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Senate Armed Services Committee Holds Hearing on Fiscal Year 2024 Space Command Review of the Defense Authorization Request

LIST OF PANEL MEMBERS AND WITNESSES

JACK REED:

Let me call the hearing to order. Good morning. The committee meets today to receive testimony from General Anthony Cotton, Commander of US Strategic Command or STRATCOM and General James Dickinson, Commander of US Space Command, or SpaceCom. Gentlemen, thank you for your service to the nation and please extend my thanks and thanks of all the members of the Committee to the men and women serving under your commands.

General Dickinson, I understand this is likely your last hearing before the committee as Commander SpaceCom. I want to thank you for your extraordinary leadership and, particularly, through the first years of this command as you established the norms that will carry it forward. Thank you very much, sir. As in the past, we've asked the commanders of STRATCOM and SpaceCom to testify together.

Until 2019, Space Command was a part of Strategic Command. Now as SpaceCom stands up as an independent command, it is important to identify any gaps or seams that have emerged during the transition. On the global stage, Russia's illegal war in Ukraine has introduced risks to the nuclear stability we have maintained for the better part of a century.

Vladimir Putin's behavior has been dangerously reckless. In February, he suspended Russia's participation in the New START Treaty, the last remaining strategic stability agreement between our two countries. General Cotton, it is important to the committee to

understand how this affects your planning, and I hope to hear more about it in the classified session.

Further, Putin and his associates have made a series of nuclear saber-rattling statements to try to make the United States and our allies reconsider our support for the--for Ukraine. That strategy has failed. The United States nuclear deterrent, the bedrock of our national defense is being relied upon more than ever, and our extended deterrence for our allies has proven effective.

This has made Russia think twice about escalating hostilities against NATO. We must be mindful, however that as Putin's conventional arsenal grows weaker, he may rely more on his nuclear arsenal. I would welcome our witnesses' thoughts on how we can best manage this extremely complicated dynamic. Our other near peer competitor, China, continues to advance its ballistic missile capabilities.

In addition to expanding its field of hardened missile silos, the PLA is building new air and sea nuclear delivery platforms. General Cotton, you recently sent a letter to Congress reporting that while China has fewer warheads than the United States, it now has more launch platforms than we do. I would like to know the implications of this assessment.

Beijing's new land-based silos, along with the completion of its nuclear triad and Nuclear Command and Control and Communications, or NC3, fundamentally changed the nature of its nuclear doctrine. This shift may have significant impacts on stability in the Indo-Pacific region and should inform how we design our own nuclear strategy to protect the nation and maintain our extended deterrence and our commitment to our allies.

The United States is well underway in its cycle of nuclear modernization, a once in a generation effort to renew the aging legs of our nuclear triad. Each leg is a major defense acquisition program and I understand that the Air Force and Navy are encountering workforce and supply chain problems similar to other department programs.

And General Cotton, I'd like to know how these delays could impact your planning efforts. Further, I want to ask for your views on the efforts of the National Nuclear Security

Administration, or NNSA, to meet Defense Department requirements. In prior modernization cycles, the NSA--NNSA could rely on existing infrastructure, particularly with respect to uranium and plutonium, to meet these requirements.

That is not the case today, as the NNSA has to recapitalize the very production facilities needed to provide finished nuclear parts. It is essential that we understand what impacts this may have on your operations. In the space domain, we are quickly gaining a clearer picture of the threats we face. With respect to Ukraine, we have learned a number of important lessons.

For example, GPS jamming is now commonplace, and commercial space systems are regarded as enemy combatants by Russia. There are entire regions of Ukraine that are GPS denied, and the conflict is creating unexpected consequences for commercial space operations. General Dickinson, I hope you will share your perspective on using commercial space assets in a conflict, as our current policy is ambiguous.

Space Command's ability to launch Strategic Command, Northern Command and US senior leadership of a missile attack on the homeland remains critically important. The committee would appreciate an update on the progress SpaceCom has made in assuming control of the missile warning and NC3 functions it inherited from STRATCOM. Are there gaps and how can these gaps be addressed?

Finally, SpaceCom is responsible for integrating both ground and space sensors to achieve better space situational awareness, essentially becoming the Defense Department's sensor Command. General Dickinson, I ask that you share your vision for how to integrate this constellation of sensors, which ranges from ground and sea radars to satellite sensors so that it provides the best support to the force.

Thank you, again, to our witnesses for appearing today. I look forward to your testimonies. And I would note for my colleagues that there will be a classified hearing immediately following this session in SVC-217 to continue our discussion. And with that, let me recognize the ranking member, Senator Wicker.

ROGER WICKER:

Thank you, Chairman Reed, and thank you to our witnesses. I can think of no issue that demands the committee's attention more than the nuclear threat posed by China and Russia. Despite its significant setbacks in Ukraine, Russia remains a major nuclear threat to the United States. Moscow possesses a larger and more modern nuclear arsenal than we do. It can also build numerous additional nuclear weapons in short order.

Russia has developed new nuclear weapons unlike anything in the United States' inventory, including nuclear powered transoceanic, autonomous torpedoes and intercontinental cruise missiles. These are weapons for which we have no defense. The story out of China is also very troubling. Beijing is modernizing and expanding its nuclear force.

At breakneck speed, it will likely outpace the US in the early 2030s. The past 18-month period has given us a good idea of China's remarkable growth. Over that time, China's nuclear arsenal has doubled in size. The Chinese have flown a missile that can drop nuclear warheads from orbit anywhere on earth with virtually no notice.

And China has become the third country to develop a strategic triad of nuclear missiles, bombers and submarines. General Cotton recently notified Congress that China now possesses more ICBM launchers than the United States. Just last week, news reports exposed Beijing's purchase of 28 tons of Russian uranium, which could be used to further its weapons production.

In the space domain, China and Russia are, openly, developing and testing counter space capabilities. Each country has dangerously taken out satellites in orbit, creating thousands of pieces of debris and space junk, endangering hundreds of other satellites. And frankly, those brazen and irresponsible acts of aggression only scratch the surface of their real capabilities.

Given these great these threat conditions, one would expect a sense of urgency on the part of our government, a fundamental reassessment of our assumptions and realignment of our resources. Instead, the Departments of Defense and Energy, repeatedly, delay programs to

modernize our nuclear deterrence and restore the basic industrial capabilities we use to produce nuclear weapons.

The administration downplays the reality that space is a warfighting domain. Space contains real threats and adversaries, and it needs military solutions. Refusing to acknowledge and prepare affects--affects our country's ability to be ready for a future war that would extend into space. This administration needs plans and postures to account for the worsening security system.

