON. That is not quite correct, Congressman, because I can hold, I can hold different elements at risk with the different, different legs of the triad.

Mr. GARAMENDI. We can go into that in detail.

General Whiting, what is your need for programs that are not in your current budget? Isn't it about \$1.3 billion?

General WHITING. Congressman, I just have signed our unfunded priority list, and that total is about \$1.2 billion.

Mr. GARAMENDI. Could you use any part of the \$6 billion that is currently authorized for the continued progress of the Sentinel, even though it is now Nunn-McCurdy? Would you like about maybe a fifth of that?

General WHITING. Congressman——

Mr. GARAMENDI. About \$6 billion we are going to spend on the Sentinel this year.

General WHITING. Congressman, I don't identify the sources of the funds, just I know what my requirements are to fulfill my mission.

Mr. GARAMENDI. My point is to my colleagues. We do identify the source. And we do have the responsibility of aligning strategy with limited money.

Thank you. I yield back.

Mr. LAMBORN. Okay. That concludes the questioning portion of our hearing today.

Let me just add a slight clarification from my perspective.

You threw out a number a minute ago, Representative Garamendi. There are different numbers that are floating around out there. And I don't think it would be wise for any of us to confirm or deny any specific number because I think that that is really not a topic of discussion we should be having in an open session like this.

Which leads me to my next point. We will go into recess and immediately reconvene upstairs and have perhaps a brief classified hearing because votes will be called shortly.

But we will have a classified hearing for those who are able to attend. And thank you for your testimony today.

We are in recess.

[Whereupon, at 4:15 p.m., the subcommittee was adjourned.]

A P P E N D I X

MARCH 21, 2024

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

MARCH 21, 2024

STATEMENT OF
DR. JOHN F. PLUMB
ASSISTANT SECRETARY OF DEFENSE FOR SPACE POLICY
BEFORE THE HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON STRATEGIC FORCES
ON FISCAL YEAR 2025 STRATEGIC FORCES POSTURE
MARCH 21, 2024

Introduction

Chairman Lamborn, Ranking Member Moulton, and distinguished members of the Committee: Thank you for inviting me to testify before you on the Department's nuclear, space, and missile defense. I am honored to appear alongside Generals Cotton, Guillot, and Whiting.

The United States faces a highly dynamic and challenging security environment characterized by intensifying competition, increasingly assertive behavior by multiple adversaries, quickly transforming domains of conflict, and changing balances of power. Our competitors are modernizing, diversifying, and expanding their nuclear arsenals, and we now face two major nuclear powers, Russia and China, as strategic competitors for the first time. They are rapidly fielding space and counterspace capabilities to hold the Joint Force at risk and deny us the space-based services on which our Joint Force relies. And they are fielding more advanced missiles in greater numbers to not only deter involvement in a regional conflict but also to target the U.S. homeland. The scale and scope of these threats present significant risk to the American people, U.S. national interests, and our allies and partners.

The 2022 National Defense Strategy (NDS), Nuclear Posture Review (NPR), and Missile Defense Review (MDR) recognized the dynamic changes in the security environment and the imperative to strengthen our integrated deterrence using all of our strategic capabilities. To meet these challenges, the President's budget request for Fiscal Year 2025 (FY) 2025 calls for critical investments in the Department's strategic forces posture.

Security Environment**People's Republic of China (PRC)**

The PRC is undergoing a significant and rapid modernization of its nuclear forces, which has resulted in a nascent nuclear triad of land- and sea-based ballistic missiles and a nuclear capable strategic bomber. The Intelligence Community assesses that the PRC will likely have more than 1,000 operational nuclear warheads by 2030, most of which will be fielded on systems capable of ranging the United States. The PRC's intercontinental-range forces are complemented by several classes of theater-range road-mobile ballistic missile systems. The PRC is also fielding sea-launched ballistic missile submarines that can hold the U.S. homeland at risk and developing a strategic hypersonic glide missile that can deliver nuclear systems.

The trajectory of this expansion points to a large, diverse nuclear arsenal with a high degree of survivability, reliability, and effectiveness. These developments could provide the PRC with new options both prior to and during a crisis or conflict to leverage nuclear capabilities for coercive purposes against U.S. allies and regional partners. Unfortunately, the PRC remains reluctant to engage in meaningful conversations on strategic risk reduction or to be transparent regarding its rapid nuclear development.

The PRC views the space domain, and the ability to deny it to its adversaries, as a critical component of modern warfare. The PRC has made significant investments in space capabilities to rapidly expand its ability to monitor forces across the globe and improve its long-range precision strike capabilities against U.S. or allied forces to deter or deny outside regional intervention. To advance its concept of "informatized" warfare, the PRC continues to develop and modernize space capabilities to conduct intelligence, surveillance and reconnaissance (ISR)

and to enhance communication, data relays, and positioning, navigation, and timing for its forces. The PRC also continues to rapidly develop counter-space capabilities to hold our on-orbit assets at risk. These capabilities include direct-ascent anti-satellite missiles, ground-based lasers, electronic warfare, directed-energy systems, co-orbital satellites potentially capable of kinetic effects, and orbiting space robots. To support its increased investment in space, the PRC is modernizing its launch capabilities and capacity to reconstitute its space capabilities if needed.

The PRC is also rapidly modernizing its ballistic, hypersonic, and cruise missile capabilities, and it is increasingly capable of conducting strikes against regional air bases, logistics and port facilities, communications, and other ground-based infrastructure. As highlighted in the China Military Power Report, the PRC is developing a layered missile defense system. It is also fielding the DF-17, which is a hypersonic glide vehicle-armed medium range ballistic missile that is likely intended to strike U.S. and allied/partner military bases and fleets in the Indo-Pacific region.

Russia

Russia continues to emphasize nuclear weapons in its security strategy. It is modernizing and expanding its nuclear forces, which pose an acute threat to the United States and a direct threat to NATO and neighboring countries. Russia's nuclear saber-rattling throughout its invasion of Ukraine is irresponsible and troubling. Although Russia has not formally withdrawn from the New START Treaty, its illegal suspension of implementation has reduced transparency and eroded the Treaty's effectiveness. Further, Russia maintains a significant stockpile of warheads that are not treaty-limited, and it continues to pursue novel nuclear systems that are designed to hold the U.S. homeland, allies, and partners at risk.

Russia is seeking to mitigate U.S. space capabilities by developing a range of offensive counterspace capabilities, including directed energy weapons, direct ascent anti-satellite systems, and orbital systems with counterspace applications. These investments in counterspace systems are designed to exploit what it views as a U.S. overreliance on space for conducting military operations and to offset perceived U.S. military advantages. Russian military doctrine embraces multi-domain attacks, using both reversible and irreversible capabilities, to target adversary satellites. Russia has conducted cyber intrusions against commercial satellite communication networks, and it has demonstrated through both its public statements and actions that it views commercial satellites providing space-based services to Russia's adversaries as potential targets.

Since its unprovoked and illegal full-scale invasion of Ukraine in February 2022, Russia has used thousands of air-, land-, and sea-launched cruise, ballistic, and hypersonic missiles to indiscriminately target both civilian and military infrastructure. Russia's growing cooperation with Iran and the Democratic People's Republic of Korea (DPRK) to continue its war of aggression remains a concern. Iran has been providing Russia with significant numbers of drones, guided aerial bombs, and artillery ammunition, while the DPRK has similarly provided Russia with ballistic missile launchers and ballistic missiles capable of ranging approximately 550 miles.

Democratic People's Republic of Korea (DPRK)

The DPRK is a persistent threat and source of continuing provocations to both the United States and our allies and partners. The continued expansion, diversification, and improvement of the DPRK's nuclear and missile capabilities presents a growing danger to the U.S. homeland and

the Indo-Pacific region. A crisis or conflict on the Korean peninsula could involve multiple nuclear powers and several U.S. allies and partners, raising the risk of broader escalation.

The DPRK continues to pursue a space program, launching several reconnaissance satellites over the last year in violation of multiple UN Security Council Resolutions related to DPRK use of ballistic missile technology, and maintaining previously-demonstrated non-kinetic counterspace capabilities, including jamming communications and Global Positioning System (GPS) signals. The DPRK also continues to advance its conventional and nuclear missile capabilities, posing an increasing risk to the U.S. homeland and to U.S. forces, allies, and partners abroad. Since January 2023, the DPRK has launched at least 40 missiles, including a solid-propellant intercontinental ballistic missiles (ICBM) and purported submarine-launched cruise missiles for the first time this year.

Iran

Iran does not today possess a nuclear weapon, and we believe it is not currently pursuing one. However, Iran's pursuit of nuclear activities continues to be of deep concern. Iran is also continuing to develop its space program despite repeated failures, and this year it has used Russian launch services to place communications and navigation satellites into orbit. Iran has publicly acknowledged its capabilities to jam space-based communications and GPS signals, and its continued development of space launch vehicles (SLV), such as the Simorgh, support the development of ICBMs.

Iran has the largest ballistic missile program in the Middle East, with more than 10 distinct ballistic missile systems either in its inventory or in development, and a stockpile of likely thousands of missiles. It is exporting Unmanned Aerial Systems (UAS) to fuel conflicts

around the globe. In addition to Russia's use of Iranian attack drones in Ukraine, Iranian partners and proxies such as Hizballah in Lebanon, Iran-aligned militias in Iraq, and the Houthis in Yemen are using these UAS to conduct attacks against Israel, U.S. bases in the Middle East, and commercial and naval vessels transiting the Red Sea.

Nuclear Strategy and Posture

As the Department previewed in the 2022 NDS and NPR, the security environment has continued to deteriorate. We now face, for the first time, two major nuclear powers: Russia and China. This development is already creating new challenges for deterrence and stresses on strategic stability. This more uncertain environment underscores the importance of delivering on the full-scope modernization of the U.S. nuclear deterrent.

As part of NPR implementation, the Department has an ongoing process to assess the implications of the evolving security environment on deterrence and allied assurances. The Department has closely studied the findings of the Congressional Commission on the Strategic Posture of the United States regarding the PRC's emergence as a major nuclear power and the dilemmas this presents for strategic deterrence and our overall defense strategy. We fully agree with the Commission's independent assessment on the need to maintain a nuclear triad, the importance of delivering on full-scope modernization, and the need to posture to address two nuclear-armed adversaries. The Department has a two-pronged approach to address the challenges of the evolving security environment: First, we will invest in both strategic and regional deterrence capabilities, taking actions necessary to ensure a safe, secure, and reliable deterrent to protect the U.S. homeland, allies, and partners. Second, we will continue supporting

efforts to pursue arms control and risk reduction with both Russia and China, even as we recognize that progress requires more than one party to engage responsibly.

Investments

Delivering modernized nuclear forces is essential to sustaining and strengthening deterrence. The President's FY 2025 budget calls for a \$49.2 billion investment in nuclear enterprise modernization as well as sustainment and operations. This request fully funds recapitalization of all three legs of the nuclear triad and includes \$11 billion for the sustainment and modernization of Nuclear Command, Control, and Communications (NC3) systems.

- Sea-leg: The President's Budget requests \$9.9 billion for the COLUMBIA-class nuclear-powered ballistic missile submarine (SSBN), which will replace the current fleet of OHIO-class SSBNs as the most survivable leg of the nuclear triad. COLUMBIA will safeguard the effectiveness and availability of the sea-leg of the triad through the 2080s. The President's Budget also requests \$3.1 billion to enhance flexibility in the options that could be provided to decision-makers and reduce risks to the sea-leg of the triad during the transition from legacy to modern systems.
- Air-leg: The President's Budget request includes \$5.3 billion for the B-21 RAIDER bomber and \$833 million for the Long-Range Standoff cruise missile (LRSO). These programs will contribute to the continued credibility of the air-leg of the triad and provide the President with flexible options to deter and respond to strategic attacks. The President's Budget also supports modernization of the B-52 bomber's radars and engines to support its continued viability through the 2050s.

- Ground-leg: As the most responsive leg of the nuclear triad, our intercontinental ballistic missiles deter aggression day-to-day, in crisis, and in conflict. The Department of Defense is committed to conducting a comprehensive review of the Sentinel program as statutorily required under the Nunn-McCurdy Act. We are working hard to prevent future delays and cost-overruns. As we continue to modernize our intercontinental ballistic missile fleet, we will work to guarantee that Minuteman III remains a viable deterrent.

These investments will build on the accomplishments of the past year, including the first flight of the B-21 RAIDER; preparations for a modern variant of the B61 nuclear gravity bomb, the B61-12 and development of the -13; the completion of nuclear certification of U.S. dual-capable aircraft and personnel deployed to Europe in support of NATO; and the completion of a DoD strategy to defeat Hard and Deeply Buried Targets (HDBT), which will enable the timely retirement of the B83 gravity bomb.

The Department is committed to fielding flexible nuclear forces suited to deterring regional nuclear conflict, including weapons deliverable by strategic bombers and dual-capable fighter aircraft as well as the ability to forward deploy nuclear weapons. We have retained the W76-2 low-yield submarine launched ballistic missile warhead and continue our fielding of the F-35A dual-capable fighter aircraft equipped with the B61-12 bomb. We are also complying with the statutory requirement from the National Defense Authorization Act for FY 2024 to establish a program to develop a nuclear-armed sea-launched cruise missile (SLCM-N). We will look to execute the program in a manner that provides the most deterrence value for the least risk to other modernization programs, and we look forward to working with Congress to find the most beneficial and effective approach to implementing the SLCM-N legislation.

Allies and Partners

We are also continuing to invest in extended deterrence and assurance by fielding flexible nuclear forces suited to deterring regional nuclear conflict, identifying pragmatic steps to strengthen deterrence consultations, and exploring opportunities for multilateral and trilateral dialogue, exercises, and other activities.

In the Indo-Pacific region, we continue to deepen nuclear consultations and coordination as part of our alliance commitments. We recently convened the second meeting of the U.S.-Republic of Korea (ROK) Nuclear Consultative Group (NCG), an outgrowth of the Washington Declaration between President Biden and President Yoon at the White House in 2023. The defined workstreams of the NCG—including information sharing, consultation, coordination, strategic communications, integration of ROK and U.S. forces, and leadership decision-making—will strengthen extended deterrence and manage the threat posed by the DPRK. In December 2023, our Japanese Ministries of Defense and Foreign Affairs counterparts hosted us in Tokyo for a meeting of the U.S.-Japan Extended Deterrence Dialogue. And last month, in February 2024, we hosted our Australian colleagues in Hawaii for the annual U.S.-Australia Strategic Policy Dialogue. These discussions allow us to coordinate our deterrence policies, strategic messaging, and activities that reinforce regional security, including promoting better synchronization and interoperability.

In Europe, the United States and our NATO allies have stood united against Russia's brutal war of aggression in Ukraine and reckless and coercive nuclear rhetoric. The United States is implementing its commitments under NATO's 2022 Strategic Concept to take all necessary steps to "ensure NATO's nuclear mission remains credible, effective, safe, and secure." Following the Vilnius Summit in 2023, the United States is working through the NATO High

Level Group to achieve the broadest possible participation in NATO's nuclear burden-sharing in the Alliance's nuclear mission and augment our planning to increase the flexibility and adaptability of NATO nuclear forces. We are working closely with allies to modernize NATO's dual-capable aircraft to maintain NATO's nuclear posture's effectiveness.

Arms Control Implications

The United States cannot ignore the PRC's continued nuclear build-up, Russia's acute challenge to regional and global security, and the persistent threat posed by North Korea. We will continue to seek opportunities to pursue pragmatic arms control and risk reduction measures with our competitors. However, we must be prepared for a world in which Russia continues to possess large numbers of strategic, non-strategic, and novel nuclear weapons systems while the PRC continues to expand and modernize its arsenal. The Department will continue to evaluate changes in the security environment and examine whether adjustments to our nuclear strategy or force posture are necessary to sustain deterrence, assure our allies, and achieve U.S. objectives.

Space Strategy and Posture

The space domain is critical to U.S. national security and space is essential to all four of our National Defense Strategy's top priorities. Our Joint Force relies on space-based services every day to conduct operations and to protect the Joint Force from space-enabled attack. Together with our allies and partners, we must ensure space capabilities continue to support integrated deterrence options, and, if needed, the ability to prevail in conflict should deterrence fail.

Our competitors recognize the importance of space to the United States, and they continue to develop and field capabilities designed to deprive us of the advantages of space during conflict. To enhance resilience and maintain our advantage in space, the Department will continue to emphasize space control, promote responsible behavior in space, enhance cooperation with allies and partners, address the overclassification of space activities, and make sustained investments in our capabilities and resiliency.

Resilience

The Department continues to adopt resilient-by-design architectures through a range of approaches that includes disaggregation, distribution, diversification, proliferation, and protection. But resilience alone is insufficient to provide mission assurance or to deny adversaries' uncontested use of space in conflict. As I have testified previously, increasing the mission assurance of the space-based services on which the Joint Force relies to fight and win requires a balance of resiliency, protection, and reconstitution ability. Our investments must address each of these areas in addition to capabilities across all domains that support U.S. interests in space.

One way we are increasing the resiliency of our space capabilities is through the Space Development Agency's proliferated satellite architecture. In April 2023, the Department launched the first ten satellites of the Proliferated Warfighter Space Architecture, followed by an additional 13 satellites five months later. This was accomplished in less than three years from contract award to launch, an accelerated timeline made possible by leveraging commercial satellite bus lines and existing technologies. This architecture will enhance and support no-fail

missions such as networked communications, missile warning, missile tracking, and missile defense.

We continue to advance our Tactically Responsive Space capabilities to support integrated deterrence and warfighting needs. Last September, the Victus Nox mission successfully launched with 24-hour notice, showcasing our ability to reconstitute space-based services, support warfighting mission assurance at operational speeds, and the benefits of commercial systems, capabilities, and services.

Responsible Behavior in Space

The United States recognizes the benefits derived by all nations from space, and the Department continues to lead by example in ensuring space remains available to all. I want to highlight three efforts. First, we continue to hold ourselves accountable to the Secretary's Tenets of Responsible Behaviors in Space. Second, the Department continues to encourage nations to commit to not conducting destructive direct-ascent anti-satellite missile tests, which has already been endorsed by 38 nations and contributes to the establishment of a recognized norm of responsible behavior. Third, in partnership with the Department of State, DoD participates in the United Nations' efforts to develop risk-reducing voluntary behaviors through efforts such as the upcoming 2025 open-ended working group on reducing space threats through norms, rules and principles of responsible behaviors.

The United States remains committed to responsible leadership in preserving the safety, stability, security, and long-term sustainability of the space domain, and that includes upholding all of our obligations—international and internal—that serve to support these ends. Meanwhile, instead of cooperating with the international community to implement and abide by constructive

norms of responsible behavior and existing obligations, China and Russia have sought to undermine international efforts by promoting their proposed legally-binding, but hypocritical and unverifiable, treaty on the “prevention of the placement of weapons in space” as the only path to improving space security, all while developing sophisticated counterspace capabilities.

Allies and Partners

The U.S. network of allies and partners are an asymmetric advantage that our competitors can never hope to match. The Department is committed to expanding space cooperation to enhance information sharing, set standards for interoperability, promote responsible behavior, and develop combined operations in space. The Combined Space Operations (CSpO) Initiative, a group of defense representatives from likeminded nations, continues to be the premier forum for civilian and military space leadership to work towards shared goals. In December 2023, the CSpO Initiative Principals Board welcomed representatives from Italy, Japan, and Norway, joining representatives from Australia, Canada, France, Germany, New Zealand, the United Kingdom, and the United States. The CSpO Initiative will continue to seek opportunities to enhance space cooperation and coordination.

The Department is also focused on better leveraging the commercial sector’s innovation, scalable production, and rapid technology refresh rate to enhance our resilience and strengthen our deterrence. The forthcoming DoD Commercial Space Integration Strategy, a first for the Department, will help promote deeper integration of commercial space solutions. Integration will enhance space mission assurance by ensuring the Joint Force has acquired and trained with relevant commercial space solutions prior to crisis and that the Department has assured access to them across the spectrum of conflict.

Space Classification Policy

The Department has made significant progress towards overcoming longstanding barriers rooted in the way we classify space activities. In December 2023, the Deputy Secretary of Defense signed an extensive re-write of DoD's Space Classification Policy guidance, which updates a set of 20-year-old policies and enables more appropriate classification of space activities in light of the current security environment and how we use space today. One of my goals from day one has been to remove policy barriers that impede cooperation with allies and partners and integration across the Joint Force on how we operate, plan for, and invest in space. This policy sets new minimum classification standards of certain activities and provides space stakeholders with the authority to take certain programs out of Special Access Programs controls. These changes will take time to implement, but they will pay significant dividends in facilitating space cooperation with allies and partners, working with commercial and industry partners, and preparing the Joint Force to fight and win using space should deterrence fail.