If we are to prevail in long term competition with China and Russia, we need to commit today to a program of sustained innovation and investment. This morning, we will begin to receive budget summaries, including the president's budget request. This request, once again, is likely not to keep pace with inflation, and we already know of several significant shortfalls in naval shipbuilding, munitions and key investments in the Western Pacific, for example, to name a few.

I would look forward to working with my colleagues here in Congress on both sides of the aisle to build a bipartisan adequate strategy-based budget for the coming year. About the sense of urgency, I would like to hear from our witnesses about how this committee can help create a sense of urgency to act, to accelerate the modernization of our strategic arsenal and adapt our forces.

Thank you, Mr. Chairman.

JACK REED:

Thank you. Senator Wicker. General Cotton, please.

ANTHONY COTTON:

Good morning, Chairman Reed, ranking member Wicker and distinguished members of the committee. I appreciate this opportunity to testify next to General Dickinson, and I thank the committee in Congress for its support to national defense. First, I, along with my

command senior enlisted leader, Sergeant Major Howard Kreamer, want to assure you and the American people that the United States Strategic Command is ready, today.

Ready to defend our nation, defend our allies and respond decisively if called upon. The men and women of the United States Strategic Command or the foundation for the capabilities that underpin our nation's strategic deterrence. They do this in an environment that continues to grow complex and challenging.

Russia's invasion of a sovereign Ukraine is an attempt to undermine the rules based international order that conventional--by conventional forces backed with nuclear saber-rattling. How this conflict unfolds and eventually ends will shape the strategic environment for decades to come. We see the People's Republic of China continuing to, rapidly, expand its nuclear capabilities.

The PRC's actions are wholly inconsistent with the long-professed policy of minimal deterrence. I did report to Congress in January that the number of land based intercontinental ballistic missile launchers in the PRC now exceeds those that we have in the United States. Along with its significant modernization expansion of conventional capabilities, the PRC is also investing heavily in lower yield precision systems with theater ranges, a new generation of mobile missiles and hypersonic glide vehicles with fractional orbit bombardment systems.

The PRC's nuclear modernization provided with an alarming number of offensive options that can negatively shape the environment, before and during a crisis or conflict. North Korea continues to be a rogue actor and poses a threat to the United States and our allies. North Korea conducted an unprecedented number of missile launches in 2022, and its new intercontinental ballistic missile, referred to as the KN-28 highlight that the security challenge continues to grow.

We are meeting today's challenges with integrated deterrence. It's the cornerstone of the National Defense Strategy. Our unmatched network of allies is a key component of integrated deterrence, and these relationships are underpinned by our extended deterrence

commitments. These commitments are enabled by a safe, secure, effective and credible nuclear deterrent.

The credibility of our extended deterrent commitments is not only part of the nation's ironclad commitment to our allies but is also essential in limiting proliferation of nuclear weapons. The nation's nuclear forces underpin integrated deterrence and enables the US, our allies and our partners to confront aggressive and coercive behavior.

To ensure our continued ability to serve as the bedrock of integrated deterrence, we're recapitalizing every leg of the nuclear triad and the nuclear command control and communications systems. We're also addressing electromagnetic spectrum operations, holistically, and developing concepts to deploy conventional hypersonic strike capabilities.

We will need to continue partnering with industry to ensure flexibility, responsiveness and capacity during recapitalization and modernization to ensure we can sustain our current systems, while the new ones are being delivered.

Finally, I will end as I started. Our people are the foundation of every capability that enables strategic deterrence. I'm proud to serve alongside the soldiers, sailors, airmen, Marines and guardians and civilians that make up US Strategic Command. Thank you again for this honor, and I look forward to your questions.

JACK REED:

Thank you, General Cotton, General Dickinson, please.

JAMES DICKINSON:

Thank you, Chairman Reed and ranking member Wicker. Good morning, ladies and gentlemen of the committee. It remains my distinct honor to represent the 18,000 military servicemen and women, civilians and families of the United States Space Command who are serving our great nation around the world, today. Thank you for this opportunity to testify before this committee.

I am proud to lead such a talented and patriotic group of joint space professionals. Their expertise, diversity and creativity underpin our strength and effectiveness. Of all th



elements of military space power, our most valued asset is and always will be our great people. My provisional headquarters achieved initial operational capability in just two years and we will reach full operational capability, through the disciplined initiative of our great people.

Space power enables our way of life and is a critical component of our national security. I thank Congress for its support to advance America's primacy in space. We must maintain our position of advantage in the space domain and--and ensure it remains sustainable, safe, stable and secure, for all. The Joint Force relies on space-based capabilities to project and employ power.

China and Russia consider this dependency a soft underbelly and seek to exploit it. They intend to limit our access to space during crisis and conflict, and they are fielding capabilities to that effect. Our strategic competitor', irresponsible actions have transformed space into a highly contested domain.

We must prevent today's strategic competition from growing into a conflict in space. We achieve this by deterring aggression, defending national interests and, if necessary, prevailing in any domain. US Space Command contributes to integrated deterrence by preserving freedom of action in space and by providing critical support to the rest of the Joint Force.

Our mission spans the spectrum of conflict and in every domain. For example, we are creating concepts to further integrate space, cyber and special operations to generate asymmetrical advantages, around the world. Additionally, our protect and defend mission involves all three segments of the space architecture, the ground link and space vehicle, an approach that requires and demands all domain solutions.

So, my command's planning horizon is near term. We must be ready to fight, today. The threat will not wait. To this end, we are leveraging the Joint Force, our allies and partners to integrate and maximize the capabilities that we have today. At the same time, we look forward to the capabilities the services are developing for the future fight.

As we observed in Ukraine, commercial space assets are a significant force multiplier. For years, our commercial mission partners have augmented our satellite communications and provide enhancements to our space domain awareness sensor network. Commercial integration is absolutely critical to our mission success.

So, today's hearing will emphasize the United States' resolve to maintain our leadership and position of advantage in the space domain. But before I address the committee's questions, I want to reiterate and emphasize to the American people my unwavering pledge that US Space Command will ensure that there is never a day without space.

Thank you.

JACK REED:

Thank you very much, General Dickinson. General Cotton, we're facing a first in the history of the world situation of trilateral nuclear competition at a serious level. As you've indicated, in addition to Russia, which has since the late 40s maintained the robust nuclear arsenal, China is expanding its nuclear capability with additional missile fields, the new Yuan-Class Submarine and it's upgrading its eight six bomber to carry cruise missiles.

How is STRATCOM adapting to this new trilateral nuclear competition?

ANTHONY COTTON:

Chairman, thank you for the question. It's fundamentally based around our--what we see is a sound strategic model, and that's the triad. The ability for the triad and the systems that we have to be able to, to cover and understand how to cover and still offer options, flexible deterrent options to the president is key.