Investments

The President's FY 2025 budget request of \$33.7 billion for space strikes a balance among current warfighting needs, modernizing our architecture, and developing new capabilities to outpace our potential adversaries. This request includes critical investments in resilient architectures, space command and control, integrated space fires and protection capabilities, modernized and agile electronic warfare architecture, enhanced battlespace awareness and space systems defense, and a range of capabilities designed to enhance our space control. Important investments for the Department include:

- \$2.4 billion for National Security Space Launch, which will procure 11 launch vehicles to provide assured access to space and to modernize space launch range upgrades to support increased commercial use.
- \$1.5 billion for more resilient position, navigation, and timing (PNT) for GPS III Follow-On satellite support, including two GPS III follow-on satellites, and Next-Generation Operational Control System (OCX) development.
- \$4.2 billion for a resilient protected tactical, wideband, and narrowband communications architecture and Space Development Agency's proliferated Low Earth Orbit (pLEO) transport layer development.
- \$12.3 billion for a range of capabilities to increase resiliency of existing architectures and to enable us to protect our space interests during competition, crisis, and conflict.

While the depth and breadth of space threats continues to rapidly expand, we can only meet these challenges through strong and sustained investments in our space capabilities. We cannot continue to operate under repeated continuing resolutions. I respectfully request your assistance in ensuring we pass timely appropriations both this year and every year, which will provide predictable, adequate, and sustained funding for our warfighters. Our requested investments represent critical capabilities to protect the Joint Force and preserve global freedom of action for our decisionmakers.

Missile Defense Strategy and Posture

As the conflicts in Ukraine and Israel as well as operations in the Red Sea have demonstrated, missiles are the principal means by which our competitors and their proxies seek to gain strategic, operational, and tactical advantages. Active missile defense intercept systems such as PATRIOT, Aegis, and U.S.-Israeli co-developed systems have proven highly effective against many of the air and missile threats. In particular, Ukraine's use of PATRIOT against Russian hypersonic missiles highlights the importance of continuing to invest in active defense systems.

As noted in the 2022 MDR, today's diverse, evolving, and advanced missile threats require pursuit of a more comprehensive approach, beyond continued improvement, to active air and missile defenses. The Department's comprehensive missile defeat effort utilizes right- and left-of-launch capabilities and expands our possible response options against these threats. We are also applying passive defense measures such as hardening, dispersal, and resilience to further complicate a competitor's targeting and reduce the value of any one site.

We cannot defend our way out of this problem; a balanced offensive-defense strategy is essential. Air and missile defenses are finite in quantity and can be numerically overwhelmed by barrage-style attacks. Offensive measures add credibility to our response and reduce the possibility of continued attacks.

The Department has made tangible progress on many of its Integrated Air and Missile Defense (IAMD) priorities over the last year. In line with the NDS and MDR, we have prioritized missile defeat efforts that strengthen homeland and regional deterrence and defense.

Allies and Partners

The Department has also continued to advance missile defense cooperation with our allies and partners:

- *Ukraine:* Ukraine has relied heavily on air and missile defenses to defend its sovereignty and deny Russia important strategic, operational, and tactical gains. However, without additional U.S. foreign military assistance, Ukraine's ability to successfully withstand further air and missile attacks will be in jeopardy. The Department is requesting \$1.7 billion in supplemental funding for Foreign Military Financing (FMF) for Ukraine, and countries impacted by the situation in Ukraine, to build air defense, artillery, armor, anti-armor, and maritime security capabilities.
- *Israel:* The Department continues to work with Israel to strengthen its air and missile defenses as it faces barrages of rocket, mortar, and missile attacks by Hamas and other Iranian proxy groups such as Hizballah and the Houthis. The United States has temporarily transferred its two Iron Dome batteries to Israel and offered to replenish Iron Dome interceptors. To help Israel ensure it can continue to defend itself, the Department is requesting \$10.6 billion in supplemental funding, which includes \$5.2 billion for acquisition of additional air-defense systems such as Iron Dome.
- *Indo-Pacific region.* The Department consults regularly with Japan and South Korea on IAMD, and both nations continue to pursue a wide range of additional air and missile assets to strengthen regional deterrence. In August 2023, President Biden and Japanese Prime Minister Kishida publicly announced plans to pursue a Glide Phase Interceptor cooperative development program to counter high-end hypersonic missile threats.

Additionally, in December 2023, the Department activated a trilateral early missile warning data-sharing mechanism against DPRK threats with Japan and South Korea.

- *Europe:* The United States is leading NATO's on-going efforts to improve its IAMD capability, posture, readiness, and interoperability. In December 2023, the U.S. Navy completed operational acceptance of the Aegis Ashore site in Poland, and after a period of testing, will deliver this capability to NATO as part of the U.S. contribution to the European Phased Adaptive Approach (EPAA). The Department is also encouraging our European allies and partners to acquire their own IAMD capabilities and supporting multinational IAMD procurement initiatives such as the European Sky Shield Initiative.
- *Middle East:* The Department is taking steps to help partners in the Middle East develop a regional missile early warning system. Saudi Arabia's and the UAE's acquisition of multiple Terminal High-Altitude Area Defense (THAAD) batteries supports the defense of their own territories against multiple missile attacks.

Defense of the Homeland

The Department continues to make progress building a layered defense capability on Guam designed to strengthen regional deterrence and, if attacked, defend against simultaneous raids of cruise, ballistic, maneuvering, and hypersonic threats. We are aiming to have initial operational capability by 2030.

In October 2023, the U.S. Navy and the Missile Defense Agency (MDA) successfully demonstrated the capability of a ballistic missile defense-configured Aegis ship to simultaneously engage both ballistic missile and aerial targets. In December 2023, MDA, U.S. Northern Command, U.S. Space Force, and U.S. Space Command successfully demonstrated the

ability of an upgraded Ground-Based Interceptor (GBI) to engage a target in an expanded engagement battle space. The Next Generation Interceptor (NGI) program is next moving into the product development phase and will provide critical improvements to the Ground-Based Midcourse Defense System, the backbone of homeland missile defense. In February 2024, two of MDA's Hypersonic and Ballistic Tracking Space Sensors (HBTSS) were launched into orbit. HBTSS will provide tracking of missiles from launch through intercept, irrespective of the launch point.

Investments

Air and missile defenses play an essential role in defending population centers, critical assets and infrastructure, and more. For FY 2025, the Department is requesting \$28.4 billion for missile defeat and defense to defend the homeland, deployed forces, allies, and partners against increasingly complex missile threats. This amount is a reduction of \$1.4 billion due to the mandatory budgetary caps put in place last year, which forced the Department to make tough choices across the entire budget. Important missile defense and defeat investments include:

- \$2.5 billion to develop the NGI for ground-based midcourse defense, as well extend the service life of the current Ground Based Interceptors.
- \$1.9 billion for hypersonic defense programs, which includes \$175 million for the Glide Phase Interceptor (MDA), \$653 million for SM-6 Block IA (Navy), and \$963 million for PAC-3 MSE (Army).
- \$4.7 billion for Space-Based Missile Warning Systems, which includes \$2.6 billion in resilient Low Earth Orbit and Medium Earth Orbit missile warning/missile tracking systems, and \$2.1 billion in Overhead Persistent Infrared Systems.

- \$1.5 billion for the Army and MDA for the development and procurements of the Defense of Guam program.
- \$383.6 million for and Cruise Missile Defense of the Homeland, specifically the \$372 million for RDT&E for Over the Horizon Radar modernization.

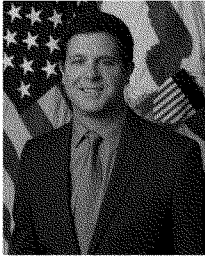
The Department's FY25 missile defense and defeat budget positions us to meet evolving threats head-on as one critical element of the Department's broader integrated deterrence strategy.

Conclusion

Nuclear, space, and missile defense capabilities remain central to the National Defense Strategy and our ability to deter competitors in this challenging security environment. As we contend with dynamic threats, the Department remains committed to making the critical investments necessary to strengthen our strategic forces posture. Thank you to the Committee for its tireless dedication to the Department and our servicemembers, and I look forward to answering your questions.

DR. JOHN F. PLUMB

Assistant Secretary of Defense for Space Policy



Dr. John F. Plumb was confirmed in March 2022 as the first Assistant Secretary of Defense for Space Policy. In this role he is responsible for the overall supervision of policy for the Department of Defense for space warfighting. His policy portfolio encompasses the Department's strategic capabilities for integrated deterrence: space, nuclear weapons, cyber, missile defense, electromagnetic warfare, and countering weapons of mass destruction. He also serves as the Principal Cyber Advisor to the Secretary of Defense.

Dr. Plumb has served in various national security roles both in and out of uniform for nearly three decades. As an active duty US Navy submarine officer, he served on a fast attack Los Angeles-class submarine and as an instructor at the Navy's nuclear power school. He then transitioned to the Navy reserves, commanding eight different reserve units over 20 years. As a civilian he held previous roles in the Senate, the Pentagon, and on the National Security Council staff at the White House. Prior to his confirmation he spent several years working for Federally Funded Research and Development Centers, first as a Senior Engineer at the Rand Corporation, and then as Principal Director, Chief of Government Relations for the Aerospace Corporation.

He holds a B.S. in Physics from the University of Notre Dame, and an M.S. in Physics and Ph.D. in Aerospace Engineering from the University of Colorado. His academic awards include the University of Notre Dame Student Leadership Award and an American Association for the Advancement of Science (AAAS) Congressional Science & Technology Fellowship sponsored by the Institute of Navigation. His personal military decorations include the Legion of Merit, the Meritorious Service Medal, and the Navy Commendation Medal. His civil service awards include the Office of the Secretary of Defense Exceptional Public Service Award, the Department of State Superior Honor Award, and the Secretary of Energy Achievement Award.

HOUSE ARMED SERVICES COMMITTEE ON STRATEGIC FORCES

STATEMENT OF
ANTHONY J. COTTON
COMMANDER
UNITED STATES STRATEGIC COMMAND
BEFORE THE
HOUSE ARMED SERVICES COMMITTEE ON STRATEGIC FORCES
21 MARCH 2024

HOUSE ARMED SERVICES COMMITTEE ON STRATEGIC FORCES

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INTRODUCTION

United States Strategic Command (USSTRATCOM) is a global warfighting combatant command (CCMD). Our mission is to deter strategic attack through a safe, secure, effective, and credible global combat capability and, when directed, prevail in conflict. Our people are foundational to the Command's mission and success, ensuring the safety and security of our Nation and our Allies, 24 hours a day, 365 days a year. I want to thank the President, Secretary of Defense, and Chairman of the Joint Chiefs for their continued leadership in support of USSTRATCOM's mission areas. I would like to thank Congress for its continued support in providing USSTRATCOM with the necessary resources to execute our mission and for commissioning the recently-released bipartisan report on America's Strategic Posture, which provides valuable insight into our challenges and offers a number of recommendations to preserve existing advantages.

Today, the United States, its Allies, and partners continue to be confronted by two major nuclear powers as strategic competitors and potential adversaries: the People's Republic of China (PRC) and the Russian Federation. We are also faced with the growing nuclear threat posed by the Democratic People's Republic of Korea (DPRK) and Islamic Republic of Iran's continued expansion of its nuclear program. What's more, our potential adversaries are increasing their level of coordination and cooperation with one another. This threat environment raises the possibility of near-simultaneous conflicts with multiple nuclear-armed, opportunistic adversaries.

The United States addresses these challenges through integrated deterrence, campaigning, and actions that build enduring advantages—leveraging the capabilities of our Joint Force to ensure that the President has options to deter all potential adversaries. Integrated deterrence is

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the bedrock of our National Defense Strategy (NDS). As the NDS articulates, integrated deterrence spans all instruments of national power, all Allies and partners, all domains and capabilities, and is backstopped by a safe, secure, and effective nuclear deterrent.

USSTRATCOM's role, however, is not limited to nuclear plans and operations.

USSTRATCOM responsibilities span strategic deterrence, nuclear operations, nuclear command, control, and communications (NC3) enterprise operations, joint electromagnetic spectrum (EMS) operations (JEMSO), global strike, and missile threat assessment. Executing these responsibilities entails close alignment and collaboration with senior national and Department of Defense (DoD) leadership, CCMs, defense agencies, and other elements of national power. Strategic deterrence is critical to the DoD's integrated deterrence approach.

OUR PEOPLE

To fulfill our strategic deterrence mission, USSTRATCOM relies on a team of military and civilian members who are steadfast in their dedication. People are the cornerstone of our organization, and I take pride in working alongside such a talented and dedicated group of professionals. I am committed to ensuring they have the support and resources needed to succeed, and I firmly believe that investing in our people is essential to our success. By providing comprehensive professional development opportunities, career-enhancing experiences, and targeted training programs to ensure our personnel are well-prepared to conquer the challenges ahead, we are fostering the growth of the next generation of strategic deterrence experts.

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GLOBAL SECURITY ENVIRONMENT

The peace dividend once envisioned at the end of the Cold War has unfortunately failed to materialize in the long-term. Strategic competition is on the rise, including in the nuclear domain, as evidenced by Russia's comprehensive nuclear modernization efforts and the PRC's rapid and opaque nuclear weapons buildup. The emphasis on nuclear capabilities by potential adversaries, coupled with the incorporation of technologies like hypersonic weapons (HSW) and fractional orbital bombardment (FOB) capabilities, significantly escalates global security risks. As noted in the 2022 Nuclear Posture Review, the PRC and Russia also likely possess capabilities relevant to chemical and biological warfare that pose a threat to U.S., Allied, and partner forces, military operations, and civilian populations.

Taken individually, these developments are concerning; they are only exacerbated by the increasing levels of cooperation between and among the PRC, Russian Federation, DPRK, and Islamic Republic of Iran, which creates the possibility for simultaneous crises and raises the risk of opportunistic aggression. For example, Russian and PRC bombers flew joint patrols over the western Pacific this past November and conducted a joint maritime patrol near the Aleutian Islands over the summer. The DPRK and Iran have also delivered arms to Russia to support its war against Ukraine. This increasing cooperation and the risk of simultaneous crisis or conflict place a premium on credible, robust, and flexible joint force response options that signal our readiness and commitment to potential adversaries, Allies, and partners.

THE PEOPLE'S REPUBLIC OF CHINA

The 2022 NDS identified the PRC as the Department's pacing challenge and our most consequential strategic competitor. PRC leadership has stated that the expansion of nuclear

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capabilities is necessary to achieve “great power status,” and potentially perceives its nuclear arsenal as a key deterrent to U.S. intervention in the region. While the PRC’s long-term nuclear strategy and requirements remain unclear, the trajectory of its efforts points toward a large nuclear and more diverse force with a high degree of survivability, reliability, and effectiveness.

The PRC currently has a nuclear triad consisting of bombers, submarines, and land-based missiles. Its H-6N bomber is equipped to carry air-launched ballistic and cruise missiles, and the PRC is actively developing a strategic stealth bomber, the H-20. The PRC also has six JIN-class ballistic missile submarines (SSBNs) equipped with new third-generation JL-3 submarine-launched ballistic missiles (SLBMs), capable of striking the continental United States from PRC littoral waters. Additionally, the PRC has approximately 1,000 medium and intermediate-range dual-capable conventional or nuclear ballistic missiles capable of inflicting significant damage to U.S., Allied, or partner forces and homelands in the Indo-Pacific.

As I reported to Congress in January 2023, the PRC’s arsenal of land-based intercontinental ballistic missile (ICBM) launchers currently exceeds that of the United States. Today, the PRC likely has more than 500 operational nuclear warheads and, should it continue building weapons at its current pace, could have more than 1,000 nuclear warheads by 2030. In 2022, it built three new ICBM fields, with at least 300 missile silos, each capable of housing the solid-propellant CSS-10 Mod 2 ICBM. The PRC also maintains road-mobile CSS-20 ICBMs, each armed with multiple independently targetable reentry vehicles (MIRV), and is developing a new generation of mobile ICBMs. These developments, combined with the PRC’s increasing counter-space and cyber capabilities, pose a complex, but not insurmountable challenge to U.S. strategic deterrence.

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RUSSIAN FEDERATION

The 2022 NDS identified Russia as an acute threat. Its unprovoked war against Ukraine has caused the largest conflict on the European continent since World War II and undermines the rules-based international system. The invasion has also highlighted Russia's willingness to employ nuclear coercion and attempt to influence decision making within the United States and our North Atlantic Treaty Organization (NATO) Allies. Russia's violation of specific obligations within the New Strategic Arms Reduction Treaty (New START) further exacerbates this issue.

Russia is currently in possession of the largest and most diverse nuclear arsenal of any nation. In September 2023, it proclaimed the RS-28 SARMAT ICBM had been placed on combat duty. Additionally, Russia continues to field new SEVERODVINSK-class nuclear-powered cruise missile submarines, as well as DOLGORUKIY-class SSBNs, armed with the SS-N-32 Bulava SLBM.

Beyond Russia's traditional strategic triad, it is expanding and modernizing its nuclear options. These include nuclear-capable hypersonic systems such as the Tsirkon land attack cruise missile and the Kinzhal air-launched ballistic missile, the last of which Russia has employed frequently against Ukraine in a conventional role. These hypersonic systems add diversity and flexibility to Russia's nuclear arsenal and complement its stockpile of approximately 2,000 theater nuclear weapons that do not fall under New START limits.

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA

The DPRK views its nuclear arsenal as a means to ensure regime survival and influence Republic of Korea and U.S. forces in the area. The DPRK is developing and fielding mobile short-

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intermediate-, and intercontinental-range nuclear capabilities that place the United States homeland and regional Allies and partners at risk. DPRK leadership recently declared that the country's status as a nuclear weapons state "has now become irreversible," and it is possible the DPRK will resume nuclear testing in order to demonstrate its capabilities.

ISLAMIC REPUBLIC OF IRAN

The Islamic Republic of Iran continues to expand its nuclear program by increasing its stockpile of highly enriched uranium and deploying additional advanced centrifuges, which has shortened the time Iran would need to acquire enough fissile material for a nuclear weapon. Iran already possesses the region's largest arsenal of conventional ballistic missiles, which threaten U.S. regional bases and are capable of reaching as far as Southern Europe. Iran also continues to proliferate advanced conventional weapons to non-state militia groups across the Middle East—which have been used in countless attacks against U.S. and partner personnel and interests across the region, undermining regional stability.

ACCOMPLISHING THE MISSION: THE TRIAD AND OTHER CORE FUNCTIONS

To address these threats, the United States is undertaking a multi-generational, decades-long modernization of our entire nuclear deterrent, including all three legs of the triad, as well as our command, control, and communications capabilities. The comprehensive modernization programs we are currently undertaking have not occurred on this scale since the 1980s. Throughout this period, we will retain credible forces to deter strategic attacks, assure our Allies and partners, and provide options to the President if necessary. USSTRATCOM remains vigilant and will continue to posture available forces throughout the triad's transition to ensure

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we will continue to be able to meet our requirements. I urge Congress to continue supporting these critical national security capabilities and associated infrastructure.

NUCLEAR COMMAND, CONTROL, AND COMMUNICATIONS (NC3) ENTERPRISE MODERNIZATION

The President's ability to command, control, and communicate (C3) with the nation's nuclear forces is critical to the entire nuclear enterprise, and it must remain effective and resilient under all circumstances. Our NC3 Enterprise is a key component of strategic deterrence, and with congressional support, the DoD is focused on improving our NC3 capabilities while addressing potential threats. Our efforts are based on innovation and collaboration, partnering with various sectors—including government, industry, and academia—to incorporate advanced concepts into NC3 projects. This collaborative approach is vital for safely integrating new technologies into our NC3 architecture and for identifying and addressing potential strategic gaps.

To ensure a viable NC3 capability in support of Strategic Deterrence, there are numerous efforts underway in the space, aerial, and terrestrial layers. Regarding the space layer, the Advanced Extremely High Frequency (AEHF) space constellation is fully deployed, and the command post terminals leveraging it are nearing fully-fielded status. This modernization effort will permit the transition away from our legacy capability, provide enhanced missile warning, increase national-level conferencing connectivity and security, and improve Presidential decision dissemination to our nuclear forces.

We are also in the process of replacing aging aerial layer command and control nodes like the E-4B and E-6B in support of future senior leader communications and force direction

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messaging. The E-4B Nightwatch aircraft currently serves as the National Airborne Operations Center and is an essential National asset. Its recapitalization program, the Survivable Airborne Operations Center, will serve as the next generation airborne command and control center platform for the President, Secretary of Defense, and Joint Chiefs of Staff.