So one, the triad is fundamental and foundational for that to happen. Two, I believe that we are going to have to have a conversation in regards to strategy and force posture. I am absolutely in a good place today with--with our systems and where we stand and--and foundational to that is the modernization of our current system.

But to your point, Chairman, 2010 and the basis of which we did our modernization efforts was on a 2010 threat. We're going to have to have that conversation to ensure that the modernization systems, the portions of the triad and other effects that can bring strategic deterrence to--to bear is right moving forward post-2030.

JACK REED:

Thank you, General Cotton. There's another issue that I'd like to touch upon with both you and General Dickinson is that, as the lead combatant command for spectrum operations, General Cotton, you're standing up a joint electromagnetic spectrum operations center. And there are several questions here. Given the amount of electronic attacks we're seeing in Ukraine, as well as operations in the Pacific, when do you expect the center to become operational?

And also, your comments on the proposed sale of the S band spectrum that is now being discussed?

ANTHONY COTTON:

Sir, thank you for that question, Chairman. So as you know, the overall objective of the JEC is to raise overall readiness of the Joint Forces to prevail in that mission space. We're actually doing really good work, and we're in the final steps actually working our way through the deputy secretary of defense for her to sign out the memorandum and actions on the tasks that we have to move forward.

So, I look forward to seeing that pretty soon. In regards to STRATCOM and how do we rely on--on spectrum, I'll say it to you this way. EMS superiority for the employment of our forces to maintain situational awareness to ensure communication through all domains and assure PNT position, navigation and timing is critically important for not only myself as a combatant command but for all combatant commanders.

JACK REED:

And General Dickerson, again, your perspective on the value of the S-band to the military and also the--the knowledge that--that you and your colleagues in uniform have with respect to what parts can be shared or what cannot be shared?

JAMES DICKINSON:

Thank you, Chairman, for that question. So, I would have to categorize it as it's foundational. That spectrum piece that you're discussing, you mentioned is foundational to what US Space Command does, as we have the responsibility of providing space enabled capabilities to the Joint Force. What I mean by that PNT communications, missile warning, all of those types of capabilities that I'm responsible for providing, are dependent upon the use of the spectrum.

So as I look at it, I think it's foundational to it and in everything we do.

JACK REED:

So, there will be a certain degree of risk aversion that you would bring to the disposing with that S-band, at this point.

JAMES DICKINSON:

Yes.

JACK REED:

That's fair, General?

JAMES DICKINSON:

That's fair, sir.

JACK REED:

Thank you very much. Senator Wicker please.

ROGER WICKER:

Thank you, Mr. Chairman. First, before I begin my questions, I want to thank Senators Fischer and King and recognize their bipartisan and significant work on--on the Strategic Forces Subcommittee. They are going to be very busy and we're going to look to them in the future, as we already have for leadership.

General Cotton, we have a nuclear modernization plan, Is that correct?

ANTHONY COTTON:

That is correct.

ROGER WICKER:

And when was it written, when was it developed?

ANTHONY COTTON:

Probably in 2010 time frame is when the modernization effort.

ROGER WICKER:

Ok, now when it was developed, this trilateral threat that the chairman just talked about was not so significant, was it?

ANTHONY COTTON:

China was seen as a nascent threat.

ROGER WICKER:

So, so things are different now from the time that the plan was developed.

ANTHONY COTTON:

That is correct.

ROGER WICKER:

Ok. Is it a fact that that since 2010, every Department of Defense and Department of Energy nuclear program has been delayed or reduced in scope?

ANTHONY COTTON:

I don't know if I could go back to the time frame of 2010, sir, but for--

ROGER WICKER:

--For the most part, that's a correct statement.

ANTHONY COTTON:

It is.

ROGER WICKER:

Ok. Well, how are we going to meet the rapidly growing threats from China and Russia with a force that's smaller and delivers later than we planned, some 13 years ago.

ANTHONY COTTON:

So Senator, I think the way I would couch that is the legacy system that we currently have is a credible system, today. The fact that for--for since 2016, we've been modernizing that legacy system and are underway with that legacy system, I think what I would tell you is I just want to ensure that the--the modernization programs that we have today, we can't--we have lost all margin and we must ensure that those--those programs are fully funded and executed, so I can have replacement and updated systems to the legacy systems, today.

It's just hard.

ROGER WICKER:

So, has it made sense then that these programs, for the most, part have all been delayed or reduced in scope?

ANTHONY COTTON:

Sir, that's a policy question from that, from my perspective.

ROGER WICKER:

But we rely on you for expertise and for advice as to the policies we put in place.

ANTHONY COTTON:

And we always forward, ranking member, we always forward our best military advice, as well as our requirements on what--what we think and can--can meet the requirements of executing the objectives that are laid upon us by the president.

ROGER WICKER:

Ok, your predecessor testified last year and--and agreed with nearly every other senior US military officer that we need to provide presidents with more nuclear options than we have today. Do you agree with that sentiment?

ANTHONY COTTON:

I do agree with that.

ROGER WICKER:

Ok, and--and that how--let me ask you then about my--the way I ended my testimony where I said I would like for you to share your feeling as to whether we should have a sense of urgency and whether we should communicate that to the commander in chief and also to the American public.

ANTHONY COTTON:

That is a whole hearted, yes. We--we need to be able to articulate the sense of urgency to ensure that we can modernize the systems that we currently have funded and also look at future posture on what other things throughout the--throughout the inventory, I would say, for effects conventional and nuclear to make sure that we can--I can meet the objectives that are given to me for strategic deterrence to the president.

ROGER WICKER:

And so we--we should--we should make it clear to the taxpayers and the American citizens that we--we need to up our game in this regard.

ANTHONY COTTON:

Continuing beating of the drum, so folks understand that our legacy systems need to be modernized, absolutely sir.

ROGER WICKER:

Thank you, Mr. Chairman.

JACK REED:

Thank you. Senator Wicker. Senator Shaheen, please.

JEANNE SHAHEEN:

Thank you. General Cotton, General Dickinson, thank you both for being here this morning and for your service. General Dickinson, I liked your quote, "Never a day without space." And as you think about the challenges that Space Command is facing, what's your biggest concern with respect to readiness?

JAMES DICKINSON:

Thank you, Senator. Let me just kind of paint a picture of where the command, is today. So we have, within two years, we achieved initial operational capability on a very solid path to

achieve full operational capability, very soon. Resources, the department has done a great job giving me the resources that I do need.

For example, the infrastructure where we are today, as well as the people, the personnel, which I said is the most important part of the command, is our people. That is our asymmetric advantage, if you will, in the space domain, as well, all things space. So, when I look at what we've done over the last three and a half years in terms of identifying requirements to the--to the department, it has gone very well.

We have--we have, deliberately and thoughtfully, provided requirements to the department. And the department is, in fact, giving us those resources. As I said earlier, the department kind of works on five-year terms, if you will, with budgets and bonds and those kinds of things. Combatant Commander, I look to what's happening today and I'm required to do that by the secretary.

So when I look at that, to answer your question, I look very hard at space domain awareness and space domain awareness, how--how are we doing that today. And so, we are taking steps to make sure that we are leveraging sensors around the world that our US and allies and partners that traditionally haven't been used for space domain awareness but do have capabilities.

We look at those particular assets and understand how we can pull them in and integrate them into a comprehensive architecture. And then we also look to how do we develop the requirements to improve upon those in future years. And so, that is one way we were doing it, trying to solve that situational awareness or improve the situational awareness issue I have in the space domain.

The second part of that is leveraging commercial companies, commercial companies that want to participate in that with capabilities that they build themselves and provide that data to us. So, through integration of nontraditional sensors as well as commercial sensors, we are getting better at space domain awareness.

But as the congestion and space continues to grow, we will need better--better capabilities.

JEANNE SHAHEEN:

Well, you mentioned the--the expertise of the personnel who work at Space Force, and I understand that you have been successful in hiring a number of civilians to address the milestones that you've set. That's why I continue to be concerned about the proposed relocation of Space Force to the Redstone arsenal.

When the Missile Defense Agency was relocated to Alabama, they lost 80 percent of their workforce who didn't want to leave and make that move. What would be the impact, if you lost a significant portion of the workforce in a move of Space Force?

JAMES DICKINSON:

Well, Senator so--so today, as I mentioned, I've got a--the command itself right now is about 62 percent if I count military as well as Department of the Air Force civilians. I have got a contractor base, too, in addition to that, that pulls us up a little bit over 80 percent in the total for the command.

There's really no way to know how many of those civilians would move to Huntsville, for example, until--until that decision is made. Lots of those folks are great civilian workforce. You know, they have made life choices and that's why they live, for example, in Colorado Springs. The military, you know, we're--we're soldiers, sailors, airmen, Marines and guardians, if told to move will move.

But there's really no way of knowing what percentage would actually move.

JEANNE SHAHEEN:

But the report that took a look at the Space Eden decision makes some assumptions about what would happen if--if there were a move and what the impact of that would be. Is that correct?

JAMES DICKINSON:

Yes.

JEANNE SHAHEEN:

And is there a reason why that report is not available to the public?

JAMES DICKINSON:

I believe the Department of the Air Force, the Secretary of the Air Force is doing some additional analysis before he makes his final decision. But to your point, ma'am, I would just offer that whether it's Colorado Springs or Huntsville, I think both those locations have the talent pool, if you will, of professionals, space professionals that could support the mission of US Space Command.

So again, I wouldn't know the percentage, but I do know that the--the work base workforce that's available in Huntsville is very good, as well.

JEANNE SHAHEEN:

But am I correct that the--the workforce in Huntsville has not had the same expertise on operating satellites that the workforce in Colorado has had?

JAMES DICKINSON:

So, the workforce that I have, ma'am, in the headquarters itself, the CCOM headquarters, we don't necessarily do that level of technical flying the satellites, if you will. That is resident within subordinate units within US Space Command, and those units are not moving.

JEANNE SHAHEEN:

So, they will stay in Colorado regardless.

JAMES DICKINSON:

I'm sorry.

JEANNE SHAHEEN:

They will stay in Colorado, regardless of what happens with everybody else.

JAMES DICKINSON:

So the only--the only part of that basing decision that's under review, right now, for a decision to relocate is the headquarters, my headquarters.

JEANNE SHAHEEN:

Thank you. Thank you, Mr. Chairman.

JACK REED:

Thank you, Senator Shaheen Senator Fischer, please.

DEB FISCHER:

Thank you, Mr. Chairman. General Cotton and General Dickinson, before I begin my questions, I want to strongly encourage both of you to make greater use of the unfunded priorities list. That process helps you to convey your needs to Congress. The Department's budget request is the product of a two year long process.

Many of the assumptions baked into fiscal year 2024 budget were made in 2021. The geopolitical environment has significantly changed, over the last two years. This committee views unfunded priority lists as a valuable tool that allows us to make more responsible resourcing decisions, based on the current needs that we have and the operating environment.

So, please use that tool. General Cotton, in your recent letter to the committee, you noted that you have a capability gap that needs to be filled by a low yield, non-ballistic capability that can respond without--without generation. Would a nuclear sea launched cruise missile fill that gap?

ANTHONY COTTON:

Thank you for the question, Ms. Senator Fisher. You know, to address the adversaries perceived advantage on limited nuclear use, when I was here amongst the committee and--and was--was tasked with the question., I said I owed you a response on being able to make that assessment on where we stood. I did a deep dive, as soon as I took command and, during that deep dive and review of our capabilities, I, in fact, am in agreement that there is a strategic gap or challenge when it comes to--to that regime.

So, I fully support the fact that, and the support that we have with this committee in pursuing the opportunities to look at low yield non-ballistic non generating effects moving forward. Absolutely concur with that.

DEB FISCHER:

Thank you, General, and thank you for looking in that and getting back to us. I appreciate that. Sometimes when--when you take a new command, I know you have a lot put on your shoulders in--in making sure that you have a full understanding of everything that you are in charge of. And I appreciate you taking the time to get that to us. Last year, the administration sought to retire the B83 nuclear gravity bomb, despite having no replacement program in place to address hard and deeply buried targets, such as underground facilities in China and North Korea.

What is your best military advice on whether the United States needs to maintain a capability to hold those hard and deeply buried targets at risk?

ANTHONY COTTON:

Thank you for the question, Senator. I'll answer that in two parts. Right now. The B83 is still part of my arsenal with the NDAA language that limits the reduction of that. So, I still have that capacity and capability pending the results of the hard and deeply buried study that the Department is currently doing of which we are part and are given our inputs to that.

That being said, we are going to have to figure out how we are going to continue to have capability that gets after HDBTs and what effects can actually do that, whether conventional

or nuclear. We're going to have to have a strategy to figure out how to do that, and I look forward to seeing what the study brings us from--from the department to make sure that we can close that.

DEB FISCHER:

When do you anticipate that study to be completed?

ANTHONY COTTON:

Ma'am, I was told that we should see that in the spring.

DEB FISCHER:

Thank you. Could you please keep us updated on that?

ANTHONY COTTON:

I absolutely will.

DEB FISCHER:

Thank you sir. I appreciate the conversation that we had earlier this week on the importance of moving forward quickly with NC3 modernization and building out a roadmap with clear, achievable near and long-term goals. Can you tell this committee more about NC3, the roadmap that STRATCOM is developing?