The E-6B Mercury serves two roles. It is responsible for the Take Charge and Move Out (TACAMO) mission, serving as an Emergency Action Message (EAM) relay to all legs of the nuclear triad. It also serves as an alternate USSTRATCOM Command Center (Looking Glass), providing EAM origination and ICBM secondary launch capability. The E-6B follow-on platform, the E-XX, will execute the EAM relay (TACAMO) mission only, and must be operational by the E-6B's projected end of service life in FY38.

The terrestrial layer is undergoing modernization efforts that round out the Nation's ability to provide a more diverse communication architecture that provides additional resiliency to our nuclear force assets and ensures flexibility and survivability from emerging threats. In pursuit of this enhanced architecture, the Air Force and Navy are modernizing the Strategic Automated Command and Control System and Nova nuclear messaging transports to better integrate these complementary critical Service systems, providing high priority direction to all three legs of the triad. In addition, the Defense Information Systems Agency is funding and pursuing a modernized means of Senior Leader conferencing during national events.

These NC3 system upgrades will ensure an integrated, secure, and survivable strategic nuclear communication capability that meets stringent nuclear, cyber protection, and cryptographic certification requirements. Urgently needed, these recapitalization and improvement programs must continue without interruption for on-time fielding to meet

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operational requirements and to deter adversaries from seeking to gain strategic advantage from non-nuclear attacks on the Nation's NC3 architecture.

JOINT ELECTROMAGNETIC SPECTRUM OPERATIONS (JEMSO)

The electromagnetic spectrum is a critical maneuver space in modern warfare, and our reliance on it to conduct operations is paramount. As the EMS environment grows more contested and congested, it is vital to understand the threats we face and how they impact our ability to operate. The USSTRATCOM Joint Electromagnetic Spectrum Operations Center (JEC) was established at the direction of the Secretary of Defense, with bipartisan congressional support, on July 26th, 2023. In addition, CCMDs created Joint Electromagnetic Spectrum Operations Cells (JEMSOCs) in their headquarters to improve EMSO readiness and to address evolving adversary threats. The JEC trains and assesses the progress of these JEMSOCs, maintains governance over JEMSO training, and analyzes the operational impact of U.S. EMSO policy discussions related to spectrum management.

Through participation in joint exercises and wargames, the JEC improves joint force interoperability and coordination and provides superior military advice. The JEC identifies improvement areas by assessing current capabilities and appraising future force concepts, ultimately enhancing our superiority in the EMS environment. These initiatives are critical for assessing the Department's mission performance and ensuring readiness against diverse threats.

Key to maintaining this readiness is our capability to conduct training in realistic EMS environments. This is a significant challenge with the increased demand from non-DoD users. To address this, USSTRATCOM will continue to work closely with Joint Staff and DoD Chief

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Information Officer (CIO) to ensure operational risks to the mission are understood when decisions are made on spectrum allocation.

LAND-BASED TRIAD COMPONENT

As the triad's land-based component, the Minuteman III (MMIII) ICBM system is our most responsive strategic deterrent option. It is a geographically dispersed, reliable, and highly responsive force with the most robust and ironclad NC3 system enabling direct communication with the President of the United States. Our ICBMs raise the bar for an adversary considering a counterforce strike against the United States; no adversary can be confident in its ability to destroy our ICBMs via limited attack or prior to their being launched.

The MMIII missile initially deployed over 50 years ago with a planned 10-year service life. Its supporting infrastructure of silos and Launch Facilities is even older. The missile's robust design, combined with judicious investments, and the dedication of our Airmen, have permitted the MMIII to operate well beyond its original design life. It remains a formidable deterrent, but asset attrition, aging, parts obsolescence, and sustainment shortfalls present increasingly significant operational challenges. To address this, the Air Force has identified comprehensive capabilities to keep the MMIII weapon system viable until end of life; Centralized Asset Management (CAM) funding increases will ensure the MMIII weapon system meets USSTRATCOM alert requirements in the near term, and support equipment acquisition program investments will help reduce weapon system sustainment risks.

The LGM-35A Sentinel ICBM Program is intended to replace the MMIII weapon system with a modern land-based deterrent, and the program is synchronized with MMIII decommissioning to avoid operational shortfalls. Sentinel constitutes an incredibly complex

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mega-project to replace every facet of the MMIII weapon system. The program includes a secure and robust command, control, and communications capability, a new missile, and hundreds of infrastructure projects, including hardened facilities spread across thousands of miles in five states. The command and launch segment is the most complex segment of the Sentinel program. It includes 450 refurbished and modernized Launch Facilities, thousands of miles of modern fiber optic networks, the acquisition of permanent and temporary real estate easements with hundreds of landowners, and operational site activation efforts necessary to support the workforce responsible for converting the Launch Facilities.

The Sentinel program is unique in size and scope—with no recent comparisons in terms of magnitude. It is critical that the Air Force, with the support of Congress, continue investments to ensure sustainment of MMIII to manage end-of-life margin until it is fully replaced by a modern ICBM weapon system.

SEA-BASED TRIAD COMPONENT

As the triad's sea-based component, the OHIO-class SSBN fleet, paired with the Trident II D5 Strategic Weapon System (SWS), operates virtually undetected in the world's oceans, providing a resilient, reliable, survivable, and assured second-strike capability vital to the defense of the United States and our Allies and partners. Despite the fleet's accomplishments, and its ability to achieve the mission today, it faces continuing sustainment challenges that could impact its availability until fully replaced by the COLUMBIA-class in 2042.

The COLUMBIA-class SSBN is the Navy's top priority strategic deterrent program for USSTRATCOM. This new submarine must achieve its first strategic deterrent patrol by 2030 to avoid an unacceptable capability gap. To address this potential gap, the Navy is investing

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heavily in the Submarine Industrial Base (SIB) in order to ensure delivery of COLUMBIA hulls 2-12 meet required timelines. These efforts will help maintain SSBN availability until the COLUMBIA-class submarines are all available.

The COLUMBIA Program of Record (POR) delivers at least twelve SSBNs, which is the absolute minimum required number of SSBNs to meet today's at-sea deterrence requirements. The COLUMBIA-class will feature improved tactical and sonar systems, electric drive propulsion, and advanced hull coating to improve acoustic performance and maintain U.S. undersea dominance. In addition, the longer life span of the reactor and reduced maintenance requirements will increase SSBN availability compared to the OHIO-class SSBNs.

Shore infrastructure readiness is fundamental to supporting SSBN operational readiness requirements. This includes Navy NC3 systems, facilities, and the SSBN maintenance facilities in Bangor, WA, and Kings Bay, GA. Provision of military construction funding, as well as operations and maintenance funding, facilitates the Navy's modernization of shore infrastructure supporting the nuclear deterrence mission. One immediate example of this modernization is the COLUMBIA-class expansion for the Kings Bay Trident Refit Facility (TRF), which is on track to begin in FY25. COLUMBIA-class submarines require industrial processes that TRF facilities are not currently capable of supporting. The TRF expansion project will provide the modernization and capacity required to support the COLUMBIA-class SSBNs in Kings Bay.

The COLUMBIA-class will continue to carry the Trident II missile, and the D5 Life Extension 2 (D5LE2) program will upgrade the Trident II to maintain a modern, reliable, flexible, and effective missile with advanced technology capable of adapting to emerging threats for many years to come. D5LE2 is essential to support COLUMBIA-class SSBNs and requires timely and appropriate funding to maintain a viable SSBN deterrent; underfunding D5LE2 would

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impact technology readiness and program milestones. The success of the COLUMBIA-class depends on a capable and flexible missile to safeguard credibility in both present and future threat environments.

The Navy's commitment to sustaining and modernizing its SSBN fleet underscores its dedication to maintaining the sea-based portion of the triad. Although there are challenges and risks associated with these efforts, the Navy's efforts to address sustainment concerns and modernize its fleet will ensure the nation's strategic deterrence capabilities will remain reliable, survivable, and resilient in the future.

Low-Yield Non-Ballistic Nuclear Capability

The Sea-Launched Cruise Missile – Nuclear (SLCM-N), established as a new program of record by the FY24 NDAA, will provide an additional at-sea nuclear deterrent capability. It will give the U.S. a low-yield, non-ballistic nuclear capability without visible generation, offering an additional capability for extended deterrence and assurance. We look forward to working with Congress to find the most beneficial and effective approach in delivering this capability.

Anti-Submarine Warfare

Adversaries can increasingly challenge our acoustic superiority and SSBN survivability through advancements in undersea quieting, acoustic arrays, and processing capabilities. Our submarines are formidable weapon systems, but we need to address potential adversaries' undersea advances to maintain an effective and viable SSBN fleet in the long-term.

The Navy's Integrated Undersea Surveillance System (IUSS) provides vital information with respect to adversary submarine and surface ship operations, providing the theater anti-

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submarine warfare commander with battlespace awareness that is critical to defeat the threat to our own submarines. IUSS has been a crucial component of U.S. naval operations and its recapitalization is a national imperative.

Undersea dominance is critical to national security, and we must maintain our advantage through the evolving threat environment and OHIO to COLUMBIA transition. In addition to IUSS, the U.S. Navy must continue its efforts in the Acoustic Superiority Program. Advanced emerging technologies in this program must be delivered. By doing so, we can maintain our tactical and strategic advantage in the undersea domain, thereby ensuring the safety and security of our Nation.

AIR-BASED TRIAD COMPONENT

As the triad's air-based component, our bomber fleet is the most flexible and visible leg; it represents a crucial component of our nation's strategic deterrent and responsive assurance to United States Allies. Enabled by our tanker fleet, the United States is the only country with the ability and capacity to provide bombers to support U.S. operations and Allies and partners around the world.

The U.S. bomber force represents an incredibly versatile set of tools. Our bomber and tanker fleets support both nuclear and conventional operations, enabling the execution of strike options to support national objectives worldwide. The bomber fleet's dynamic force employment versatility makes it an indispensable triad component. I strongly encourage Congress to continue to support our budget requests for the bomber fleet, including its associated weapons and communication systems.

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B-52H Modernization

The B-52 has served as the backbone of our bomber fleet for over 60 years, and with Congressionally supported modernization and sustainment programs, it is set to remain viable and effective for another three decades. Achieving this milestone poses several maintenance and operational challenges, requiring dedicated technical solutions, resources, and the hard work of our remarkable Airmen.

The B-52H requires critical upgrades, including the Commercial Engine Replacement Program, which replaces the outdated and inefficient engines with modern variants offering longer flight range, lower emissions, less tanker requirements, and improved supply chain management for the Air Force. The Radar Modernization Program will enable USSTRATCOM and Air Force Global Strike Command to effectively employ B-52 nuclear and conventional weapon capabilities, as well as enhance navigation and weather avoidance functions. Finally, the Advanced Extremely High Frequency integration will enable a survivable, two-way command and control communications system as well as provide a path for future growth and polar communications integration. These B-52H recapitalization and improvement programs are urgently needed and must continue without interruption to ensure on-time fielding of a modernized B-52J fleet to meet operational requirements.

B-2 Modernization

The B-2 fleet is a crucial delivery platform, as it is the only low-observable bomber in the world that can penetrate denied environments and deliver a wide range of munitions against high-value strategic targets. We must preserve this unique operational advantage as the Air Force transitions from the B-2 to the B-21 fleet.

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To ensure a seamless and successful transition, Congress must continue to fully fund B-2 sustainment and modernization programs until the B-21 achieves full operational capability for both conventional and nuclear missions. In particular, B-2 modernization must include the Low Observable Signature and Supportability Modifications program, which will enhance its ability to penetrate anti-access area-denial (A2AD) combat environments. To enable reliable C2 pathways, the B-2 Advanced Communications Program will provide secure satellite connectivity beyond line-of-sight, ultra-high frequency line-of-sight, high-frequency anti-jam, and encrypted voice communications. This modernization will allow our aircrews to communicate securely with our Allies and partners.

By investing in these modernization efforts, the DoD can ensure the B-2 fleet remains a formidable force in the face of evolving threats. This will enhance the Air Force's operational capabilities and significantly boost national security.

B-21 Raider

The B-21, along with the B-52J, will be the mainstay of the triad's air leg, making it an essential part of the nation's defense strategy. The Raider will provide long range, exceptional access, and diverse payload wherever necessary to help deter and win wars. The program is on track to meet operational requirements set by USSTRATCOM, with flight testing under way and the first operational aircraft scheduled for delivery in the late 2020s.

The Raider POR delivers a minimum of 100 aircraft. As the national security environment evolves, the Air Force may require additional B-21 aircraft to meet future global conventional and nuclear warfighting needs. It is crucial this advanced bomber program remains

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fully funded, stays on track, and delivers on time to prevent any potential shortfalls in the bomber strategic deterrent force.

Air-Launched Cruise Missile / Long-Range Standoff Missile and Nuclear Gravity Bombs

Today, the air-delivered weapons portfolio consists of the Air Launched Cruise Missile (ALCM) and nuclear gravity bombs. This combination provides an appropriate mix of standoff and direct attack munitions to meet near-term operational requirements while the DoD and National Nuclear Security Administration (NNSA) explore options for future capabilities. Longer-term, the ALCM will be replaced by the long-range standoff (LRSO) cruise missile as our nation's only air-delivered nuclear standoff capability—offering the President more flexible and scalable options to penetrate and survive advanced air defense systems. The B61-12 will complete fielding in FY26; along with the B61-13, it will extend the service life of the B61. The flexibility of these air-delivered systems is a key attribute in all USSTRATCOM operational plans. The on-time delivery of these weapons is the critical risk mitigation component for potential delays in the fielding of other modernization programs.

Tanker Support

The U.S. tanker fleet is the primary enabler of airborne strike platforms, providing global reach without relying on intermediate basing locations. A robust tanker fleet is essential to sustain USSTRATCOM missions, but the aging KC-135 is currently our only nuclear-certified refueling platform.

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To address this, the Air Force is working to revitalize the tanker fleet through the rapid nuclear certification of the KC-46 and the acceleration of the Next Generation Air-refueling System program. These initiatives are vital to continued long-range air operations.

We must modernize and acquire more tankers to enable simultaneous global operations across the spectrum of conflict involving multiple CCMDs. Full congressional and Service commitment to tanker sustainment and modernization efforts will ensure the United States maintains a global strategic advantage, even in simultaneous conflicts.

ACCOMPLISHING THE MISSION: INDUSTRY, INFRASTRUCTURE, AND SECURITY

We cannot accomplish our mission without the industry, infrastructure, and security that supports the triad and our core functions. These key enablers ensure that our weapons and weapons platforms are designed and manufactured to fight, and win, today and in the future.

DEFENSE INDUSTRIAL BASE

A healthy defense industrial base (DIB) that can provide advanced technology, capability, and capacity is fundamental to our ability to compete strategically. The strength of our defense capabilities is directly linked to the talents of the American workforce and the robustness and innovation of our industrial base. Building a strong and resilient workforce and supporting infrastructure to execute PORs on-time, while modernizing and sustaining current forces, is one of the most important issues we face today.

It is imperative to develop the DIB and workforce capable of creating the infrastructure necessary to support all our modernization programs, particularly the Sentinel ICBM program,

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the COLUMBIA-class SSBN program, and future follow-on programs for the Trident II D5 SLBM. This includes ensuring the right throughput for trade schools and producing skilled technical labor, such as technicians proficient in concrete work, welding, and rebar fabrication. The success of the major levels of effort in ballistic missile programs in the 1960s, like the Polaris missile program and the Minuteman project, driven by an energized whole-of-government approach, serves as a historical precedent for the current national imperative.

The Office of the Secretary of Defense (OSD), Cost Assessment and Program Evaluation (CAPE) and the Navy have dedicated considerable study efforts toward maximizing efficiency and identifying substantial SIB programmatic gaps; these studies have resulted in real efforts to assess shortfalls and address growing industrial base demand. Continued congressional support is critical to overhauling the SIB to advance the Navy's shipbuilding efforts. Execution of the 1+2 (1 COLUMBIA-class SSBN + 2 VIRGINIA SSNs per year) submarine build plan is a national imperative. Currently, the shipbuilding industry only delivers one VIRGINIA-class submarine every ten months instead of the targeted six months. Achieving required production levels will shape our nation's undersea dominance and sea-based strategic deterrence well into the 2080s. Continued support for the DIB and SIB is key to sustaining current capabilities and ensuring we remain at the forefront of defense technology.

NUCLEAR SECURITY ENTERPRISE (NSE) AND WEAPONS INFRASTRUCTURE

The nation's nuclear weapon stockpile is currently safe, secure, effective, and credible. The NNSA workforce achieved significant milestones in FY23 with initial fielding of the B61-12 gravity bomb and the W88 Alt 370 warhead. Progress also continues toward achieving the first production of a war reserve plutonium pit in 2024. These accomplishments

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notwithstanding, work remains on our aging nuclear stockpile and its supporting enterprise as our nuclear competitors accelerate fielding of advanced capabilities.

While I am confident that we can meet objectives today, performance degradation and increasing uncertainty reduces the operational flexibility I have in providing options to the President. As the Nuclear Posture Review makes clear, a resilient and adaptive nuclear security enterprise is key to managing geopolitical as well as operational, technical, and programmatic risks. Our success depends on executing stockpile and infrastructure PORs to maintain the current stockpile, modernize weapons where practicable, develop and field modern replacements when required, and enhance the NSE with additional residual capacity to enable a responsive and resilient weapons program.

As our weapons stockpile ages beyond its planned service life, the margins in our fielded weapons decrease. The confidence in our deterrent over time has been sustained by the exceptional performance and knowledge provided through the stockpile surveillance program, which gives us insights into the design margins built into these systems. This is a testament to the work of past designers, engineers, and production staff, but we cannot rely on this approach indefinitely. We need to find alternative methods to become more predictive in our surveillance programs to ensure the continued safety and effectiveness of our aging strategic stockpile.

Modernizing a new or significantly updated weapon in today's enterprise takes a decade or more. As we look ahead, considerable work needs to be done to modernize weapons across all three legs of the triad. The first wave of modernization is the current POR that includes the W80-4 for the LRSO, the W87-1/Mk21A for the Sentinel, and the W93/Mk7 for the SSBNs. Subsequent nuclear weapons stockpile modernization will follow, with programs required through the 2040s and beyond.

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It is important to note that we do not have residual NSE capacity to manage emerging risks. For example, we have little capacity to respond to unforeseen issues in our aging stockpile without impacting the POR or planned future modernization programs. We must not lose sight of the larger need for modern weapons development and fielding for the warfighter. Only the NNSA can provide this capability.

As in past years, our priority remains the establishment of a credible plutonium pit manufacturing capability. However, modernizing the stockpile requires more than pit production. To improve future readiness and implement the flexibility to respond to the changing geopolitical environment, we must also establish necessary capacities and capabilities to manufacture and produce uranium, tritium, high explosives, lithium, and radiation-hardened electronics.

I strongly endorse the efforts of NNSA and Service partners to ensure a modern stockpile, responsive infrastructure, and a robust science and technology base for our strategic deterrence force. As a critical partner to integrated deterrence, I strongly endorse the Services and NNSA's efforts to recover lost schedules, create margin, reduce USSTRATCOM's mission risk, and decrease the nation's strategic risk.

NUCLEAR SECURITY

Our defense-in-depth strategy for the safety and security of U.S. nuclear weapons begins with each weapon and extends outward to protect systems, bases, structures, and personnel. Any failure in their protection can raise questions about the credibility of our national deterrent. As we continue to assess and analyze threats to fielded forces and strategic capabilities, we will

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shape and advocate for programs to close security gaps and maintain our stringent security standards to deter, detect, delay, deny, and defeat threats.

MH-139A Grey Wolf Helicopter

The Joint Force achieved a significant ICBM security milestone with the contract award for the MH-139A Grey Wolf. This helicopter increases the overall protection of our nuclear arsenal by providing an enhanced rapid response against threats to our land-based ICBM infrastructure. When compared to the legacy UH-1N, the MH-139A provides our forces enhanced speed, range, endurance, payload, and survivability. These attributes ensure our strategic advantage by protecting assets vital to national security. We look forward to achieving operational capability and employing these highly capable platforms.

Weapon Generation Facility

As we modernize nuclear weapons and platforms, the Air Force is replacing aging weapon storage areas with weapons generation facilities (WGFs). These WGFs are vital to security, sustainment, and fielding of the Sentinel, B-21, and LRSO triad modernization programs, and their associated weapons. The Air Force will conduct weapon maintenance, storage operations, and weapons generation activities in a single reinforced WGF at each strategic base. The WGFs enhance weapon security by consolidating maintenance and sustainment activities into one common facility, and are a key part of the nuclear modernization effort that must deliver on time to meet weapon and platform POR delivery schedules.

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Uncrewed Systems

The proliferation of uncrewed systems with increasing technological sophistication poses a challenge to the Department and our nation's nuclear enterprise. We are in a rapidly accelerating technological race with our adversaries. USSTRATCOM executed assessments in 2022 and 2023 to validate the effectiveness of our counter-uncrewed aircraft systems as a step towards refining requirements, tactics, techniques, and procedures to advance future capabilities. Investing smartly and leveraging partnerships with academia and industry are crucial to secure our technological advantage and protect our ability to preserve strategic deterrence. I urge Congress to continue supporting these areas so we can meet the challenges of a rapidly changing technological landscape and compete into the future.

INTEGRATED AIR AND MISSILE DEFENSE

Although the Missile Defense mission was recently transferred from USSTRATCOM to USSPACECOM, the protection of our fielded forces from air and missile threats remains a critical responsibility of USSTRATCOM. Moreover, integrated air and missile defense is an enduring component of integrated deterrence. The missile defense enterprise continues to evolve in a dynamic, increasingly complex and challenging threat environment. USSTRATCOM's ability to deter and respond to strategic attack requires response to adversary cruise, ballistic, hypersonic missile, and other delivery systems. The breathtaking pace of development, testing, and fielding of these weapon systems demonstrates adversaries' investment and commitment to advanced capabilities.

USSTRATCOM continues to work with CCMDs, Services, and Agencies to posture U.S. forces while working to field responsive, persistent, resilient, and cost-effective sensor

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capabilities able to detect, characterize, track, and engage current and projected threats. USSTRATCOM also supports improvements in early warning, identification, tracking, discrimination, and attribution for the range of air and missile threats to the homeland and our strategic forces.

HYPERSONIC WEAPONS

USSTRATCOM provides nuclear and conventional options to support deterrence objectives and global strike responsibilities. USSTRATCOM relies on Conventional-Nuclear Integration planning, which includes planning for employing conventional HSWs capable of holding time-sensitive, high-value targets at risk. These weapons could allow mission planners to tailor specific effects to better complement the planning and use of nuclear forces, while enhancing Presidential decision space. HSWs could provide potential flexible strike options to influence adversary decision-making and potentially restore deterrence before reaching the nuclear threshold.

The Services continue to develop and plan for operational fielding of hypersonic weapon systems to support multiple CCMDs. The Army and Navy are developing a common all-up round weapon to deploy in the near- and far-term on mobile transporter erector launcher batteries, ZUMWALT-class destroyers, and VIRGINIA-class submarines, respectively. The Air Force is completing the Air-launched Rapid Response Weapon flight test program and working on high Mach and hypersonic cruise missiles. USSTRATCOM will continue working with partners to develop responsive, affordable strike systems for national security needs in support of our deterrence and global strike responsibilities.

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CONCLUSION

USSTRATCOM remains steadfast in its mission. We are focused on advancing our capabilities while maintaining a credible strategic deterrent today. To ensure we can deliver, we are diligently modernizing our capabilities and adopting a dynamic, integrated approach to strategic deterrence. I am proud to lead a team of dedicated Soldiers, Sailors, Marines, Airmen, Guardians, and Civilians committed to our mission. We are eager to bolster integrated deterrence as we continue our work with Congress, the Department of Defense, the interagency, industry, academia, and our Allies and partners.



GENERAL ANTHONY J. COTTON

Gen. Anthony J. Cotton is the Commander, United States Strategic Command, Offutt Air Force Base, Nebraska. He is responsible for one of 11 Unified Commands under the Department of Defense. USSTRATCOM is responsible for strategic deterrence, nuclear operations, global strike, missile defense, joint electromagnetic spectrum operations, analysis and targeting, and missile threat assessment. USSTRATCOM is comprised of 41,000 Soldiers, Sailors, Airmen, Marines, Guardians, and civilians who operate globally performing the command's missions. The command also provides the Secretary of Defense and President a range of options to deter adversaries and assure allies.

Gen. Cotton entered the Air Force through the ROTC program in 1986 where he earned a bachelor's degree in political science from North Carolina State University in Raleigh. He has commanded at the squadron, group, wing, and major command levels. He has served as the Vice Commander and Commander of the 341st Missile Wing, Commander of the 45th Space Wing, Director of the Eastern Range, Patrick AFB, Florida, Deputy Director of the National Reconnaissance Office, Commander 20th Air Force, Commander and President of Air University, as well as, Deputy Commander Air Force Global Strike Command.

Prior to his current assignment, Gen. Cotton served as the Commander, Air Force Global Strike Command and Commander, Air Forces Strategic – Air, USSTRATCOM, Barksdale AFB, Louisiana.

EDUCATION

1986 Bachelor of Science, Political Science, North Carolina State University, Raleigh
 1991 Master of Science, Administration, Central Michigan University, Mt. Pleasant
 1992 Squadron Officer School, Maxwell Air Force Base, Ala.
 2001 Air Command and Staff College, Maxwell AFB, Ala.
 2005 U.S. Army War College, Carlisle Barracks, Pa.
 2006 Enterprise Leadership Seminar, University of North Carolina, Chapel Hill
 2007 Phase II PME, Joint Forces Staff College, Norfolk, Va.
 2009 Senior Managers Course on National Security, George Washington University, Washington, D.C.
 2014 AFSD 21 Executive Leadership Course, University of Tennessee, Knoxville
 2017 Leadership Decision Making, Kennedy School of Government, Harvard University, Cambridge, Mass.
 2018 Pinnacle Course, National Defense University, Fort Lesley McNair, Washington, D.C.
 2018 The Harvard Seminar for New Presidents, Harvard Graduate School of Education, Cambridge, Mass.
 2018 Leadership at the Peak, Center for Creative Leadership, Colorado Springs, Colo.
 2020 Combined Forces Air Component Commander Course, Maxwell AFB, Ala.

ASSIGNMENTS

1. October 1986–July 1991, Missile Combat Crew Commander; Standardization/Evaluation Missile Combat Crew Commander; Chief, Standardization/Evaluation Operations/Procedures Branch and Wing Executive Officer, 91st Missile Wing, Minot Air Force Base, N.D.
 2. July 1991–April 1994, Command Operations Evaluator 3901st Missile Evaluation Squadron and Chief of Protocol, 20th Air Force, Vandenberg AFB, Calif.
 3. April 1994–April 1997, Space Surveillance Crew Commander, Flight Commander, Cheyenne Mountain Air Force Station, Colo.
 4. April 1997–January 1999, Chief, Space Surveillance Optical Section; Space Surveillance Program Element Monitor; and Executive Officer to the Director of Operations, Headquarters Air Force Space Command, Peterson AFB, Colo.
 5. January 1999–June 2000, Executive Officer to the Commander, 14th Air Force, Vandenberg AFB, Calif.
 6. June 2000–June 2001, Student, Air Command and Staff College, Maxwell AFB, Ala.
 7. June 2001–March 2004, Operations Officer, 45th Range Squadron; Commander, 3rd Space Launch Squadron; and Deputy Commander, 45th Operations Group, Patrick AFB, Fla.
 8. March 2004–June 2005, Student, U.S. Army War College, Carlisle Barracks, Pa.
 9. June 2005–March 2008, Deputy Director, Secretary and Chief of Staff of the Air Force Executive Action Group; Director, Preparation and Planning; and Senior Military Assistant to the Under Secretary of Defense for Intelligence, the Pentagon, Arlington, Va.
 10. April 2008–July 2009, Commander, Space Operations Group, Aerospace Data Facility-East, Fort Belvoir, Va.
 11. July 2009–May 2010, Vice Commander, 341st Missile Wing, Malmstrom AFB, Mont.
 12. May 2010–August 2011, Commander, 341st Missile Wing, Malmstrom AFB, Mont.
 13. August 2011–June 2013, Commander, 45th Space Wing, and Director, Eastern Range, Patrick AFB, Fla.
 14. June 2013–November 2015, Deputy Director, National Reconnaissance Office, Chantilly, Va.
 15. November 2015–January 2018, Commander, 20th Air Force, Air Force Global Strike Command, Francis E. Warren AFB, Wyo.
 16. February 2018–October 2019, Commander and President, Air University, Air Education and Training Command, Maxwell AFB, Ala.
 17. October 2019–August 2021, Deputy Commander, Air Force Global Strike Command, and Deputy Commander, Air Forces Strategic–Air, U.S. Strategic Command, Barksdale AFB, La.
 18. August 2021–December 2022, Commander, Air Force Global Strike Command, and Commander, Air Forces Strategic – Air, U.S. Strategic



EFFECTIVE DATES OF PROMOTION

Second Lieutenant	
June 07, 1986	
First Lieutenant	
June 07, 1988	
Captain	
June 07, 1990	
Major	
March 01, 1998	
Lieutenant Colonel	
March 01, 2002	
Colonel	
December 01, 2006	
Brigadier General	
November 10, 2011	
Major General	
July 06, 2015	
Lieutenant General	
February 15, 2018	
General	
August 27, 2021	

Command, Barksdale AFB, La.
19. December 2022–present, Commander, USSTRATCOM, Offutt AFB, Neb.

SUMMARY OF JOINT ASSIGNMENTS

1. March 2006–June 2007, Director, Preparation and Planning; and Senior Military Assistant to the Under Secretary of Defense for Intelligence, the Pentagon, Arlington, Va., as a colonel
2. June 2007–April 2008, Senior Military Assistant to the Under Secretary of Defense for Intelligence, the Pentagon, Arlington, Va., as a colonel
3. April 2008–July 2009, Commander, Space Operations Group, Aerospace Data Facility-East, Fort Belvoir, Va. (National Reconnaissance Office), as a colonel
4. December 2022–present, Commander, USSTRATCOM, Offutt AFB, Neb., as a general

MAJOR AWARDS AND DECORATIONS

Distinguished Service Medal with two oak leaf clusters
Defense Superior Service Medal with oak leaf cluster
Legion of Merit with oak leaf cluster
Defense Meritorious Service Medal
Meritorious Service Medal with three oak leaf clusters
Air Force Commendation Medal with oak leaf cluster
Air Force Achievement Medal with oak leaf cluster
Air Force Outstanding Unit Award with oak leaf cluster
Combat Readiness Medal with oak leaf cluster
National Defense Service Medal with device
Global War on Terrorism Service Medal
National Reconnaissance Office Medal of Distinguished Performance

(Current as of January 2023)



UNITED STATES SPACE COMMAND

PRESENTATION TO THE SUBCOMMITTEE ON STRATEGIC FORCES
HOUSE ARMED SERVICES COMMITTEE
U.S. HOUSE OF REPRESENTATIVES

Subject: Fiscal Year 2025 Priorities and Posture of United States Space Command

STATEMENT OF: General Stephen N. Whiting
Commander, United States Space Command

March 21, 2024

INTRODUCTION

For millennia space has been a mystery that inspired dreamers to imagine what lay beyond our terrestrial environment and how it would one day impact our pursuits and prosperity upon Earth. Bold visionaries still have sufficient room to dream, but enough mysteries have been solved so that virtually every human being on Earth now relies upon and benefits from capabilities and resources obtained in or generated from space. U.S. Space Command (USSPACECOM) and our network of national and international teammates protect vital American interests in space against our strategic competitors with malign intent to hold our critical space-based capabilities at risk. Additionally, freedom of action in space is fundamental to all Joint military operations as outlined in the National Security Strategy, National Defense Strategy, and National Military Strategy. The space domain's tremendous scientific and commercial promise demands the United States continued global leadership. To ensure we fulfill our role in these national security imperatives, USSPACECOM is focused on four main lines of effort: posturing and preparing to prevail; understanding and offsetting threats; expanding and strengthening key relationships; and expanding a competitive warfighting advantage.

In terms of the space domain, we are standing in a period of history that is marked by challenges and opportunities much like the Interwar Period between World Wars in the Twentieth Century. Just one hundred years ago, technology advancements made the air domain essential for overarching strategic advantage. Human's ability to conquer the skies created entirely new security challenges that demanded air superiority relative to strategic competitors. Today, this Command faces strategic competitors who aim to deny space's inherent benefits from us, our Allies, and Partners. Space, unlike the skies over land and sea, has no physical limit and presents an expanding security challenge that is now central to all-domain security activities.

Although Earth's orbits remain the primary focus of today's space security concerns, we are expanding space domain awareness capabilities to monitor for potential threats beyond the geosynchronous orbit.

There is an urgency for our Command to advocate for delivery of new space capabilities and capacity to retain an enduring competitive advantage. To ensure the United States – and by extension, our Allies, Partners, and the rest of humanity – continues to derive prosperity and security from space, the Command postures and prepares to maximize combat readiness, offset competitor threats to the space domain, strengthen our relationships with Allies, Partners, international organizations, and industry to deliver on new space capabilities.

There is also a vulnerability window communicated by our competitors and highlighted as we watch conflict unfold in Ukraine and Israel where missile defense and space capabilities have been tested by the quantity and quality of missile and counterspace systems. To be postured to meet this threat, USSPACECOM must sustain enduring advantage over any determined adversary threatening our national security in space. Insufficient focus and a lack of imagination to appreciate how devastating a future conflict involving space will be is a significant risk to all.

POSTURING AND PREPARING TO PREVAIL

USSPACECOM remains focused on all our USC Title 10 and Unified Command Plan (UCP) missions, in keeping with a clear legal basis for this military organization to defend and secure the space domain against continuing and immediate threats to this nation, our Allies and Partners. This Command upholds a moral obligation to support the rest of the Joint Force by executing our specific mission responsibilities, whether in, from, or to space, reflecting the complex realities of modern conflict. We validate our readiness to conduct our UCP missions through deliberate certifications and mission assessments. To accomplish this, USSPACECOM

will continue Joint training exercises, further enable integration of our multi-mission sensors with commercial and non-traditional sensors, educate Joint Warfighters in the application of comprehensive spacepower, and facilitate diversity of thought by leveraging our Joint workforce to increase our lethality as Joint-minded space professionals.

A highly trained and cohesive workforce of dedicated uniformed and civilian warfighters enables all that we do, and thus it is essential to begin with acknowledging the incredible group of professionals composing this organization. It is an honor to lead the 1,700 Joint Force professionals assigned to the USSPACECOM headquarters and the nearly 18,000 Joint Force warfighters postured worldwide to support our efforts. This team, in partnership with the rest of the broader national security space enterprise, is responsible for conducting dynamic, responsible, and integrated space operations and provides missile defense support to deter, and if necessary, prevail in conflict.

While USSPACECOM has a unique and vital relationship with the United States Space Force, given that both of our organizations are focused on the space domain, we also enjoy tremendous support from the Army, Air Force, Navy, and Marine Corps, as well as the other Combatant Commands and Defense Support Agencies. The synergy of Joint Force solutions is key to developing and employing combat-ready forces and presenting integrated deterrence options to national leadership. This synergy also underpins development of space warfighting requirements that inform holistic and critical capabilities.

Similarly, strategic deterrence depends on Combatant Commands and components communication and synchronization to achieve Joint Force unified action across multi-domains. The Nexus of U.S. Special Operations Command, U.S. Cyber Command, U.S. Strategic Command, and USSPACECOM supports mutually supported/supporting relationships between

combatant commanders required for Joint, all-domain dominance. The space and cyber domains, now more than ever before, are increasingly central to any multi-domain national security approach and require new thinking and collaboration beyond precedent.

USSPACECOM is focused on employing our combat-ready forces and capabilities to accomplish our missions and responsibilities as assigned in the Unified Command Plan: space operations, global sensor management, global satellite communications management, operational planning and support to trans-regional missile defense, and our role as the space Joint Force provider. Excellence in these core areas will deter aggression, ensure continued access to space, deny adversary freedom of action in space, and protect the Joint Force from adversary space-enabled attacks. To increase resiliency, redundancy, and interoperability, we are building a coalition of Allies and Partners to maintain collective advantage over strategic competitors.

UNDERSTANDING AND OFFSETING THE THREAT

The People's Republic of China (PRC) and the Russian Federation continue to field systems and engage in behavior that threaten U.S., Allied, and Partner access to space and space-based capabilities. The Islamic Republic of Iran and the Democratic People's Republic of Korea have demonstrated terrestrial-based, electronic warfare capabilities that threaten friendly space-based communications and navigation capabilities. These states' persistent actions demonstrate they are committed to denying American and Allied forces the benefits of our space assets. This is why USSPACECOM must ensure that we can protect and defend our space architectures and protect the Joint Force from space-enabled attacks.

People's Republic of China: Pacing Strategic Competitor

The PRC poses the most comprehensive and considerable challenge to U.S. national security. Beijing has made clear it seeks to become the preeminent power in East Asia and a

major power on the world stage, armed with a world-class military to be able to secure its sovereign interests and decide regional affairs to the PRC's advantage. By 2030, the PRC will, by many estimates, achieve world-class status in all but a few space technology areas. The PRC seeks to match or surpass the United States by 2045. The PRC is growing its military space and counterspace capabilities at breathtaking pace to deny American and Allied space capabilities when they so choose, while extending its ability to conduct long-range fires improving the precision and reach, thus the lethality, of its terrestrial forces. The modernized People's Liberation Army (PLA) monitors military forces world-wide, including U.S. forces. The PLA is focused on offsetting U.S. military advantages and rapidly advancing and integrating its forces across all domains to support its comprehensive approach to joint warfare. The PRC is using its growing military strength to undermine U.S. alliances and security partnerships while seeking to coerce their neighbors in the Indo-Pacific region.

PRC Space Capabilities: Challenge to Space Superiority

The PRC are making advances in areas such as satellite meteorology, human spaceflight, and robotic space exploration, some of which have dual-use capability. The PRC is also aggressively pursuing advances in military areas that are concerning. As of January 2024, the PRC's Intelligence, Surveillance, and Reconnaissance (ISR) satellite fleet contained more than 359 systems, more than tripling its on-orbit collection presence since 2018. The PRC has also dramatically increased its ability to monitor, track, and target US and Allied forces, both terrestrially and on orbit. Substantial improvement in PRC domestic space launch capabilities, including nascent progress on reusable rockets and mass production of sophisticated space systems, will lower its cost of entry to space. PRC has a continued pattern of uncontrolled

reentries of space systems, despite their contributions to international guidelines regarding responsible satellite disposal.

People's Liberation Army Counterspace Capabilities: Threats to Space Architecture

The PLA understands counterspace operations to nullify U.S., Allied, and Partner satellites and systems must be part of their broader strategy. The PRC openly acknowledges applying commercial and civilian aerospace technology for military purposes. For example, the corporate mandate of the China Aerospace Science and Technology Center declares the intent to ensure “military-civilian integration development” to strengthen the PRC military and “secure peace with aerospace technology” in accordance with PRC’s stated strategic ambitions. The PRC prioritizes space and building international partnerships that advance PRC goals, including through their Belt and Road Initiative, to develop its space intelligence and military capabilities.

The PRC’s counterspace weapons programs seek to provide options for destructive and nondestructive disruption of our systems in all orbits through proliferation of jammers and the PRC’s rapid fielding of new ground- and space-based antisatellite weapons. Beijing has deployed several satellites, at least some of which could function as a weapon, that could pose significant risk to our own in geosynchronous orbit. The PRC is further developing and testing hypersonic glide vehicles along with advanced space weaponry. These capabilities are intended to overcome U.S. traditional missile warning and ballistic missile defense systems.

PRC International Influence: Building Spacepower

The PRC seeks to expand its influence over nascent space nations beyond East Asia. Beijing is currently expanding its engagements with national space programs in Algeria, Venezuela, and South Africa through signing data sharing agreements, providing satellite manufacturing services, installing satellite ground stations, and seeking cooperation on the

International Lunar Research Station. The PRC's space intentions and capabilities are often obscured through its focus on dual-use technologies, academic programs that use ambiguous research tracks and efforts, and overlapping space activities in exploration and commerce that can also enable the PLA's military programs and effectiveness.

Russian Federation: Acute Threat

Russia's struggles following their invasion of Ukraine should not create a false sense of confidence that Moscow is fading in the space domain. Russia will remain a formidable and less predictable challenge to the United States in key areas over the next decade, while still facing many challenges. Their losses in the Ukraine conflict will take years to rebuild in terms of terrestrial offensive capabilities which will likely encourage Russia to become more reliant on nuclear, cyber, and space capabilities, including disruptive technologies and actions they believe hold the promise to provide asymmetric pathways to achieve their strategic goals.