ANTHONY COTTON:

Senator, absolutely, we look forward to having that conversation not only in open but in closed session, as well. The conversation that we had was one of the things that--that was the second thing that I did upon taking command was with getting with the team to understand how we take conceptual ideas and what might be seen as concepts with all the dollars and support that we're getting from the Congress and turn those into what--what

you--what you had alluded to, a roadmap that I can, you can and my bosses in the Pentagon can actually see in phases of what we're doing within NC3 modernization.

So, what we're doing is we're translating what was once seen as a conceptual piece and talking through the concept, and now we're having 0 to 5, 5 to 10, 10-to-15-year roadmaps where I can describe to you within those phases of time, what's actually being done with the taxpayer's money, moving forward to modernize the NC3 modernization program.

DEB FISCHER:

Thank you. I think it's--it's extremely important to be able to have roadmaps, checklists to stay on time so that we can be prepared for the future. Thank you, sir.

JACK REED:

Thank you, Senator Fisher. And let me also join Senator Wicker in commending you and Senator King for your leadership of the strategic subcommittee. And with that, let me recognize Senator King. Thank you.

ANGUS KING:

Thank you, Mr. Chairman, and thank you for that recognition. General Cotton. Just a brief note. Sentinel, the replacement of the ICBM system essentially from the--literally from the ground up, is one of the most important and also complicated and major development projects in the history of this country in terms of budget and schedule and the necessity of getting this done.

I just--I want you to know that we're watching you because I want--I want the contractors to know that you're watching them. I hope this is a high priority, in terms of the management and implementation of that program, which is going to be a massive undertaking.

ANTHONY COTTON:

Senator, thank you. And you're absolutely right, I'm watching the contractors and I'm watching, I'm watching the Air Force to ensure that we close that--that gap, as well.



ANGUS KING:

Thank you. I want to talk about deterrence, which is really the basis of our entire strategy to defend this country. And we talked about, you talked with Senator Fisher about the communications, NC3. It seems to me that NC3, I believe NC3 should be part of the Triad. It should be the quad because it's really as important.

If our communications system is incredible then our deterrent is incredible, which is what could lead to a precipitous strike from one of our adversaries. So, I hope that you agree with me that--and I don't want to make you go through all you went through with Senator Fischer, but NC3 security and absolutely zero-defect reliability is critical to the deterrent posture of this country.

ANTHONY COTTON:

Sir, It is the foundation of everything we do when we talk the triad. And I often use your slogan of saying that it's--it's a quad, if you will, for NC3. One of the things that we're also doing is General Nakasone is interwoven in everything that we're doing and his team in Cyber Command is interwoven in everything we're doing with current NC3, the legacy systems, as well as when as we're building out the next generation of NC3. So, security is fundamentally a part.

ANGUS KING:

We put a lot of time, effort and focus on cyber, over the last few years. I'm a little worried that electronic warfare is sort of over here and cyber over here. Electronic warfare, the ability of our communications systems, of our--of our satellites to--we'll talk about this, General, but that--that's a part of, maintaining that as part of our--our deterrence strategy. It has to be.

ANTHONY COTTON:

It absolutely is, sir. And as you know, I am the--the lead command in ensuring that we get after the EMS problem and what we saw as an atrophy over the past couple of decades, not with the NC3 systems, within the department and what they're doing.

ANGUS KING:

And no, but the--the whole--the whole system electronic. If there's a conflict, electronic warfare is going to be the first two hours or two days before anything else happens. Well, let me--let me move from that to General Dickinson. Are we developing alternatives to space-based resources? For example, the simplest one to think of is GPS, we've got to be able to have ships and planes and troops for that matter, know where they are, absent GPS, because I believe Jeeps will be one of the first targets in a conflict.

Do--I know you're--you're not Navy, but I want ships to be able to do celestial navigation?

JAMES DICKINSON:

Thanks, Senator. So to answer your question, so, I do believe we will be degraded at some point in the GPS world, position, navigation and timing. With that, I know there's efforts under way, even in my previous command before US Space Command, looking to alternative PNT, alternative position navigation and timing and how we can develop those types of capabilities.

So, that's the kind of the technical side of it. There are programs that are working on that, right now.

ANGUS KING:

I hope that's a high priority that that we could have a \$100 aircraft that gets lost because it can't--it can't navigate. We've got to have a priority on--on having alternatives to GPS, it seems to me.

JAMES DICKINSON:

Yes, I agree. And then the departments are working on that, right now. But what I would also offer to you, Senator, is efforts within the department and each of the services to kind of go back to how we used to do things. So, when I was a second lieutenant many, many years ago, I had a lensatic compass and a map in my hand.

Hand. Many people did in this room, I'm sure. And so, we can't lose that skill. We have to continue to train that skill. If you're on a Navy ship, I might get this wrong, you have a sextant that you can use to utilize stars to do your navigation. But I think we all have to prepare for that. And I know like for example in the Army, if you go out to one of the CTCs or training centers, they're actually training in that kind of a degraded environment because we know that we might see that.

And of course, we've seen that in Ukraine as well.

ANGUS KING:

Preparing and training are the key words. Thank you very much, General. Thank you both for your service. Thank you, Mr. Chairman.

JACK REED:

Thank you, Senator King. Senator Rounds please.

MIKE ROUNDS:

Thank you, Mr. Chairman. Gentlemen, let me begin by just thanking you and your teams for standing on the front line and, in some cases, having to make some very difficult decisions. I appreciate the work that both of you do. As you know, there is an effort and a significant discussion going on with regard to spectrum and spectrum sharing.

It's important, as a country, because there's lots of people that want 5G. It's critical to our country and to expansion. But at the same time, 5G means that there is parts of the electromagnetic spectrum, which have to be dedicated towards that. At the same time,

spectrum is limited and part of what that limited spectrum is, is being used by the Department of Defense.

Over the years, there has been more and more of a move by folks who want to be able to provide more services to the general public to take parts of the spectrum and that which is used by the Department of Defense. I'm concerned about this. And as you know, right now, there is a discussion about that part of the spectrum that is between 3.1 and 3.45 gigahertz.

There is a desire because this is a very desirable part of the spectrum. Now, on the political side of things, and we don't expect you to get into the politics of it, there is a real push to try to move some of that away from the Department of Defense on a shared basis. At the same time, there is a reason why the Department of Defense uses this part of the spectrum and that it has some very, very special qualities.

I'm going to get into the part of this in which we need your professional military advice. And I'm making it that way because there are folks that clearly understand the value of 5G, who would prefer to have this moved in an expeditious fashion out and away from DOD uses or shared uses and into the private sector.

And I understand their desire to do so. But I believe that the national defense of this country is critical and must be maintained. So, what I'm going to ask in terms of your professional military opinion is to work our way through this in a discussion with me about the critical needs of this country for parts of the spectrum that could be at risk, if we make the wrong political decision.