Russian Space Capabilities: Challenge to Space Superiority

International sanctions and export controls have impacted Russian space aspirations. As a result, Moscow will likely prioritize integrating space services they deem critical to their national security. They will continue to maintain their ISR fleet of over 87 satellites providing electro-optical imagery, missile warning, and signals intelligence to provide warning of threats to the Russian homeland. Their recent launches of Arctic satellites able to monitor the Northern Sea Route provide robust all-weather and round-the-clock, weather radar remote sensing, essential for command and control (C2) of military and paramilitary activities, a clear national security requirement for Russia. These capabilities can also support worldwide military and paramilitary deployments. They are updating and improving space launch capabilities to enhance reliability and otherwise find ways to offset the burdens imposed by sanctions and export controls levied by

the international community. Despite impacting limited supply chain and partnerships, Russia is finding ways to circumvent sanctions to maintain their capacity to be aggressive and disruptive in space.

Russian Counterspace Capabilities: Threats to Space Architecture

Russia's counterspace capabilities represent real threats to the space domain, our national security, and this Command's ability to respond decisively to protect and defend our interests and those of our Allies and Partners. Despite their struggles in Ukraine and economic sanctions, Russia continues to pursue a suite of counterspace weaponry, from electromagnetic warfare systems, including directed energy weapons and satellite communications jammers, offensive cyberspace capabilities, and on-orbit and ground-based anti-satellite systems that exist for one clear purpose. These weapons are intended to disrupt, threaten, and destroy space targets or otherwise deny freedom of action in space. Russia views its counterspace capabilities as a means to deter aggression from adversaries reliant on space.

Russian International Influence: Building Spacepower

Russia is collaborating with Iran and various African nations and establishing ties to Belarus' nascent space program. Russia and the PRC are moving forward in their work on Beijing's International Lunar Research Station and have reiterated their plans for Lunar exploration and research. Russia attempted and failed in their Luna-25 automated interplanetary station mission which crashed into the Lunar South Pole in August 2023. Russia will continue collaborating with the PRC, Iran, and other strategic competitors in space and that collaboration might provide effective means to compete, challenge, or threaten the United States and its Allies and Partners.

Islamic Republic of Iran: Threatening International Order

Iran threatens U.S. interests in the space domain. Possessing the largest ballistic missile inventory in the Middle East, Iran's strategy of improving the accuracy, lethality, and reliability of these missiles provides a dual purpose that includes potentially extending threats into space itself. Their strategy includes the longstanding desire to erode U.S. influence in the Middle East and threaten regional stability and order. Without monitoring and appropriate action, future Iranian space capabilities present emerging security concerns if they continue to develop space systems that possess capabilities that expand their offensive capabilities or otherwise challenge the safety and access to space.

Democratic People's Republic of Korea: Challenge to Space Superiority

North Korea continues to develop space and ballistic missile programs. In November 2023, they successfully launched a satellite into orbit. Although all nations have a right to peaceful operations in space, the launch involved ballistic missile technology, which is a clear violation of multiple United Nations Security Council resolutions. Pyongyang's continued intercontinental ballistic missile launches point to a dual-use capability. Long-range missile development threatens the United States and our Allies, and space system developments utilizing ballistic missile technology violate United Nations resolutions on such practices. Despite their frequent missile and satellite program failures, North Korea has demonstrated the ability to sustain a high number of missile launches, and has fielded capable cyber and electronic warfare weapons that present disruptive potential to the space domain.

Given the accelerating pace of threats to the space domain, it is critical that USSPACECOM be an intelligence-led organization to fully understand our changing operating environment. Our intelligence personnel and capabilities are integrated across our headquarters and our subordinate units, at echelon, and they ensure we are fully integrated with all facets of

the broader Intelligence Community to avoid operational surprise and improve all our strategies, plans, and operations. Space intelligence enables this Command to take the initiative when necessary and exploit potential adversary vulnerabilities. Yet USSPACECOM's military capability and capacity alone are challenged to counter growing threats to the space domain.

To counter this increased security threat and enable integrated deterrence so that we can continue to support all-domain operations in, from, and through space, we also need to continue strengthening our relationships with existing Allies and attract new Partners to defend our freedom of action in space and for the advancement of all humanity as we continue to be an increasingly space-dependent civilization.

EXPANDING AND STRENGTHENING KEY RELATIONSHIPS

Space is rapidly becoming more contested and congested due to the overlap of the threats described above, a quickly expanding commercial space sector, and growing governmental and civil use of space, all made possible by the decreasing cost to build satellites and access space. Given these complexities, our nation cannot secure the space domain in isolation. Space is a team sport, and no one nation, Command, Service, or Department can do alone all that is required to meet our objectives there. Rather, collaboration with like-minded Allies, interagency Partners, and commercial stakeholders is not only necessary but one of our key asymmetric advantages.

USSPACECOM will prioritize our operations, activities, and investments to deter and, if necessary, defeat threats against our nation and Allies today, while outpacing growing threats that challenge the space domain tomorrow. Our recent work with U.S. Indo-Pacific Command on the draft Regional Partnerships Strategy is one example of cooperation among the Joint Force and with Allies and Partners to link cooperation in space with regional and strategic national

objectives. USSPACECOM also continues to take advantage of National Guard relationships through the State Partnership Program (SPP), leveraging relationships with nearly 100 nations. Future SPP space security cooperation plans include a multinational space exercise with the North Atlantic Treaty Organization Space Center and other European Allies and Partners.

USSPACECOM has expanded the number of our formal Allies and Partner Space Situational Awareness (SSA) agreements to 31 nations, two intergovernmental organizations, seven academic institutions, and over 130 commercial satellite owner-operators and service providers. The Command also signed governmental SSA data sharing agreements with Poland, Peru, and Qatar in fiscal year 2023. USSPACECOM signed 10 sharing agreements with commercial aerospace companies registered in the United States, Brazil, France, India, and Poland in the same time period. This key work will ensure we remain the partner of choice for conveying vital space information, leading to greater domain awareness and transparency, and furthering spaceflight safety. By providing advanced information and services to space-faring Partners, we display U.S. leadership in the space domain, promote transparency in the responsible and peaceful use of space, and support the eventual transition of civil and commercial spaceflight safety services to the Department of Commerce (DOC).

The collaboration highlighted above enables more effective integrated deterrence through all-domain operations. Our Combined Space Operations enterprise currently includes Australia, Canada, France, Germany, Italy, Japan, New Zealand, Norway, the United Kingdom, and the United States. Combined Space Operations improve coordination of space defenses and enhance individual and collective space capabilities. Through Operation OLYMPIC DEFENDER, our standing named operation in which we operate in space alongside our Australian, British, and Canadian Allies, we improve mission assurance and enhance our collective resilience. We are

continually honing this cooperative and collaborative edge through training, exercises, simulations, and modeling to increase our collective security goals.

USSPACECOM's Exercise GLOBAL SENTINEL (GS) campaign series continues to be the gold standard to exercise and expand key partnerships. GS24 included representatives from 25 nations collaborating in one central location for two weeks in February 2024. The GS24 capstone modeling and simulation event employed a multinational concept of operations focused on space domain awareness, supporting the protection of capabilities, and promoting shared multinational operational space security interests. Since its inception in 2014, GS has evolved from a small-scale table-top exercise with seven nations into an ongoing annual series. This year's series included multiple live events during the year, wargames focused on current operations, and the modeling and simulation capstone exercise. USSPACECOM continues to increase interoperability with our Allies and Partners through security cooperation, information sharing, exercises, and knowledge curation on space security activities.

Integrating Commercial, Inter-Agency, and Academic Partners

To remain on the cutting edge of capability development, application, and shared understanding of space as they relate to national security interests, USSPACECOM partners with a growing team of commercial, interagency, and academic partners. And while we have accomplished much with these partnerships, we see untapped opportunities to continue developing and delivering with these partners more robust and varied options to national leadership to deter aggression and ensure stability.

USSPACECOM's Commercial Integration Center (CIC) includes ten commercial mission partners who provide our Combined Space Operations Center information to improve our ability to collectively defend satellite constellations in collaborative partnerships.

Information sharing is not only a security requirement across the Department of Defense (DOD), Allies, and Partners, but also so that all enterprises from national to commercial can safely operate in the increasingly congested space domain. The way forward for USSPACECOM's CIC includes growing the number of commercial mission partners to participate in the mutual exchange of information on threats to the space domain and shared insights into the operations of member constellations, leading to enhanced safety and security as we conduct space operations.

USSPACECOM's Joint Commercial Operations (JCO) effort now includes eight commercial mission Partners in the Americas, Europe, and the Pacific. Altogether, they provide Space Domain Awareness information to the Joint Force, Allies, and Partner nations' warfighters. In October 2023, JCO provided early unclassified reporting on the separation of additional objects from the newly launched, Russian COSMOS 2570 satellite. JCO coordinated with commercial sensors ahead of this launch to track the orbital insertion. On October 30, 2023, JCO's Public Satellite Research and Analysis team was the first to alert the rest of the JCO to a possible separation event from COSMOS 2570. Afterward, the separating object appeared in the public satellite catalog as OBJECT C. In November 2023, JCO detected an object in the very early stages of separating from OBJECT C. They were able to track and analyze this newly separating object from commercial observations and publish it in a notice to space operators, which later was cataloged as OBJECT D. We must continue to build upon this fusion of commercial and military information to increase our understanding of actions in space.

USSPACECOM is also working closely with the DOC, whose personnel are now observing the U.S. Space Force's Space Delta 2 to learn how we perform Space Situational Awareness operations. This is a vital partnership as the DOC prepares to assume from the DOD the Space Situational Awareness and Space Traffic Management missions in support of

commercial and civil customers. USSPACECOM is committed to facilitating the seamless transfer of these missions to the DOC in the near future because it will allow us to focus on the military-unique aspects of Space Domain Awareness, and progress has been made toward finalizing necessary memorandums of agreement for the transfer of data, roles, and responsibilities between the organizations.

Tri-Seal Strategic Framework

On July 12, 2023, USSPACECOM co-signed a Commercial Space Protection Tri-Seal Strategic Framework with the National Geospatial-Intelligence Agency (NGA) and the National Reconnaissance Office (NRO) to better protect commercial remote space sensing assets and information vital to national intelligence. This key partnership will offset the efforts of our principal strategic competitors seeking to disrupt and challenge our ability to leverage space using commercial capabilities.

To mitigate such aggression and disruption in space, this Command leads the coordinated effort to share threat information with NRO-contracted commercial imagery providers and the NRO Operations Center for space events, counterspace threats, and indications and warning. The Tri-Seal Strategic Framework presents this organization and the DOD with superior information sharing and collective defensive capability with commercial space companies that have existing relationships with this Command, the NRO and NGA. With increased space activities, new and emergent space-faring nations, and space having become a contested, warfighting domain, our hybrid enterprise of governmental and commercial space systems and stakeholders represents the correct strategy of sharing information and improving our ability to defend commercial space for collective national security, scientific, and commercial interests.

NASA and Human Space Flight Support Improvements: Partners in Space

USSPACECOM is the lead military support agency to the National Aeronautics and Space Administration (NASA). In this capacity, we provide human space flight support and global airlift coordination. Our terrestrial rescue and recovery forces, provided by our Air Force Service Component, 1st Air Force, have supported every NASA crewed space flight since the Command's reestablishment.

Leveraging the collective strength of commercial, interagency, and academic enterprises has been critical to USSPACECOM since its establishment four and a half years ago. It will remain foundational to our success moving forward and its continued growth and development remains a key focus area for our command.

BUILDING AND MAINTAINING COMPETITIVE ADVANTAGE

Our principal space competitors – the PRC and Russia, along with other aggressive nation states and proxies – seek to hold at risk free access to space for the United States, our Allies, and our Partners. Therefore, we must develop and field capabilities to mitigate threats posed by space-enabled attack and by counterspace capabilities, and we must do so in a way that promotes integrated deterrence in accordance with the National Defense Strategy.

USSPACECOM has identified five priority requirements that are key to delivering our Unified Command Plan responsibilities: (1) resilient and timely operational C2; (2) integrated space fires and protection; (3) modernized agile electronic warfare architectures; (4) enhanced battlespace awareness for space warfare; and (5) cyber defense of space systems. Additional important objectives include investment in persistent and resilient intelligence, surveillance, and reconnaissance capabilities; communications and data transport capacity; enhanced global sensor management tools to include integrated tasking and data retrieval; resilient satellite C2 architecture at the tactical edge; and, improved operational intelligence. Absent commitment to

long-term investment in these integrated requirements, we risk ceding advantage to our principal strategic competitors in the space domain.

These five priority requirements address how this Command continues to build and maintain a competitive advantage. These new capabilities must deliver in a timely manner that encompasses all testing and training requirements so that USSPACECOM possesses improved capabilities. The prioritization of increased funding for the Space Force and other Services to deliver the space capabilities we need to support the Joint Force from space in the face of the growing threats now arrayed against us, and to protect the Joint Force from space-enabled attack, is paramount to USSPACECOM's 2027 delivery deadline. This will enable the Command to be ready for anticipated space security challenges and place new, critical systems into operations to provide policy makers and national leadership the necessary options for challenges and crises that may threaten long-term peace and prosperity.

Resilient, Timely Space Command & Control

Resilient, timely operational C2 is key to deterring and defeating hostile action in the space and the terrestrial domains. Space C2 enables us to protect our space capabilities from the threats we now face and protect the Joint Force from space-enabled attacks by an adversary. Rapid and robust communication between space activities, space assets, and partner Combatant Commands enables decisive action. The increasingly dynamic space environment requires a resilient C2 architecture to synchronize space forces and effects for space domain operations as well as in support of traditional terrestrial areas of operations. Congress's continued investment in this Command, the Services' space C2 programs, as well as the Consolidated Space Operations Facility, addresses that need and will remain critical moving forward.

Integrated Space Fires and Protection Capabilities

The services provided by space-based assets have become foundational to modern life and the way the Joint Force operates. These capabilities face rapidly increasing risk from our principal competitors. Although conflict is not inevitable and while we remain staunchly committed to peaceful competition and deterring conflict, it is prudent and necessary to expand our ability to protect and defend critical space assets. Integrated fires, across all domains, synchronized in timing represent an increasingly foundational capability for USSPACECOM's pivotal role in national security. Investment in this area must be wide reaching and interweave both defensive systems and the capability of commercial partners to achieve mass and scale, and we must deliver and present these capabilities on a meaningful timeline – by 2027.

Modernized, Agile Electronic Warfare Architectures

A modern and agile electronic warfare architecture is vital to protect U.S., Allied, and commercial assets from interference or outright attack while preventing an adversary's hostile use of space. Investments in space electromagnetic warfare will enable the Joint Force to protect space-based critical communications and intelligence capabilities while presenting Joint Force commanders a wide array of deterrence options within the space domain. Congress's continued support of a modern suite of electromagnetic spectrum capabilities is vital to the protection of key U.S., Allied, and Partner interests.

Enhanced Battlespace Awareness for Space Warfare

USSPACECOM increasingly relies on a near-real time, comprehensive understanding of the congested and complex space operational environment. Space Domain Awareness data, operational C2 automation, and incorporation of artificial intelligence/machine learning capabilities will allow us to better understand and outpace the threat in our unique area of responsibility. This critical task requires more accurate, robust, resilient, and timely Space

Domain Awareness and operational intelligence data from all interoperable sensors. This will produce highly accurate, rapidly available detection, tracking, and characterization of space objects, regardless of their origin. Legacy Space Domain Awareness systems are disaggregated and lack the agility to meet the need for increasingly dynamic tasking. Congressional funding of programs to enhance battlespace awareness for contested space operations is crucial to ensuring the Command can best protect and defend our vital space assets.

Space Systems Cyber Defense

Digital superiority is key to building and maintaining our competitive advantage for the space domain. The PRC, Russia, and other cyber actors work tirelessly to infiltrate our defense industrial base, academic research, mission equipment, and military networks. These strategic competitors and actors seek to monitor and exfiltrate data, and reduce, degrade, and deny our ability to command, control, and communicate with on-orbit space assets and supporting ground systems. The compromise or loss of U.S., Allied, or Partner space systems would degrade our ability to conduct operations in space and support operations in the terrestrial domain. Much of the digital infrastructure for these space mission systems requires modernization. Given the dynamic and constantly evolving nature of our adversaries' offensive cyber capabilities, we must rapidly develop, deploy, and maintain proactive cyber defense capabilities to effectively respond to and deter adversarial malicious cyber actions while also outpacing them in the cyber domain. We will continue to collaborate with the U.S. Space Force on their plans to strengthen cyber requirements and cyber defenses of our vital space systems, as well as working with the other Services, U.S. Cyber Command, Combat Support Agencies, and other government partners to deploy and integrate defensive cyber systems and tactics to maintain safe, secure, and reliable

network operations. Increased funding for cyber experts, cybersecurity systems, and persistent defensive cyber capabilities is critical to maintaining dominance in the space and cyber domains.

Planning and Operational Support to Trans-Regional Missile Defense

USSPACECOM was tasked with trans-regional missile defense planning and operational support in April 2023 via the updated Unified Command Plan. The transfer was the culmination of a comprehensive study on the roles, responsibilities, and authorities associated with the missile defense enterprise and represents an alignment to the 2022 Missile Defense Review. The Joint Functional Component Command for Integrated Missile Defense is well integrated into USSPACECOM's formation and will help ensure the nation approaches trans-regional missile defense in the most effective, collaborative manner. Moving forward, development and inclusion of multi-use or expanded sensors will increase resiliency of this critical network, and USSPACECOM is working with the Missile Defense Agency and the Services to bring this to fruition.

Rapid Reconstitution and Resilient Space Architecture

The trajectory of our strategic competitors' actions necessitate we build capacity and resiliency to defend our critical space systems to preserve freedom of action in space. A key portion of this resiliency will be the ability to rapidly reconstitute key components when necessary. We continue to examine the resiliency of the space enterprise. We will identify and articulate strengths and weaknesses of our current architecture, challenges to interoperability, and limitations of current policy. We are examining end-user interfaces, terrestrial systems, and communications links to orbital assets. In collaboration with the Services, other Combatant Commands, and our Allies and Partners, USSPACECOM is developing the requirements for a

modern, integrated space architecture capable of operating in an increasingly contested space environment.

USSPACECOM's exercises and wargames challenge participants to develop new ways of thinking about space operations and addressing future crises. Our space exercise GLOBAL SENTINEL-24 involved 25 national participants, plus three observer nations and one multi-national organization. Another USSPACECOM exercise, NIMBLE TITAN, enhances trans-regional missile defense and stimulates international cooperation while strengthening integrated deterrence. Twenty-five member states and three international organizations will participate in the capstone NIMBLE TITAN exercise for 2024.

Our operational C2 requirements begin with our ground segment, ensuring critical operational nodes have reliable and adequate redundant capabilities, including back-up facilities or contingency operations sites and a mobile augmentation capability. New space systems and programs should pursue spiral software upgrade methodology to better protect our link segment and ensure new capabilities and vulnerability mitigation can be implemented in a rapid and continuous fashion. Finally, satellite development must continue including autonomous defensive capabilities, such as auto-maneuver, system load shed protections, and on-board electromagnetic pulse detection and protection capabilities.

Dynamic Space Operations

On-orbit refueling, in-space assembly, modular hardware change-out, and urgent orbital resupply would enable dynamic space operations and change how this Command achieves and maintains space superiority. Legacy space systems, constrained by the technological limitations of their time, were launched to space with only the fuel and payloads they would have for their lifetimes; thus, they have minimal operational maneuverability, flexibility, or inherent defensive

capability. Modern systems, beginning today, must provide greater flexibility through maneuver, upgradability, or re-supply. Dynamic space platforms purpose-built to support space maneuver will provide far greater capability and capacity to deter, surprise, maintain initiative, and conduct other operations required today and in the near future. The PRC is moving forward in this area. The urgency with which we must approach, and appropriately fund, this critical endeavor cannot be overstated.

SHAPING THE FUTURE FOR VICTORY

Through our assigned professionals and network of key stakeholders, USSPACECOM will continue to fulfill our vital role to protect and defend an essential domain for maintaining national and global security, while continuing to support the Joint Force, the Nation, and our Allies and Partners with space capabilities. All humankind benefits from space-enabled capabilities and resources. As we receive the new capabilities funded by Congress, USSPACECOM will continue to ensure integrated deterrence alongside our teammates in the Joint Force and our expanding team of Allies and Partners, and, when directed, decisively defeat any aggression that threatens our national security interests in space. A keystone of our national security strategy now rests 100 kilometers above Earth, underpinned by the assumption that we will maintain free access to and freedom of action in a secure and stable space domain. Our national security and our way of life depend on our continued leadership and enduring advantage in this critical area of responsibility. But to be clear, given the threats now arrayed against us in space, we will not sustain the freedom of access and action we require in space unless we are prepared to defend those freedoms.