I'm going to begin. General Cotton, within 3.1 to 3.45 and in very close proximity to that, is it true that we have significant radars that we have to maintain?

ANTHONY COTTON:

That is a correct statement.

MIKE ROUNDS:

Is it true that those radars that we are dependent on protect our country, Alaska, Hawaii and the mainland from the possibility of attack by aggressors with regard to a continental, intercontinental ballistic missiles, short range missiles, drones, all sorts, or I would say almost the vast majority of those types of--of weapons systems, including aircraft that may very well be coming at us or directed at our shores.

ANTHONY COTTON:

Senator, that's a true statement.

MIKE ROUNDS:

If you were to lose part of this spectrum, would it be true, or if they were to look at using part of the spectrum, would it be true that some of those radars that we rely on could be at risk?

ANTHONY COTTON:

They could be at risk, sir.

MIKE ROUNDS:

Thank you. General Dickinson, space is the name of the game for you. And you not only have--have satellites and so forth, you're responsible also for early warning in some cases, as well. Is that not true?

JAMES DICKINSON:

That is true. I have a UCP responsibility as the global sensor manager.

MIKE ROUNDS:

In those sensors, are there critical aspects that include very sensitive parts of the spectrum that are in or near this particular part of the spectrum?

JAMES DICKINSON:

Yes.

MIKE ROUNDS:

What would happen if you were to lose access to those or to be limited to those in terms of your ability to provide adequate warning, should an attack occur?

JAMES DICKINSON:

It would be impacted possibly degraded.

MIKE ROUNDS:

If you were required to move away from the assets that you currently have in that part of the spectrum, can you give us any kind of an estimate as to the costs involved?

JAMES DICKINSON:

Senator, I can't give you an accurate cost estimate. I would say it would be very expensive.

MIKE ROUNDS:

Thank you. General Cotton, are you familiar with the Aegis?

ANTHONY COTTON:

I am, sir.

MIKE ROUNDS:

Is it clear that the Aegis system has significant parts of its radar systems within this very sensitive part of the--the spectrum?

ANTHONY COTTON:

It does, sir.

MIKE ROUNDS:

Do you have any idea as to what the cost would be to try to move or to try to--to allocate spectrum or areas other than this if it's even available for the Aegis system that protects our coasts?

ANTHONY COTTON:

I don't have a cost, but I know it's extremely expensive.

MIKE ROUNDS:

Thank you. Do you believe that It is very important--and I'm going to ask this of both of you and then, Mr. Chairman, my time I realize is up, but I'd like to have this question. Do you believe it is important that uniformed officers of the Department of Defense have a say and are, at least, have an opportunity to express to those who make these decisions, your professional military opinion about how serious the loss of these particular parts of the spectrum could be, If the decision is being made to share or to release that part of the spectrum?

ANTHONY COTTON:

I would at least like to have my best military advice heard.

MIKE ROUNDS:

Thank you. General Dickinson.

JAMES DICKINSON:

As a combatant commander, I would ask, I would say the same thing. I would ask that my best military advice would be considered.

MIKE ROUNDS:

Thank you. General Cotton, I'm just going to finish with this. Have you been able to offer your best professional military advice to anyone on the release of this spectrum, to date?

ANTHONY COTTON:

Sir, most of those discussions happened prior to--to December. So, I don't know what the disposition was done, but I haven't had that discussion, since the command.

MIKE ROUNDS:

Thank you very much. Look, I really appreciate this. This is a difficult situation because there really is going to come a point at which your professional military advice has got to be shared with those individuals that are looking at making this decision. And it should not be made--and I'm just going to finish with this-- I believe that it should not be made until after the study, which is being completed by the Department of Defense and the NTIA is completed.

Would you agree with me that nothing should be done with this, until after that study is completed?

ANTHONY COTTON:

I agree and we are part of that study.

MIKE ROUNDS:

Thank you. General, would you agree with that?

JAMES DICKINSON:

I would agree, and we are part of that study.

MIKE ROUNDS:

And do you believe that there should absolutely be an appeals process that we have currently got in law, should that be continued on in its current form? General Cotton

ANTHONY COTTON:

Yes.

MIKE ROUNDS:

General Dickinson.

JAMES DICKINSON:

Yes.

MIKE ROUNDS:

Thank you. Thank you, Mr. Chairman, for your patience.

JACK REED:

Thank you, Senator Rounds. And just to make sure we are clear, the S-band is the band that Senator Rounds and I were both talking about. Thank you. Senator Gillibrand, please.

KIRSTEN GILLIBRAND:

General Cotton, the all-domain anomaly resolution office was created to synchronize the Department of Defense efforts to study and assess unidentified aerial phenomena. How is STRATCOM liaising with AARO to help the office do its job?

ANTHONY COTTON:

So ma'am, formerly UAP, so we are part of that, along with other combatant commands. So, I have a team, as well as myself and in the senior leadership positions, that liaison on with that organization, as well as the other COCOM responsible for that, that responsibility.

KIRSTEN GILLIBRAND:

Great. And do you foresee that AARO needs additional resources or additional sensors or additional detection to be able to do their job more thoroughly?

ANTHONY COTTON:

I would probably have to defer that to my partner in NORTHCOM to be able to answer that question. So I don't--With what I know, I don't have a good answer for you in that regard, ma'am.

KIRSTEN GILLIBRAND:

I'll follow up for the record on that. While Canada has promised to invest 38 billion, over the next 20 years in NORAD updates, our radars in the North warning system are pretty old and are in known locations. Can you update us in this setting on how you're modernizing our defenses in Alaska and north of our border?

ANTHONY COTTON:

So if you're talking NORTHCOM systems, I'd have to defer to NORAD NORTHCOM commander.

KIRSTEN GILLIBRAND:

And then, how is STRATCOM adjusting our missile defense capabilities to respond to the threats you mentioned in your opening statement of hypersonic glide vehicles and hypersonic cruise missiles to the extent you can answer that in this setting?

ANTHONY COTTON:

I would prefer if we could, ma'am, in the closed setting to be able to address those.

KIRSTEN GILLIBRAND:

That's fine. General Dickinson, the Space Force is working on a commercial augmentation space reserve, which would give us a civil reserve space fleet if we needed one during a

conflict or a crisis. How is SpaceCom supporting Space Force's efforts to build this reserve?

JAMES DICKINSON:

Thank you, Senator. So, that is a great initiative. I think it's--we need that, especially as I described earlier, you know, our leveraging commercial industry to augment, provide additional capabilities to us. The way we're working with them is, as the combatant command and warfighter, we're providing our perspective in terms of requirements for those types of relationships.

In other words, we will have the operational piece in terms of what those contractors could--could or could not face in the space domain. So we participate in that way.

KIRSTEN GILLIBRAND:

As we plan for peer on peer or near peer conflicts, we have been able to ensure that our forces know how to use our nation's capabilities and that they have the opportunity to train with those capabilities. But most of our space-based systems are classified as special access programs. At current classification levels, are lower-level commanders able to understand the full scope of capabilities available to the force and able to conduct military planning with an understanding of space-based capabilities and limitations.

JAMES DICKINSON:

So, thank you, Senator. So, over classification is a challenge within the--within the department, right now, but one that we are aggressively working and looking at refining, if you will, to make sure that we can start bringing systems and capabilities to a lower classification level, so that we can optimize their employment, as well as training of the operators and the forces that they support.

So, in other words, the classification, we look across those and are revisiting those--those documents, those capabilities to see whether or not we can pull them down to a lower classification level. This also allows us to do more integration, better integration with our allies and partners.

KIRSTEN GILLIBRAND:

Thank you. Thank you, Mr. Chairman.

JACK REED:

Thank you very much, Senator Gillibrand. Senator Ernst, please.

JONI ERNST:

Thank you, Mr. Chair, and thank you gentlemen very much for being here, today. And General Cotton, thank you for speaking with me last month regarding your commander's assessment, including on the SLCM-N. And--and I do appreciate the letter that you've responded with to the chairman and ranking member affirming that SLCM-N offers additional options and supports, an integrated deterrence approach.

So I brought a copy of the letter, today. Really appreciate you responding to my colleagues and I. And Mr. Chairman, I request that the general's letter be entered into the record.

JACK REED:

Without objection.

JONI ERNST:

And the president's budget request should reflect this assessment. We feel that that is very, very important. And again, thank you very much for doing your commander's assessment. General Cotton, the 2022 China Military Power Report estimates that China will field 1,500 nuclear weapons by 2035, and that rivals US deployments under New START. And I know we've been hammering down on this.

This is such an important topic for all of us. Do you agree that we must reassess our strategic deterrence requirements, given China's nuclear breakout?

ANTHONY COTTON:

Senator Ernst, thanks for the--for the question. Absolutely. I think we need to reassess our strategy or at least take a look at our strategy or current strategy and have a force posture conversation.

JONI ERNST:

Thank you. And after New START, the US and Russia and, of course, China, too, might be without strategic arms constraints. Would you agree that the US should prepare to upload its non-deployed nuclear weapons to shore up deterrence?

ANTHONY COTTON:

Senator, I always have flexible deterrent options.

JONI ERNST:

Very good. I hope everybody hears that, loud and clear. How quickly can we upload each leg of the triad?

ANTHONY COTTON:

Ma'am, I rather have that conversation in closed session.

JONI ERNST:

Thank you. We look forward to that classified answer. And General Cotton, and I'm just going to go into generals here kind of general answers--because you are Generals--we might need to consider additional measures to ensure the credibility of our deterrent. So in general, would you agree that placing a portion of the bomber force on day-to-day alert would increase its flexibility?

ANTHONY COTTON:

As a former Joint Forces air component commander, I'd like to have that conversation in closed session because I can actually do that, without putting them on alert.

JONI ERNST:

Ok. And in general, would you agree that moving some of the ICBM force to mobile platforms would increase survivability?

ANTHONY COTTON:

In general?

JONI ERNST:

In general, would deploying SLCM-N expand our at sea deterrent?

ANTHONY COTTON:

I think it would address our adversary perceived advantage of limited use.

JONI ERNST:

Thank you. And in general we're deploying ground-based theater range nuclear forces bolster our deterrent.

ANTHONY COTTON:

I would like to talk to you about that one in closed session if we could.

JONI ERNST:

Ok, well I appreciate that. I think that it's important that we continue to have those discussions and understand what our flexibility and options are, as we continue to support our nuclear triad. So, thank you very much for that. And General Dickinson, just in the time that I have left, in your efforts with a combined space operations initiative member nations, I--I did notice that you had met recently with space leaders from South Korea and Japan.

How is the space integration improving with the -- these non-five eyes members?

JAMES DICKINSON:

Thank you for the question. That's a great initiative. The Combined Space Operations Initiative Board that we have, we just met in New Zealand a few months back, and that-- that's the five-eyes, plus France and Germany. But outside of those, South Korea and Japan in particular, we are very working very closely with them.

In fact, to the point where we are doing exercises with them. So we have an exercise program called Global Sentinel, which is an unclassified exercise program where we do space domain awareness training. And so they are included in that, plus 22 other nations, as well. And that has been very successful. We also have, the Space Force as well as US Space Command, have personnel serving on the peninsula now, not large numbers, but small number., But we're integrating with--with the forces the green forces on the ground in Korea, as well as in Japan.

JONI ERNST:

Thank you. I think it's incredibly important that we continue to work with nations around the globe. And Mr. Chairman, I want to associate myself with the comments that Mr. Rounds had, as well. I think it is very important that we listen to our military leadership and, based on your best military advice, make those decisions that are best for the defense of our nation.

Thank you, gentlemen.

JACK REED:

Thank you, Senator Ernst. Senator Warren, please.

ELIZABETH WARREN:

Thank you, Mr. Chairman. So, the Biden administration is requesting \$835 billion in the largest--one of the largest Pentagon budgets in history. Despite that gigantic request, I'm

expecting that we will receive a torrent of letters from the services and the combatant commands asking for billions more, through the so-called unfunded priorities list.

That is the Pentagon's term for it, but I just call them wish lists. The DOD doesn't have to follow the same rules as every other federal agency, which is other agencies have to balance their must haves against their nice to haves and come up with a budget. Instead, each part of DOD also submits a second list of things that didn't go through the budget process that they still want funded.

So in January, I sent a letter to Secretary Austin, along with Senators Braun and Lee and King, telling DOD not to send Congress any wish lists, as part of this year's budget process. Last year, some parts of DOD did not put anything on their wish list. And so, my questions today are about whether or not the two of you will choose that route, this year.

So General Dickinson, you run Space Command. Will you be submitting additional funding requests on top of the budget that DOD sent to Congress, this morning?

JAMES DICKINSON:

Thank you, Senator. I will submit a list and there's a couple of reasons why I will. So, being a combatant command that's only about three and a half years old, we are continuing to evolve. We are continuing to mature. I described a little bit earlier how we're getting more people, where our infrastructure is growing.

And what we have facing us right now is a very dynamic threat in the space domain, our pacing challenge being China. And so with that, we find ourselves in a situation where we try to grow a little bit quicker. And sometimes when we do that, because of the threat, it will cost a little more money and--and money that I haven't forecasted because I wasn't able to look at that, inside of the budget cycle.