The delivery of essential space capabilities and capacities will provide this Command with the ability to attain an enduring advantage over any otherwise determined adversary

aggressive enough to threaten the stability, safety, sustainability, and security of space. We cannot attain an enduring advantage without the rest of the Joint Force, interagency stakeholders, our Allies and Partners, along with commercial and academic development and collaboration. We cannot attain an enduring advantage without recognizing the threatening aspirations our principal strategic competitors have to hold at risk our space interests, to include denying us the freedom to access and operate in the space domain. Finally, we cannot attain an enduring advantage without continued dedication, support, and initiative from our brave military and civilian workforce, their families, and the policymakers representing our nation along with those of our Allies and Partners. USSPACECOM deeply appreciates Congress's continued support to our vital national security mission.



BIOGRAPHY

UNITED STATES SPACE FORCE

GENERAL STEPHEN N. WHITING

Gen. Stephen N. Whiting is the Commander, U.S. Space Command, headquartered at Peterson Space Force Base, Colo.

As Commander, Gen. Whiting is responsible for defending U.S. and allied interests in the space domain while providing space-enabled combat effects to joint warfighters around the globe. He exercises combatant command authority over Soldiers, Marines, Sailors, Airmen and Guardians operating ground and space-based systems around the world.

Gen. Whiting is a 1989 distinguished graduate of the U.S. Air Force Academy with a degree in aeronautical engineering. He is a space operations officer and has commanded the 13th Space Warning Squadron; the 614th Air and Space Operations Center and Joint Space Operations Center; the 21st Space Wing; and the Combined Force Space Component Command and 14th Air Force.

Gen. Whiting's staff assignments include positions at Headquarters U.S. Air Force; U.S. Space Command; U.S. Strategic Command; the Chief of Naval Operations' Strategic Studies Group; the Office of the Deputy Secretary of Defense; Headquarters Air Force Space Command; and Headquarters U.S. Space Force.

Prior to his current position, the general was Commander, Space Operations Command, Peterson SFB, Colo.

EDUCATION

1989 Distinguished Graduate, Bachelor of Science, Aeronautical Engineering, U.S. Air Force Academy, Colo.
 1990 Top Graduate and Distinguished Graduate, Undergraduate Space Training, Lowry Air Force Base, Colo.
 1993 Distinguished Graduate, Squadron Officer School, Maxwell AFB, Ala.
 1997 Master of Arts, Administrative Sciences (Organizational Management), The George Washington University, Washington, D.C.
 2001 Top Graduate (tied) and Distinguished Graduate, Master of Arts, Military Operational Arts and Sciences, Air Command and Staff College, Maxwell AFB, Ala.
 2002 Master of Arts, Airpower Strategy, School of Advanced Air and Space Studies, Maxwell AFB, Ala.
 2008 Joint Forces Staff College, Norfolk, Va.
 2017 Senior Executives in National and International Security, John F. Kennedy School of Government at Harvard University, Executive Education, Cambridge, Mass.

ASSIGNMENTS

1. July 1989–November 1990, Student, 14th Student Squadron, Columbus Air Force Base, Miss.
2. November 1990–November 1993, Crew Commander, Deputy Chief of Training, and Chief of Standardization and Evaluation, 6th Space Warning Squadron, Cape Cod Air Force Station, Mass.
3. November 1993–December 1994, Radar Systems Officer, 21st Operations Support Squadron, Peterson AFB, Colo.
4. December 1994–July 1995, Executive Officer, 21st Operations Group, Peterson AFB, Colo.
5. August 1995–May 1997, Air Force Intern, Headquarters U.S. Air Force and The George Washington University, Washington, D.C.
6. August 1997–June 1999, UHF F/O Satellite Vehicle Operator, Crew Commander, and Operations Flight Commander, 3rd Space Operations Squadron, Schriever AFB, Colo.
7. June 1999–July 2000, Operations Officer, 22nd Space Operations Squadron, Schriever AFB, Colo.
8. August 2000–June 2001, Student, Air Command and Staff College, Maxwell AFB, Ala.
9. July 2001–June 2002, Student, School of Advanced Air and Space Studies, Maxwell AFB, Ala.
10. July 2002–June 2003, Regional Policy Officer, Headquarters U.S. Space Command and U.S. Strategic Command West, Peterson AFB, Colo.
11. June 2003–June 2004, Special Assistant to the Commander, Headquarters USSTRATCOM, Offutt AFB, Neb.
12. July 2004–July 2005, Commander, 13th Space Warning Squadron, Clear AFB, Alaska
13. July 2005–May 2006, Air Force Fellow, RAND Corporation, Santa Monica, Calif.
14. June 2006–June 2008, Commander, 614th Air and Space Operations Center and Director, Joint Space Operations Center, Vandenberg AFB, Calif.
15. September 2008–August 2009, Chief of Staff U.S. Air Force Fellow, with duty at the Chief of Naval Operations' Strategic Studies Group, Newport, R.I.
16. August 2009–June 2011, Commander, 21st Space Wing, Peterson AFB, Colo.
17. July 2011–July 2013, Military Assistant and Acting Senior Military Assistant to the Deputy Secretary of Defense, Washington, D.C.
18. July 2013–July 2015, Vice Commander, U.S. Air Force Warfare Center, Nellis AFB, Nev.
19. July 2015–October 2015, Space Enterprise Vision Team Lead, Headquarters Air Force Space Command, Peterson AFB, Colo.
20. November 2015–August 2017, Director of Integrated Air, Space, Cyberspace and Intelligence, Surveillance and Reconnaissance Operations, Headquarters Air Force Space Command, Peterson AFB, Colo.
21. August 2017–November 2017, Joint Force Space Component Command Integration Team Lead, Headquarters Air Force Space Command, Peterson AFB, Colo.
22. December 2017–August 2019, Commander, 14th Air Force, Air Force Space Command, and Deputy Joint Force Space Component Commander, U.S. Strategic Command, Vandenberg AFB, Calif.
23. August 2019–November 2019, Combined Force Space Component Commander, U.S. Space Command, and Commander, 14th Air Force, Air Force Space Command, Vandenberg AFB, Calif.
24. November 2019–December 2019, Deputy Commander, Air Force Space Command, Peterson AFB, Colo.



25. December 2019–October 2020, Deputy Commander, Headquarters U.S. Space Force, Peterson AFB, Colo.
 26. October 2020–January 2024, Commander, Space Operations Command, Peterson SFB, Colo.
 27. January 2024–present, Commander, U.S. Space Command, Peterson SFB, Colo.

SUMMARY OF JOINT ASSIGNMENTS

1. July 2002–June 2003, Regional Policy Officer, Headquarters U.S. Space Command and U.S. Strategic Command West, Peterson Air Force Base, Colo., as a lieutenant colonel
2. June 2003–June 2004, Special Assistant to the Commander, Headquarters USSTRATCOM, Offutt AFB, Neb., as a lieutenant colonel
3. June 2006–June 2008, Director, Joint Space Operations Center, Vandenberg AFB, Calif., as a colonel
4. July 2011–July 2013, Military Assistant and Acting Senior Military Assistant to the Deputy Secretary of Defense, Washington, D.C., as a colonel
5. December 2017–August 2019, Deputy Joint Force Space Component Commander, USSTRATCOM, Vandenberg AFB, Calif., as a Major General
6. August 2019–November 2019, Combined Force Space Component Commander, U.S. Space Command, Vandenberg AFB, Calif., as a major general
7. January 2024–present, Commander, U.S. Space Command, Peterson SFB, Colo., as a general

MAJOR AWARDS AND DECORATIONS

Distinguished Service Medal with two oak leaf clusters
 Defense Superior Service Medal
 Legion of Merit with two oak leaf clusters
 Defense Meritorious Service Medal
 Meritorious Service Medal with oak leaf cluster
 Air Force Commendation Medal with oak leaf cluster
 Air Force Achievement Medal
 Combat Readiness Medal
 National Defense Service Medal
 French Order of Merit

DATES OF PROMOTIONS

Second Lieutenant May 31, 1989
 First Lieutenant May 31, 1991
 Captain May 31, 1993
 Major July 1, 1999
 Lieutenant Colonel March 1, 2002
 Colonel March 1, 2006
 Brigadier General July 8, 2013
 Major General May 2, 2017
 Lieutenant General Oct. 21, 2020
 General Jan. 10, 2024

(Current as of January 2024)



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**STATEMENT OF
GENERAL GREGORY M. GUILLOT, UNITED STATES AIR FORCE
COMMANDER
UNITED STATES NORTHERN COMMAND
AND
NORTH AMERICAN AEROSPACE DEFENSE COMMAND**



**BEFORE THE HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON STRATEGIC FORCES**

DELIVERY DATE 21 MARCH 2024

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Chairman Lamborn, Ranking Member Moulton, and distinguished members of the Subcommittee: thank you for the opportunity to testify today and for the honor of representing the men and women of United States Northern Command (USNORTHCOM) and North American Aerospace Defense Command (NORAD). Since assuming command in early February, my initial actions and priorities have included maintaining our vital homeland defense mission throughout a seamless leadership transition; strengthening USNORTHCOM and NORAD's vital network of Department of Defense (DoD), international, private sector, and interagency mission partners; and conducting a thorough assessment of the Commands' personnel, missions, and resourcing. I look forward to establishing personal relationships with leaders throughout the commands' area of responsibility and across the U.S. Government as those ties are critical to the successful execution of USNORTHCOM and NORAD's no-fail missions.

It is already apparent that the strategic environment facing the United States and Canada – and our allies and partners – presents significant risks to our homeland, our citizens, and our vital national interests. Across all domains and avenues, competitors are exploiting conflicts and crises around the world to undermine U.S. global leadership and our democratic institutions. Our competitors continue to develop and deploy highly advanced kinetic and non-kinetic weapons systems capable of disrupting or defeating military and civilian targets in North America. These threats are difficult to detect and can strike with limited warning, which reduces the time and response options available to our national leaders and increases the risk of miscalculation and escalation during periods of heightened tension, crisis, and conflict.

As recent events have made clear, overseas crises increasingly carry significant implications for homeland defense. Regional conflicts routinely have the potential to expand into broader crises that directly impact U.S. and allied interests. Russia's unprovoked war

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against Ukraine and the horrific October 7th Hamas terrorist attacks against Israel demonstrate how seemingly isolated events, regardless of whether the United States and our allies are directly involved, have the potential to reach our own shores. Those ripple effects can include competitor information operations directed against the American public and civil unrest and violence within the United States, or attacks directly targeting the United States and our interests.

Competitors like the People's Republic of China (PRC) and Russia are well aware that the U.S. military is the strongest in the world and highly capable of deploying forces anywhere on the planet to deter aggression and de-escalate potential crises. Accordingly, those competitors have sought to hold defense critical infrastructure in the United States at risk with kinetic and non-kinetic systems intended to impede our ability to flow forces overseas. That strategy must be taken into account in planning for the forward deployment of U.S. forces and resources, as moving assets overseas has the potential to affect the availability of assets assigned to homeland defense or force mobilization missions.

The realities of the 21st Century strategic environment require a flexible, adaptive global approach that recognizes the fact that our competitors can hold the U.S. homeland – and the homelands of our allies and partners – at risk with conventional, nuclear, and non-kinetic capabilities as part of a broad effort to force the United States to accept increased risk when deploying forces in support of overseas operations. Preserving the full range of options for defending U.S. national interests requires homeland defense to remain a fundamental consideration at every stage of DOD planning, policy, and budgeting.

A globally integrated approach to planning and actions must also extend beyond the Department of Defense and should be embraced by the whole of the U.S. Government. Success in competition, crisis, or conflict continues to rely on a ready, modern, and capable joint force reinforcing the other core elements of our national power. Our diplomatic corps is essential to

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shaping the strategic environment and cultivating the network of alliances and partnerships that provide the most significant U.S. advantage against isolated and authoritarian competitors seeking to expand their territory and influence at the expense of their sovereign neighbors. The successful execution of USNORTHCOM and NORAD's missions relies on cohesive strategies, integrated planning, and collaboration across the whole of government, and I look forward to working closely with the members of this Committee as we work together to meet the formidable challenges facing our nation.

THE THREAT ENVIRONMENT

The threat to the homeland continues to grow in complexity. Our primary competitors are developing new ways to hold North America at risk, both above and below the nuclear threshold. Designed to constrain our options in a crisis, the capabilities our potential adversaries are pursuing will challenge strategic deterrence and erode strategic stability by limiting our ability to provide actionable warning and narrowing the decision space available to senior leaders. The conflict in the Middle East has also amplified the risk that Iran or a foreign terrorist organization will conduct attacks in the homeland, either directly or by inspiring homegrown violent extremists to act in their stead.

People's Republic of China (PRC)

The PRC remains the Department's pacing challenge as identified in the 2022 National Defense Strategy (NDS). Beijing has embarked on a wide-ranging military modernization program that is advancing the PRC's homeland-threatening capabilities at an urgent pace. At the strategic level, the PRC is pursuing a rapid quantitative and qualitative expansion of its nuclear arsenal, which now numbers over 500 operational warheads and is on pace to exceed 1,000 by the end of the decade. The PRC probably intends to place a significant portion of these weapons

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– including over 300 newly constructed intercontinental ballistic missile (ICBM) silos – in a launch-on-warning posture that could increase the risk of miscalculation in a crisis or conflict.

Beijing’s strategic modernization program includes a variety of novel weapons designed to bolster the credibility of the PRC’s strategic deterrent by ensuring its ability to overcome U.S. missile defenses and retaliate following a strike. These weapons include ICBMs equipped with hypersonic glide vehicles, whose high speed, low trajectory, and maneuvering capabilities challenge our ability to detect, characterize, and warn of inbound threats. The PRC is also developing a fractional orbital bombardment system, designed to further challenge our early warning radars and ballistic missile interceptors.

The Department of Defense’s annual report to Congress on PRC military developments states that the PRC may also be exploring the development of conventionally armed intercontinental-range missile systems that could allow Beijing to strike targets in Alaska and the continental United States without crossing the nuclear threshold. Such systems, if fielded, would further erode strategic stability by challenging our ability to characterize an inbound attack and complicating our decision-making about an appropriate response.

Turning to the maritime domain, in the last two years, the PRC has launched the first two hulls of its new Shang III class of nuclear-powered guided-missile submarines (SSGN). If the PRC arms the Shang III with land-attack cruise missiles, the new SSGNs could provide Beijing a clandestine land-attack option beyond the Indo-Pacific region, potentially holding at risk critical infrastructure in Alaska and the U.S. West Coast. While Beijing’s intent for employing these long-range conventional strike capabilities is not fully known, in a future crisis, the PRC could use these weapons – along with its world-class offensive cyber capabilities – to threaten or attack our critical defense infrastructure in an attempt to dissuade or frustrate our force flows across the Pacific and degrade the effectiveness of our forward combat operations.

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Meanwhile, the PRC continues to expand its influence and activity in the Arctic. Last summer, Beijing again employed its Xue Long 2 ice-hardened research vessel to conduct the country's 13th scientific expedition to the Arctic. During its voyage, the vessel deployed autonomous underwater vehicles, floating ice stations, and an acoustic monitoring buoy system in waters off Alaska and Canada to collect data that could inform future PLA Navy deployments to the region. Concurrently, the PRC and Russia conducted their second combined naval patrol to the Bering Sea in as many years. More than 10 vessels – including cruise missile-capable surface combatants – participated in the patrol, which included anti-submarine exercises and other combat training near the Aleutian Islands.

Russia

While the PRC's strategic capabilities are growing quickly, Russia remains the greatest military threat to the homeland today. Despite the degradation of its ground forces resulting from two disastrous years of combat in Ukraine, Russia seeks to rapidly rearm and retains the world's largest arsenal of strategic and non-strategic nuclear weapons and a still formidable capability to threaten North America with precision-strike conventional weapons. Russia has gained extensive operational experience with its most advanced non-nuclear weapons in Ukraine, and has had the opportunity to refine tactics, techniques, and procedures that it could employ in a direct conflict with the United States or our NATO allies. Moreover, Russia's illegal and unprovoked full-scale invasion of Ukraine and irresponsible nuclear rhetoric have demonstrated to like-minded autocrats that nuclear coercion remains a tool of statecraft in the 21st Century.

Russia's leaders regularly exercise strategic conflict with the West and are investing heavily to develop new weapons to ensure their ability to hold our nation at perpetual risk. In the last year, Russia has expanded its force of ICBMs armed with the Avangard hypersonic glide vehicle, designed to evade missile defense radars and interceptors. It is also preparing to deploy

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the Sarmat heavy ICBM, which Vladimir Putin has claimed will feature a fractional orbital bombardment capability that could enable it to approach North America via a nonstandard trajectory over the South Pole. Russia also continues to develop and test novel experimental weapon systems, like the nuclear-armed Poseidon transoceanic weapon and the Burevestnik nuclear-propelled cruise missile. Russia intends for these systems to challenge US defenses and guarantee Russia's ability to retaliate after a first strike.

Meanwhile, Russia continues to hone a wide range of non-nuclear capabilities – including cyber weapons and conventionally armed air-, sea-, and ground-launched cruise missiles – to provide options below the nuclear threshold. Russia plans to use these non-nuclear capabilities to strike Western economic and military infrastructure in an attempt to degrade our political will and compel negotiations to terminate an escalating conflict. Russian public statements and military deployments near North America over the last several years make clear that, in the event of war with the United States, Moscow's targeting strategy for these weapons would include critical infrastructure in the homeland.

Despite the heavy commitment of its aviation forces in Ukraine, Russia has continued to fly regular out-of-area patrols with its heavy bombers and other military aircraft in multiple areas around the globe – including numerous flights into the North American air defense identification zone since February 2022. Meanwhile, the Russian Navy has increased its long-range operational deployments of cruise missile-capable surface and subsurface vessels above pre-February 2022 levels. In January, Russia deployed a Gorshkov-class frigate to the western Atlantic, where the Russian Defense Ministry claimed the crew rehearsed “delivering a missile strike against an enemy surface target” using its Tsirkon hypersonic missiles. In September, the Russian Pacific Fleet conducted its Finval-2023 exercise, which demonstrated Moscow's ability to control access to the Arctic through the Bering Strait and included live cruise missile launches

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by coastal defense units as well as surface and subsurface vessels operating within the U.S. Exclusive Economic Zone off Alaska.

Finally, in late 2022, the Russian Pacific Fleet received its first Severodvinsk-class nuclear-powered guided missile submarine (SSGN), introducing a land-attack cruise missile threat to the U.S. West Coast similar to that faced by the East Coast since the first Severodvinsk entered service in the Russian Northern Fleet in 2014. Russian media indicates that Moscow now plans to field a total of 12 Severodvinsk hulls, split evenly between the Atlantic and Pacific, enabling the Russian Navy to pose a persistent conventional threat to critical infrastructure throughout most of North America. The threat will only become more acute later in the decade when Severodvinsk SSGNs are armed with the Tsirkon hypersonic missile.

The Democratic People's Republic of Korea (DPRK)

Over the last two years, the DPRK has conducted nearly 100 ballistic missile tests, including 13 ICBM flight tests, as well as three space launch attempts using ICBM-class boosters. Its most recent space launch in November successfully placed a rudimentary intelligence satellite into orbit – capabilities that could advance quickly if Moscow were to offer space cooperation in exchange for North Korean arms deliveries for the war in Ukraine. Ballistic missiles that the DPRK has successfully tested since 2022 include a new and more capable liquid-propellant ICBM as well as the country's first solid-propellant ICBM, which will further compound warning challenges due to its smaller logistical footprint.

Both systems likely have sufficient boost to deliver a nuclear payload to the entire United States. The DPRK's closed society and robust security apparatus make it one of our most vexing intelligence challenges and prevent us from confidently assessing the number of ICBMs in its inventory. Nonetheless, I am concerned that Kim Jong Un's growing ICBM stockpile could approach our capacity to defend North America – a challenge that will only expand in the

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coming years if Kim Jong Un looks to add multiple reentry vehicles to his missiles and transition his ICBM program from research and development to serialized production and deployment.

Iran

Iran's materiel support to Russia's war in Ukraine and political support to Hamas before and following its October 7th attack on Israel, along with Iranian support to Houthi forces challenging commercial shipping, underscore Tehran's entrenched hostility to the Western-led international order. Iran remains committed to retaliating for the January 2020 death of former IRGC Qods Force Commander Qassem Soleimani, potentially with attacks against current and former senior U.S. officials. Iran also poses a growing cyber threat to U.S. and allied networks and critical infrastructure. Last November, Iranian cyber actors targeted several U.S. water and wastewater facilities, likely in response to U.S. support for Israel. In the last two years, the FBI has disrupted two Iranian plots inside the United States to kill U.S. citizens of Iranian origin that have criticized the regime's autocracy and disregard for human rights. Finally, Iran continues to invest in its nuclear energy and space launch programs, which could provide a potential breakout option should Iran's leaders decide to pursue a homeland-threatening ICBM.

Violent Extremist Organizations

The likelihood of a significant terrorist attack in the homeland has almost certainly increased since the beginning of the Israel-Hamas conflict. Multiple terrorist groups – including ISIS and al-Qa'ida – have leveraged the crisis to generate propaganda designed to inspire followers to conduct attacks, including in North America. The increasingly diffuse nature of the transnational terrorist threat challenges our law enforcement partners' ability to detect and disrupt attack plotting against the homeland and leaves us vulnerable to surprise. Commercial and general aviation likely persist as preferred targets due to the disproportionate economic and

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psychological impact such attacks would generate. I also continue to watch the Israel-Hamas conflict for signs that escalation is expanding beyond the region and remain concerned with the threat from Lebanese Hizballah – a group with international reach and a history of conducting attacks in the Western Hemisphere that continues long-term contingency planning in the homeland.

Regional Security Threats

Transnational criminal organizations in Mexico and elsewhere in the Western Hemisphere continue to foster instability and challenge the rule of law, creating potential opportunities for our state and non-state adversaries to expand their access and influence along our southern approaches. Irregular migration through Mexico reached record levels in the last year, and drug-related violence has escalated as rival cartels fight for control of lucrative drug and human trafficking routes. Cartels have also demonstrated a growing willingness to directly engage Mexican military, security forces, and government officials, highlighting the need for continued theater security cooperation with our partners in Mexico.

Small Unmanned Aircraft Systems (sUAS)

We continue to see a rapid proliferation of sUAS technology and usage in the homeland, including near our military installations. While most of this activity can likely be attributed to hobbyists, sUAS could be exploited by nefarious actors for surveillance, illicit trafficking, or—in a worst case – attacks on domestic critical infrastructure. Unauthorized sUAS flights over government installations and civilian infrastructure have the potential to disrupt critical services and threaten force protection and mission assurance. Given the growing prevalence of sUAS available for military, commercial, and recreational use, NORAD, USNORTHCOM, and our

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interagency partners face mounting challenges in early detection and threat characterization, owner and operator attribution, and – when necessary – mitigation and interdiction.

By all indications, sUAS will present a safety and security risk to military installations and other critical infrastructure for the foreseeable future. Mitigating those risks requires a dedicated effort across all federal Departments and agencies, state, local, tribal and territorial communities, and Congress to further develop the capabilities, coordination, and legal authorities necessary for detecting, tracking, and addressing potential sUAS threats in the homeland.

USNORTHCOM and NORAD PRIORITIES

Against the backdrop of expanding and expansive threats, USNORTHCOM and NORAD remain dedicated to defending the U.S. and Canadian homelands today and well into the future. My key priority remains improved domain awareness in the approaches to North America and around the globe. The ability to detect, classify, and track potential threats to the homeland from the seafloor to space and in the cyber domain is a critical need for USNORTHCOM and NORAD – and for my fellow combatant commanders and international partners. Our core missions, to include defending critical defense infrastructure, require USNORTHCOM and NORAD to see and respond to threats through a globally integrated layered defense extending as far from our shores as possible. That capability is needed to ensure national leaders have as much time as possible to decide the best course of action for deterring, de-escalating, or defeating potential hostile acts.

Investments in capabilities such as Over-the-Horizon Radar (OTHR) and the Integrated Undersea Surveillance System (IUSS) will significantly enhance domain awareness in the air and maritime domains while limiting competitors' ability to approach North America undetected. Likewise, USNORTHCOM and NORAD's ability to track and defeat inbound DPRK long-range ballistic missiles will be significantly enhanced with the Long-Range Discrimination Radar

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(LRDR), currently planned for integration into the United States' ballistic missile defense architecture in the near future. I remain grateful to this Committee for your support of these important initiatives, and I urge continued emphasis on improving our nation's ability to find and monitor potential aggressors well before they could target our homeland.

The rapid pace of change in the strategic environment, to include advancing kinetic and non-kinetic threats and the increasing exploitation of the information space, give reason to believe that successful defense of the homeland tomorrow requires new approaches, technologies, and perspectives. As competitors increasingly focus on holding the homeland at risk in an effort to influence U.S. and allied decision-making and limit our options for intervention in overseas crises, USNORTHCOM and NORAD are taking active measures today to ensure the ability of the commands to defend the homelands in the future.

The United States retains the world's most powerful military and a global network of immensely capable allies and partners. However, information flow between organizations and commands remains stifled by technological and institutional barriers, which too often results in delayed delivery and processing of critical information. Improving global domain awareness is absolutely necessary, but the Department must also expedite the processing and sharing of information between combatant commands, allies, partners, and the interagency community. The Department's prioritization of the Joint All-Domain Command and Control concept highlights the increasing importance of quickly sharing information between sensors, decision makers, and effectors. For USNORTHCOM and NORAD, the ability to detect potential threats, make well-informed recommendations to leaders, and take appropriate defensive measures is vital, and I will work closely with the Department and the Services to develop this critical capability.

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Our nation must also continue to invest wisely in the military and civilian personnel responsible for planning and executing every one of USNORTHCOM and NORAD's no-fail missions. The demands of defending the homeland are significant and require an experienced and innovative professional workforce from a broad range of experiences and backgrounds. Our commands continue to prioritize recruiting and retaining exceptional talent from a broad and deep talent pool. Just as our nation makes substantial investments in cutting-edge technology to outpace our competitors, we must also invest in the dedicated service members and public servants who stand watch over our nation.

HOMELAND DEFENSE DESIGN NEXT

In recognition of the multi-domain threats to North America, USNORTHCOM and NORAD have prioritized operationalizing the commands and institutionalizing active campaigning in the homeland. Homeland defense begins well beyond our shores and relies on a layered, integrated defense conducted in full cooperation with our fellow combatant commands and our allies and partners. Rather than simply reacting to the actions of our competitors, USNORTHCOM and NORAD are taking active measures to assess the emerging threats and associated requirements of the near future in to ensure our ability to defend critical assets and safeguard the nation's ability to project forces forward.

The actions and ambitions of our competitors require the United States and Canada to demonstrate the capability to fight in and from North America, and the commands' homeland defense design will ensure our ability to defend the homeland in the coming decades. USNORTHCOM and NORAD's focus on campaigning and operationalizing the commands reflects competitors' growing capability and capacity to hold targets throughout North America at risk and to force U.S. and Canadian leaders to defend the continent while projecting forces overseas.

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It is a near certainty that homeland defense in the coming years will rely less on point defense and traditional kinetic defeat mechanisms in favor of area defense and left-of-launch effects that take full advantage of multi-domain capabilities. While the future of homeland defense may look vastly different than the current architecture, it will continue to depend on the pillars USNORTHCOM and NORAD use today – all-domain awareness; information dominance; decision superiority; and global integration. I look forward to working with the Department and Congress on these pillars.

The necessity of campaigning in and from North America has been made clear in recent years as competitors have repeatedly demonstrated the capability, capacity, and intent to hold the homeland at risk. USNORTHCOM and NORAD will continue to advance the commands' ability to conduct globally integrated joint operations in defense of the homeland. The commands will also benefit from the recent transition from the legacy USNORTHCOM and NORAD Command and Control Center (N2C2) to a Joint Operations Center (JOC) that mirrors the capabilities of fellow geographic combatant commands and allows for real-time, all-domain communications and coordination with the commands' DOD and interagency partners.

Finally, the success of homeland and continental defense requires capability and capacity to conduct sustained multi-domain operations in the Arctic. The challenges associated with communicating, operating, and surviving in the Arctic are well documented, and investment by the U.S. Government, the Department, and the military Services reflect the need to compete in the region now and well into the future. I am encouraged by national-level commitments to improving the Port of Nome and building the U.S. Coast Guard's icebreaker fleet; both efforts are visible signs of the U.S. commitment in the region that will support the economic and national security interests of the United States. The DoD and Services have readily acknowledged the importance of operating in far north in their respective Arctic strategies, and

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further emphasis and investment is necessary to field the Arctic-capable platforms, properly trained and equipped forces, and infrastructure necessary to succeed in a region of enormous strategic consequence. USNORTHCOM's Special Operations Command-North (SOCNORTH), has demonstrated both the value and challenges associated with Arctic operations through Combined and Joint Operations, activities, and investments in the High North. Most recently, SOCNORTH executed Exercise ARCTIC EDGE 24, readily integrating over 600 USSOF, Partner Nation SOF, and LEAs across the entire North American Arctic.

SECURITY COOPERATION

Global alliances and partnerships based on mutual trust and interoperability provide the United States and our allies with a distinct advantage over our competitors. Our competitors continue their relentless efforts to increase presence, economic leverage, and influence in our region, proving the necessity of security cooperation with USNORTHCOM's exemplary military partners time and again. USNORTHCOM's relationships with military partners in Mexico, Canada, and The Bahamas boost our ability to operate, communicate, and share information for common benefit and are integral to homeland defense.

The reputation of the United States and the Department of Defense as steadfast and reliable partners is critical to each of those relationships, and USNORTHCOM security cooperation efforts continue to generate significant benefits for regional security and burden sharing with our neighbors. As instability and conflict arise overseas, it is essential to safeguard the security cooperation investments that have an outsized role in defending our homelands and vital interests, including through continued attention to the thriving strategic, economic, social, and defense partnerships close to home.

Mexico

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It is already apparent the military-to-military relationship between the United States and Mexico is robust and expanding as both nations address the challenges posed by common threats to our citizens and shared interests. The bonds between USNORTHCOM and our Mexican military partners are broad, resilient, and focused on expanding our combined capability to defend and secure North America from myriad state and non-state threats. Countering competitor influence in the region remains a key priority for USNORTHCOM and our Mexican military partners, and as a direct result, the U.S. and Mexican militaries are more operationally compatible than at any point in our shared history.

This burgeoning bilateral defense relationship is a result of focused, direct, strategic-level defense engagement and confidence building measures, to include routine senior-leader dialogues such as the North American Defense Ministers conference, combined training like we have witnessed at the U.S. Army Joint Readiness Training Center, exercises such as EXERCISE AZTEC ALLIGATOR, and longstanding efforts to promote shared strategic interests.

Assisting our partners in meeting shared security challenges will require modernizing Foreign Military Sales and Direct Commercial Sales (FMS/DCS) by improving institutional responsiveness to partner requests and demonstrating greater agility in fulfilling those requests. The demonstration of timeliness and strategic responsiveness serves to reinforce lines of effort in my campaigning while simultaneously presenting opportunity to outcompete revisionist and revanchist powers present throughout the region.

The growing strength of this vital defense relationship has been made evident through our collaborative approach to common defense challenges, and I am extremely proud of USNORTHCOM's bilateral defense partnership with our Mexican military partners. Those efforts and investments have simultaneously strengthened our common security while helping to

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reduce Mexico's reliance on Russian and PRC equipment and contracts that often come with costly strings attached.

Canada

As has been made clear by the unique NORAD relationship, Canada has been a steadfast ally for decades and remains our essential security partner in the defense of North America. Canadian investments in domain awareness capabilities, advanced air and maritime platforms, and the Canadian Armed Forces' routine participation in multinational efforts such as Operation NOBLE EAGLE and Exercise ARCTIC EDGE provide an unmatched continental defense architecture. This unique and steadfast partnership, based on common ideals and interests, continues to gain strength and will serve both the United States and Canada for generations to come. Canadian commitment to robust support to NORAD and meeting shared security challenges with the United States and our allies, along with investments in a robust continental defense is key to the success of the bi-national alliance that has successfully deterred aggression against the United States and Canadian homelands for over 65 years.

The Bahamas

The Bahamas is a growing and willing partner in maritime security and associated intelligence and information sharing, and USNORTHCOM's programs with The Bahamas improve disaster response and climate resiliency for both nations. The USNORTHCOM bilateral frameworks with the Royal Bahamian Defence Force (RBDF), and with other U.S. partners such as the United States Coast Guard and the Rhode Island National Guard are important to advancing mutual defense and security objectives. USNORTHCOM will continue to work closely with the RBDF to enhance shared maritime domain awareness and cooperation, and I look forward to building further on an already strong and beneficial relationship.

DEFENSE SUPPORT OF CIVIL AUTHORITIES (DSCA)

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USNORTHCOM's support of lead federal agencies in the aftermath of a natural or human-caused disaster remains a core mission that directly bolsters our homeland defense enterprise while delivering rapid relief to American citizens in times of great need. USNORTHCOM works year-round with our interagency partners to ensure plans, communications, and interagency relationships are always ready to deliver the right military-unique capabilities at the right time and place. Whether providing military personnel to supplement Department of Homeland Security and Customs and Border Protection's mission along our southwest border, assisting U.S. federal law enforcement agencies efforts to illuminate illicit trafficking networks, or speeding military-unique capabilities to support Federal Emergency Management Agency-led disaster relief, USNORTHCOM is always ready to support our lead federal agencies. I look forward to establishing and maintaining partnerships with the National Guard Bureau, state, local, tribal, and territorial partners in support of vital DSCA roles.

In addition to delivering life-saving capabilities and resolute support to our fellow Americans and interagency partners in times of crisis, USNORTHCOM's DSCA mission also routinely demonstrates a degree of resilience and well-exercised cooperation that should cast serious doubt in the minds of potential aggressors who may be considering kinetic or non-kinetic attacks against U.S. critical infrastructure. Over many years and multiple significant events, USNORTHCOM and our federal, state, local, tribal, and territorial partners have proven the ability of communities and agencies across the United States to recover quickly from major disasters. The same lessons learned in those diverse scenarios would apply following an attack against the United States, and competitors must know that an attack would be certain to fail and result in only limited disruption.

As multi-domain threats to critical defense, transportation, and commercial networks and facilities continue to mount, the United States and Canada will face a growing need for resilient,

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defensible infrastructure. Following the release of the Department's policy guidance regarding defense of critical infrastructure, USNORTHCOM and NORAD have worked with a host of intergovernmental and industry partners to capture the capabilities and relationships necessary to safeguard national infrastructure from attack. This vital effort will continue to present a significant challenge that requires a whole-of-government approach and strong cooperation with Congress and the interagency community to ensure our national ability to deter, defend, and, if necessary, recover quickly from attacks against key infrastructure.

CONCLUSION

USNORTHCOM and NORAD's activities, operations, and investments directly reflect the reality of the strategic environment and the threats and challenges that will continue to face our homeland into the foreseeable future. Based on my ongoing initial assessment of the commands and the challenges we must face, I am confident in our Commands' ability to defend North America, but I am extremely mindful of the mounting threats and challenges presented by determined and well-resourced competitors.

It is a profound honor to lead the extraordinary U.S. and Canadian Soldiers, Sailors, Airmen, Marines, Guardians, Coast Guardsmen, and civilians of USNORTHCOM and NORAD in defense of our great nations. Those dedicated men and women continue to work tirelessly to defend our Constitution, our citizens, and our shared values. In return, our warriors rely on the resources and support necessary to succeed in their no-fail missions. There should be no doubt that the United States military is the strongest, most capable professional force in history, and that our men and women stand ready today to vigorously defend our nation against any threat.

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Thank you for your support and for the opportunity to serve alongside them. I look forward to your questions.



GENERAL GREGORY M. GUILLOT

Gen. Gregory M. Guillot is Commander, United States Northern Command and North American Aerospace Defense Command. USNORTHCOM conducts homeland defense, civil support, and security cooperation to defend and secure the United States and its interests. NORAD conducts aerospace warning, aerospace control and maritime warning in the defense of North America.

Gen. Guillot received his commission in 1989 from the U.S. Air Force Academy. He also holds a Master in Aeronautical Science from Embry-Riddle Aeronautical University and a Master of Strategic Studies from the National War College. He has commanded a flying squadron, operations group, two flying wings, and a Numbered Air Force, including the 965th Airborne Air Control Squadron, 380th Expeditionary Operations Group, 552nd Air Control Wing, 55th Wing, and Ninth Air Force (Air Forces Central).

The general is a senior air battle manager with more than 1,380 flying hours in E-3B/C/G and RC-135V/W/S aircraft.

EDUCATION

1989 Bachelor of Science, General Engineering, U.S. Air Force Academy, Colorado Springs, Colo.
 1994 Distinguished Graduate, U.S. Air Force Weapons School, Nellis Air Force Base, Nev.
 1995 Squadron Officer School, Maxwell AFB, Ala.
 1998 Honor Graduate, Master of Aeronautical Science, Embry-Riddle Aeronautical University, Fla.
 2004 Air Command and Staff College, Maxwell AFB, Ala., by correspondence
 2008 Master of Strategic Studies, National War College, National Defense University, Washington, D.C.
 2008 National War College, Fort Lesley J. McNair, Washington, D.C.
 2015 Joint Flag Officer Warfighting Course, Maxwell AFB, Ala.
 2017 Combined Force Air Component Commander Course, Maxwell AFB, Ala.
 2017 Combined Force Maritime Component Commander Course, Naval Support Activity Bahrain, Manama

ASSIGNMENTS

1. July 1989–July 1990, Student, 82nd Training Wing, Williams Air Force Base, Ariz.
 2. July 1990–October 1990, Student, Undergraduate Controller Course, Tyndall AFB, Fla.
 3. October 1990–June 1995, Chief, Weapons and Tactics, 607th Air Control Squadron, Luke AFB, Ariz.
 4. June 1995–June 1998, Weapons School Instructor, U.S. Air Force Weapons School, Nellis AFB, Nev.
 5. July 1998–January 2000, Chief, Weapons and Tactics, 963rd Airborne Air Control Squadron, Tinker AFB, Okla.
 6. January 2000–August 2000, Deputy Chief, Wing Weapons and Tactics, 552nd Operational Support Squadron, Tinker AFB, Okla.
 7. August 2000–July 2001, Chief, Weapons and Tactics, 607th Air Support Operations Group/Seventh Air Force, Osan Air Base, South Korea
 8. July 2001–July 2003, Airborne Warning and Control System Program Manager, Headquarters Air Combat Command, Langley AFB, Va.
 9. July 2003–August 2004, Director of Operations, 966th Airborne Air Control Squadron, Tinker AFB, Okla.
 10. August 2004–February 2006, Commander, 965th Airborne Air Control Squadron, Tinker AFB, Okla.
 11. February 2006–July 2007, Deputy Director, Secretary of the Air Force and Chief of Staff of the Air Force Executive Action Group, the Pentagon, Arlington, Va.
 12. July 2007–June 2008, Student, National War College, Fort Lesley J. McNair, Washington, D.C.
 13. July 2008–May 2010, Chief, Command and Control Division, U.S. Central Command, MacDill AFB, Fla.
 14. May 2010–May 2011, Commander, 380th Expeditionary Operations Group, Al Dhafra, United Arab Emirates
 15. June 2011–June 2012, Deputy Director of Operations, Headquarters Air Combat Command, Joint Base Langley-Eustis, Va.
 16. June 2012–June 2013, Commander, 552nd Air Control Wing, Tinker AFB, Okla.
 17. June 2013–June 2015, Commander, 55th Wing, Offutt AFB, Neb.
 18. June 2015–July 2016, Director of Strategic Plans, Requirements, and Programs, Headquarters Pacific Air Forces, JB Pearl Harbor-Hickam, Hawaii
 19. July 2016–March 2018, Chief of Staff, Headquarters Pacific Air Forces, JB Pearl Harbor-Hickam, Hawaii
 20. April 2018–May 2019, Deputy Commander, U.S. Air Forces Central Command; Deputy Combined Force Air Component Commander, U.S. Central Command, Southwest Asia
 21. June 2019–June 2020, Director of Operations, Headquarters U.S. Northern Command, Peterson AFB, Colo.
 22. July 2020–August 2020, Commander, U.S. Air Forces Central Command, Combined Force Air Component Commander, USCENTCOM, Southwest Asia
 23. August 2020–July 2022, Commander, Ninth Air Force (Air Forces Central), Combined Force Air Component Commander, USCENTCOM, Southwest Asia
 24. August 2022–February 2024, Deputy Commander, USCENTCOM, MacDill AFB, Fla.



EFFECTIVE DATES OF PROMOTION

Second Lieutenant May 31, 1989	
First Lieutenant May 31, 1991	
Captain May 31, 1993	
Major September 01, 2000	
Lieutenant Colonel April 01, 2004	
Colonel September 01, 2008	
Brigadier General August 14, 2014	
Major General August 02, 2018	
Lieutenant General July 16, 2020	
General February 04, 2024	

25. February 2024–present, Commander, United States Northern Command and North American Aerospace Defense Command, Peterson Space Force Base, Colo.

SUMMARY OF JOINT ASSIGNMENTS

1. July 2008–May 2010, Chief, Command and Control Division, U.S. Central Command, MacDill Air Force Base, Fla., as a colonel
2. April 2018–May 2019, Deputy Commander, U.S. Air Forces Central Command; Deputy, Combined Force Air Component Commander, U.S. Central Command, Southwest Asia, as a major general
3. June 2019–June 2020, Director of Operations, Headquarters U.S. Northern Command, Peterson AFB, Colo., as a major general
4. July 2020–July 2022, Commander, Ninth Air Force (Air Forces Central), Combined Force Air Component Commander, USCENTCOM, Southeast Asia, as a lieutenant general
5. August 2022–February 2024, Deputy Commander, USCENTCOM, Macdill AFB, Fla., as a lieutenant general
6. February 2024–present, Commander, United States Northern Command and North American Aerospace Defense Command, Peterson Space Force Base, Colo., as a general

FLIGHT INFORMATION

Rating: senior air battle manager
 Flight hours: more than 1,380
 Aircraft flown: E-3B/C/G, RC-135V/W/S, KC-10A, F-15D and U-2ST

MAJOR AWARDS AND DECORATIONS

Defense Superior Service Medal with two oak leaf clusters
 Distinguished Service Medal with oak leaf cluster
 Legion of Merit with oak leaf cluster
 Bronze Star Medal with two oak leaf clusters
 Meritorious Service Medal with silver and bronze oak leaf clusters
 Air Medal
 Aerial Achievement Medal
 Air and Space Commendation Medal
 Army Commendation Medal
 Air and Space Achievement Medal with oak leaf cluster
 IDF Chief of Staff Medal of Honor

(Current as of February 2024)



**WITNESS RESPONSES TO QUESTIONS ASKED DURING
THE HEARING**

MARCH 21, 2024

RESPONSES TO QUESTIONS SUBMITTED BY MR. CARBAJAL

Dr. PLUMB. I agree that responsible behavior is critical for productive and safe use of the space domain. The Department of Defense (DoD) is leading on this issue. Secretary Austin issued the Department's "Tenets of Responsible Behavior in Space" and directed DoD Components to conduct space operations, unless otherwise directed, consistent with the Commander, U.S. Space Command recommended "Tenet-derived responsible behaviors in space." We also strongly support the commitment announced by the Vice President in April 2022, and subsequently endorsed by 155 nations at the United Nations, not to conduct destructive direct-ascent anti-satellite missile testing. These and other initiatives provide guidance for professional military behavior in space and increase transparency about U.S. military space operations. Fostering a shared understanding between space operators on what constitutes responsible behavior contributes to a more stable and sustainable space environment by reducing the risk of misunderstanding and miscalculation. [See page 9.]

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

MARCH 21, 2024

QUESTIONS SUBMITTED BY MR. WILSON

Mr. WILSON. General Guillot, you mention in your statement that “the Middle East has amplified the risk that Iran or a foreign terrorist organization will conduct attacks in the homeland, either directly or by inspiring homegrown violent extremists to act in their stead.”

Overall, do you believe our ability to defend the homeland is keeping pace with these growing threats?

General GUILLOT. Yes. USNORTHCOM and NORAD take the threat of a terrorist attack by a state or non-state actor very seriously and take active measures every day to outpace those threats. NORAD and USNORTHCOM work closely with the commands’ partners in the intelligence community, federal law enforcement, and the Department of Homeland Security to ensure our ability to detect, assess, and mitigate extremist threats. While I believe the commands are well-positioned against those threats, I am concerned that the potential lapse of the authorities provided by Section 702 of the FISA Amendments Act of 2008 would remove a vital tool used by the intelligence community and federal law enforcement efforts to track potential extremist plots and other serious threats to the homeland.

QUESTIONS SUBMITTED BY MR. BACON

Mr. BACON. Given we now have 2 peer threats to our NC3 systems, are we positioned adequately with enough redundancy for planned programs to ensure your successors will continue to have the necessary redundancy?

Dr. PLUMB. The 2022 Nuclear Posture Review is clear that our nuclear command, control, and communications (NC3) systems must provide command and control of U.S. nuclear forces under all circumstances, including during and following an adversary’s nuclear or non-nuclear strategic attack. This is the standard to which the Department designs, builds, and maintains the many individual components of the overall NC3 architecture. Redundancy is one way to ensure availability against determined and capable adversaries. The Department is modernizing legacy systems through planned programs aimed at retaining required resiliency and redundancy. I am confident that today’s NC3 is fit for this task and that we are developing the future architectures to provide the nation with resilient NC3.

Mr. BACON. The 2024 NDAA assigned a task to the Secretary of Defense to create the necessary authority to ensure our senior level of communications across the COCOMs and through the SECDEF and national security establishment to the President. What is your understanding of our need for improving program authorities to ensure you and your successors have the this capability that the services don’t necessarily plan and program.

Dr. PLUMB. Section 1631 of the National Defense Authorization Act (NDAA) for (FY) Fiscal Year 2024 directed the Secretary of Defense to establish a Nuclear Command, Control, and Communications (NC3) Major Force Program to provide additional insight and prioritization of the defense budget. The Department is focused on sustainment of today's NC3 systems, while designing and building future systems to support the directed functions of NC3. While section 1631 is principally focused on budgeting and prioritization of NC3 programs, my understanding is the Department has the necessary tools and authorities for sustaining and modernizing NC3 systems. The Office of the Assistant Secretary of Defense for Space Policy will continue its close collaboration with the Office of the Under Secretary of Defense for Acquisition and Sustainment and U.S. Strategic Command on prioritizing the sustainment and modernization of NC3 systems.

Mr. BACON. What is your understanding of the risk to our NC3 cryptographic capabilities given the rapid advances in quantum and artificial intelligence? What are the priority actions necessary to ensure our NC3 enterprise network remains secure and impervious to these evolving threats?

Dr. PLUMB. The technical security measures employed by the NC3 Enterprise are sufficient to counter the threats posed by currently fielded quantum and AI technologies. To mitigate against future threats, the Department of Defense must continue to coordinate the efforts of U.S. Strategic Command, the National Security Agency, and other relevant stakeholders to recruit, develop, and retain expertise required to design, implement, and operate secure NC3 systems. For quantum computing in particular, this is accomplished in part through the framework established by the National Security Memorandum on "Promoting United States Leadership in Quantum Computing While Mitigating Risks to Vulnerable Cryptographic Systems."

Mr. BACON. Given we now have 2 peer threats to our NC3 systems, are we positioned adequately with enough redundancy for planned programs to ensure your successors will continue to have the necessary redundancy?

General COTTON. Yes; thanks to recent budget support, the Department of Defense is modernizing legacy nuclear command, control, and communications (NC3) systems through planned programs to retain required resiliency and redundancy. United States Strategic Command (USSTRATCOM) is also pursuing solutions to ensure the Department is positioned to preserve sufficient capabilities and maintain pace with our adversaries. Efforts to improve space-based capabilities for both the missile warning/tracking and multi-orbit satellite communications are on-going to provide increased resiliency in these critical mission areas. To address emerging threats, the Department is developing capability documents to address requirements needed to pace peer threats.

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sure you and your successors have the this capability that the services don't necessarily plan and program.

General COTTON. At present, Department of Defense (DoD) Directive 3730.02 provides me sufficient authorities to execute my role as the nuclear command, control, and communications (NC3) Enterprise Lead. Section 1631 of the 2024 National Defense Authorization Act directed the Secretary of Defense to establish a NC3 major force program (MFP) to provide additional insight and prioritization of the defense budget. This MFP does not provide any additional authorities, but does provide additional focus on the acquisition of future NC3 capabilities. USSTRATCOM will continue to collaborate with the Office of the Undersecretary of Secretary of Defense for Acquisition and Sustainment (OUSD (A&S)) to ensure the budget assessment meets operational timelines/needs.

Mr. BACON. Your statement mentioned improving national level conferencing connectivity. Who will determine this necessary connectivity and integrate the appropriate data for this senior level of command. Your fellow commanders have all mentioned a need to improve their level of connectivity also. Will this include their and your needs?

General COTTON. USSTRATCOM, through the NC3 Enterprise Center, coordinating with key stakeholders (Combatant Commands, Services, and Agencies, DoD Chief Information Officer, and the Joint Staff), determines the necessary connectivity to integrate appropriate data for Senior Leaders. Consistent with current policy and directives, required conferencing capabilities will meet endurable, survivable, and assured NC3 through all environments and phases of conflict. At present, USSTRATCOM is developing and implementing modernization schedules to field enhanced terrestrial and space-based systems. We designed this modernization to meet the needs of all NC3 Enterprise Stakeholders.

Mr. BACON. The B-52 remains the workhorse of America's manned bomber force. Why are the upgrades to the B-52 so important for STRATCOM's conventional strike and nuclear deterrence missions and where do you see risk in completing these upgrades on schedule?

General COTTON. The B-52 remains a critical nuclear triad component and provides USSTRATCOM with the air leg standoff conventional and nuclear strike capacity necessary to execute my operational requirements. This standoff strike capability will complement the B-21's penetrating strike capabilities. The B-52 will remain in the inventory through 2050 and requires the planned modernization upgrades to remain operationally credible and capable in a peer or near-peer conflict. The primary B-52 modernization programs include the Commercial Engine Replacement Program, which replaces 1950s-era engines with modern replacements having greater fuel efficiency and improved maintainability to enhance both conventional and nuclear operations. The RADAR Modernization Program upgrades the 1960s-era RADAR with a modernized off-the-shelf solution to enhance conventional and nuclear operations. Finally, communications upgrades for Very Low Frequency/Advanced Extremely High Frequency support assured nuclear command and control. The risk to completing these B-52 upgrades lies in delays to any one upgrade program affecting the sub-

sequent upgrade programs. The Air Force must balance upgrade timing and sequencing with both the day-to-day operational capacity and B-52 maintenance cycle schedule requirements.

Mr. BACON. What is your understanding of the risk to our NC3 cryptographic capabilities given the rapid advances in quantum and artificial intelligence? What are the priority actions necessary to ensure our NC3 enterprise network remains secure and impervious to these evolving threats?

General COTTON. This response includes information at a higher classification. Member office should reach out to committee staff to review.

Mr. BACON. As SACCS and NOVA are upgraded along with all the other mentioned NC3 upgrades, who will test the integrated capability since each singular program does not own the integration problem your successor will face in the 2030s?

General COTTON. There are multiple reviews and tests for system-of-systems level integration beyond individual program office tests. USSTRATCOM is now conducting operational assessment and operational certification programs that include end-to-end tests to validate the operational state of the NC3 Enterprise, identify risk to the Enterprise, and address equipment, operations, and personnel issues to resolve or mitigate risk. We also utilize our technical assessments team, which performs additional end-to-end tests, characterizes key technical performance measures, and assists program offices in identifying and isolating underlying issues. We have also completed integration reviews (earlier in the design and development processes) using modern, digital engineering techniques along with modeling and simulation to ensure individual system designs are compatible and meet our mission needs.

Mr. BACON. Do we have adequate defensive cyber force teams dedicated to protecting the various segments of NC3 across space, air, and ground? Can you describe how you ensure reporting on those systems to ensure the surety and security of our nuclear weapons?

General COTTON. No, we do not currently have adequate protections. DoD Combatant Commands, Services, and Agencies (CC/S/A) cyber staffs execute much of the Department of Defense Information Network (DoDIN) operations required to secure and operate the NC3 enterprise systems. These staffs include Cybersecurity Service Providers (CSSPs) that provide DoDIN protection services to system owners. CSSP support is aligned and functional on less than half of the 103 NC3 enterprise systems. While there are no "zero risk" solutions, Services are fielding defensive cyber capabilities in accordance with DoD endorsed NC3 system priorities. Additionally, I rely on United States Cyber Command (USCYBERCOM) to provide Cyber Protection Teams (CPTs) to defend the Nuclear Command and Control mission. Two CPTs are aligned directly to USSTRATCOM, and USCYBERCOM augments this capacity as demand dictates. As our requirements continue to grow, I am confident USCYBERCOM is leaning forward to provide appropriately manned, trained, and equipped CPTs to fulfill my NC3 defensive requirements. Regarding defensive cyber reporting, we rely on multiple processes to provide a holistic view of the NC3 enterprise and enable senior leader decision making and direction to ensure the

security of the NC3 enterprise. These processes include:—Quarterly collection of key cybersecurity metrics from each NC3 system—Commander’s Critical Information Requirements (CCIRs) that detail key cyber event reporting requirements—Collaboration with USCYBERCOM regarding direction of cyber actions across the NC3 enterprise—Incorporating reporting from DoD entities (NSA, intelligence agencies, USCYBERCOM, etc.) regarding the cyber readiness of the enterprise.

QUESTIONS SUBMITTED BY MR. WALTZ

Mr. WALTZ. DoD suppliers have been linked to Chinese semiconductor sources for multiple weapons programs such as the B–2, Minuteman, Patriot, and the Ohio Class submarine.

- Are you concerned about the integrity of our supply chains for these programs?
- What is the DoD’s plan to move U.S. supply chains to more secure and trusted suppliers operate these vital strategic programs?

Dr. PLUMB. The Department of Defense (DoD) acknowledges and attempts to mitigate assurance risks stemming from Chinese foreign influence on suppliers’ semi-conductors. This is critical given the role of semiconductor technology in enabling DoD’s asymmetric technological advantage. DoD must embrace the innovation that resides in the private sector to support a secure, modern, and agile industrial base, including investment in the U.S. workforce in strategic sectors and supply chains. In this way DoD can minimize the threat posed by the introduction of foreign components in DoD systems. The DoD supply chain represents a major competitive advantage that underpins deterrence and allows DoD to project power with Allies and partners globally.

To protect national security and support the Joint Force, it is critical for DoD to have resilient, diverse, and secure supply chains, especially for critical and emerging technologies and key military platforms. The Under Secretary of Defense for Acquisition and Sustainment leads the Departmental effort to prioritize key supply chains, focusing on reducing dependence on competitive or adversarial foreign sources, leveraging Allies and partners’ competitive advantages to serve as force multipliers, and building resiliency into those supply chains for their ability to stand robust against potential future disruptions. The CHIPS Act incentives will help build a robust domestic supply chain and workforce to support semiconductor manufacturing onshore.

Mr. WALTZ. DoD suppliers have been linked to Chinese semiconductor sources for multiple weapons programs such as the B–2, Minuteman, Patriot, and the Ohio Class submarine.

- Are you concerned about the integrity of our supply chains for these programs?
- What is the DoD’s plan to move U.S. supply chains to more secure and trusted suppliers operate these vital strategic programs?

General COTTON. I defer to the Services on supply chain integrity. As I have previously stated in testimony, the DoD must harness the innovative power of the private sector to support a modern

industrial strategy that makes public investments in America's workforce and a defense industrial base that supports strategic sectors and supply chains, especially critical and emerging technologies, such as microelectronics and semi-conductors. The DoD supply chain represents a major competitive advantage that underpins deterrence and allows the DoD to project power.

The DoD requires healthy, resilient, diverse, and secure supply chains to ensure the development and sustainment of capabilities critical to national security and to build enduring Joint Force advantages. USSTRATCOM will continue to support the OUSD (A&S) priority to ensure resilient supply chains, which focuses on reducing dependence on adversarial foreign sources for defense critical industries, expanding cooperation with partners to address challenges, increasing visibility into DoD supply chains and potential or existing supply chain challenges, building supply chains that are able to recover from disruptions, and providing DoD leaders with guidance to understand implications of supply chain risks.

Mr. WALTZ. We recognize the satellites used to monitor the space environment are severely limited by the amount of fuel in their tanks.

Late last year, an NBC News article highlighted that, "China successfully tested the equivalent of a refueling tanker for satellites, a game-changing innovation that would enable Beijing to extend the life of satellites that would otherwise expire after running out of fuel."

I note the Space Force is asking for \$20 million in its 2025 budget request to start developing tools to handle a new mission set called "Servicing, Mobility, and Logistics" to address the satellite refueling concern.

- Is SPACECOM developing its own "on-orbit" refueling operations or are there any commercial providers that the Service is working with to either provide or develop this capability?
- If China is already testing refueling capabilities on-orbit, how does this program enable us to refuel our own satellites? Is more funding around the corner in the future years defense plan? o What is your timeline to have this capability ready to go? o Does the budget request align with this timeline? o Do you have all the authorities you require to develop or contract these capabilities with commercial providers?

General WHITING. Like any domain, space requires systems capable of sustained maneuver. USSPACECOM calls this Dynamic Space Operations, more specifically, Sustained Space Maneuver. As the Combatant Command for space, USSPACECOM is reliant on the U.S. Space Force and others to develop and acquire the systems we operate. We are not developing our own on-orbit refueling capability, but refueling is a priority to enable Dynamic Space Operations and we do support the U.S. Space Force's efforts to provide relevant capabilities. We want to see them accelerate Sustained Space Maneuver, such as on-orbit refueling, because this will improve how we operate in space and unlock new Tactics, Techniques, and Procedures. If these types of capabilities are fielded and presented to USSPACECOM, I have all the authorities I need to perform on-orbit refueling and sustained maneuver within the domain. I defer to the U.S. Space Force to discuss their expected budget re-

quest, additional funding needs, timelines, and acquisition authorities to meet USSPACECOM's requirements.

Mr. WALTZ. Tactically Responsive Space (TacRS) rapidly integrates and deploys space-based end-to-end capabilities in response to Combatant Commander urgent needs within a 24 hour response timeline. This could be for surveillance, reconnaissance and tracking, or special communications missions. I note that the FY25 budget request provides for \$30 million for RDT&E for this program.

- Are you able to comment on the number of missions conducted in FY24? o How many of those were conducted with commercial partners? o Is SPACECOM pleased with those results?

General WHITING. USSPACECOM fully supports TacRS to validate operational concepts and fully inform the requirements for the U.S. Space Force to man, train, and equip responsive space maneuver, replenishment, and reconstitution capabilities. TacRS is a demonstration led by the U.S. Space Force, and it is not planned to be presented to USSPACECOM in its current form as an operational capability. We look forward to collaborating with the U.S. Space Force on their planned 2024 TacRS launch to drive development toward an operational TacRS capability set. Ultimately, USSPACECOM will need a rapid reaction force that includes:—responsive launch,—available satellites that can be launched on short notice when tactically required,—standardized payload integration interfaces,—standardized ground systems and command and control systems, and—trained personnel. I defer to U.S. Space Force to discuss the details of what they've accomplished to date as they seek to test and develop TacRS capabilities.

Mr. WALTZ. I understand the space force is projecting that our launch sites will become a bottleneck in the next two years.

- Should the nation be investing in expanding our major launch site infrastructure, such as increase payload processing capacity, to ensure we can get all the necessary national security assets into space?

General WHITING. While launch is not an assigned mission to USSPACECOM, I fully support investing in launch infrastructure, including spacecraft processing facilities, to ensure the launch range does not become a limiting factor to the growth and innovation of the U.S. space sector. These investments are critical for assuring access to space for our National Security, civil, and commercial missions. We do not want to see U.S. commercial launch providers leaving our U.S. Government launch ranges if their launch operations become limited by the infrastructure on those ranges and we do not want meeting our requirements to be limited by launch capacity.

QUESTIONS SUBMITTED BY MR. STRONG

Mr. STRONG. General Whiting, in your testimony to SASC last month, you stated, "On-orbit refueling, [among other capabilities] . . . enable dynamic space operations and change how this Command achieves and maintains space superiority . . . Dynamic space platforms purpose-built to support space maneuver will provide far greater capability and capacity to deter, surprise, maintain

initiative . . . The PRC is moving forward in this area. The urgency with which we must approach, and appropriately fund, this critical endeavor cannot be overstated.” Thankfully, the President’s FY25 budget contains a new program for “Space Access, Mobility and Logistics” (SAML). However, this program is only minimally funded, seems to have no long-term program certainty or funding, and does not appear to have much “urgency.” Since as you say, the urgency of these endeavors “cannot be overstated,” what message would it send to our adversaries if Congress were to fully authorize this program in law this year’s NDAA? How would such an effort further enable and accelerate the capabilities we will need to for Dynamic Space Operations?

General WHITING. USSPACECOM’s requirement for access, mobility, and logistics in space is near-term and urgent, and I have communicated this requirement to the Services. Dynamic Space Operations and Sustained Space Maneuver are underpinned by these SAML capabilities, and we would like to see these capabilities accelerated.