That's the first piece of that. The second piece of it is, as I look to round out some of the capabilities that I need, specifically space domain awareness, we are finding in the commercial market that there are companies that can provide that type of capability to us.

And we are taking that capability in our commercial integration strategy and bringing those partners on board.

Sometimes I don't have that, how much that's going to cost in a contract inside of the two-year budget cycle that we're in. So, those are some things that I'm doing that would be in my UPL. One would be how do I grow my command faster to meet the--to meet the threat? And second, how do I bring on capabilities that I might not have forecasted that I have that I've come to realize the first--

ELIZABETH WARREN:

--So the budget that has just been submitted this morning, you're telling me is already out of date for your command and that you want to go outside the budget process. You don't want to have to do the ten-year cost estimates. You want to go outside that to just plus up your budget. Is that right?

JAMES DICKINSON:

It is--the reason I would submit UPL is to make sure that I can grow as the threat grows.

ELIZABETH WARREN:

Well, but that's the point of the budget process is that you go to the Department of Defense, you say here's how I need to grow. They give you a number and then you make the appropriate choices, within that number. And you're just saying they didn't give you a big enough number, so you want to do an end run in order to plus up your budget?

Is that what you're saying, General?

JAMES DICKINSON:

I'm saying that the space domain, the characterization of what I see going on in space with the advancements and the, of the threat from the Chinese in space warrant me to be able to account for that inside of that.

ELIZABETH WARREN:

But that's the point of going through the DOD budgeting process. You've been given a number by DOD, and you've just decided to go outside that. I want to also be sure to get to General Cotton. You run our nation's strategic command responsible for our nuclear weapons arsenal. Now during your confirmation, you told me quote, "As the commander, my job is to ensure that I can execute my mission with the dollars I have been given." General Cotton, same question to you as General Dickinson.

Will you be submitting additional funding requests on top of the budget that DOD sent to Congress, this morning?

ANTHONY COTTON:

Thank you. Senator. I think I had that caveat there, too, as far as talking about emerging responsibilities and emerging threats. No different than what General Dickinson said, the two-year cycle, things change within the two-year cycle. I've been asked this morning on how am I going to handle looking at the new emerging threats that we have just seen in probably the last 60 days of--of what's going on, within the strategic threat picture.

So right now, we're going to have to look to see if we're going to submit a UPL to be able to, to get after some of the--some of the threats that we're seeing, today. I am responsible for--for EMS, the spectrum management piece. We are right there on the two-year cycle where we didn't do that two years ago for the '24 budget to understand how we're going to be able to set that up to be able to get after some problems.

So, I stand by what I said as--as a commander. I will always try to make sure that I get--I can be able to do my job, within my means. But I always, as all commanders, we all have emerging threats or needs that might change the calculus on what our previous budget had.

ELIZABETH WARREN:

Well, I appreciate that and I am out of town. But I just want to say I think we should be asking DOD to write budgets that reflect their actual priorities and that they should know as



much about these emerging threats, as the individual commanders do and that we should not be doing a dual estimate here of budgets where you have one number and then you just come in and ask for a lot of additional money.

I think that's wrong. Thank you, Mr. Chairman.

ANTHONY COTTON:

Thank you, Senator Warren, Senator Scott, please.

RICK SCOTT:

Thank you. I sympathize with what Senator Warren is saying. I mean it is--it's hard to figure out what the budget should be. And so, there ought to be a way where we know we hear everything and then try to make a decision. So thanks for what you do. Can you just talk about--first off, you know, you watch all this stuff that China is doing, and we clearly--the public should know, you know, the fentanyl coming across the border, the Chinese spy balloon, the surveillance with DGI drones, they got TikTok and all that stuff?

So, take if--what could we do, what could the public do and what should we do on things like that, that would actually--is there anything that we could do that would impact and make your jobs and what you're trying to do as part of our defense easier? Both of you. Thanks. Whoever wants to go first.

ANTHONY COTTON:

Senator Scott, thank you. I think public advocacy, the advocacy of--of--for my portfolio, for example, the advocacy of the modernization of the nuclear triad, the modernization of the weapons complex, the modernization of infrastructure, those are the things that, on the surface, I don't know that the American people will truly understand.

On--on the effects of not having those things are and the effects to the national security of our nation for not having those type of things. So advocacy in the public light on from

yourself and others to be able to articulate the needs that we have, I think, makes a big difference for us.

JAMES DICKINSON:

I think it's advocacy and education and awareness of how important, for my portfolio, space is to not only military operations, but just our way of American life and really the global economy. So I think, as we watch the Artemis One launch, here not too long ago and we see the excitement of going back to the moon and beyond.

I think that really has motivated the American public and the world, for that matter, that we're going back to the moon, and beyond. But when you look at that and you look at what the Chinese are doing today with their own space station on orbit, their own ability to go to the moon, go to the moon and scoop up some rocks and come back demonstrating their technology advancements.

We need to understand that that has a military application, too, and that the same assets or similar assets that we depend upon in everyday life here in the United States and around the world is dependent upon space. Space fuels the economy. Space fuels are our lifestyles. And I think just understanding that space is exciting from a civil commercial piece, we also need to be able to say it could be held at risk.

And that risk is what I'm doing each and every day is to try to mitigate that risk or reduce that risk?

RICK SCOTT:

So how can you or how can we or how can the Biden administration, any of us, take what we watch, what the Chinese is doing every day that we all get to see, right, to do a better job of explaining what we need to do on nuclear determent--determent and what we need to do on space? How can--how--how can we put those together, where the public will get it because you're right, it's going to be--we've got to advocate for this stuff.

The public doesn't believe in it. It's going to be hard for us to--to get the money to fund it, right, Because we're--we're basically--we represent the people in our state. So how would--what should each of us be doing better?

JAMES DICKINSON:

I think talking about what they're doing and, for me, talking about what they're doing in space right now, in terms of you go back to 2007 when they conducted that direct descent ASAT test. That test, we are still tracking more than 2,000 pieces of debris from a test that happened in 2007. That type of messaging and that type of conversation, where appropriate, I think is very important to do. So, from my perspective, that's how you get at it. A constant conversation about how are they improving in space.

ANTHONY COTTON:

Senator Scott, from--from my portfolio, I think is actually educating folks to understand that what does it mean when the Department of Defense says that China is a pacing threat. What does that really mean to, to folks that are in Melbourne, Florida, of being able to describe that and understand what does that mean when--when we say that there is a nuclear breakout and then the first time in the history of the United States since the advent of nuclear weapons that the United States has two nuclear peers.

That's--that's the education that needs to happen to for our American people.

RICK SCOTT:

All right, thank you. Thank you, Chairman.

JACK REED:

Thank you, Senator Scott. Senator Kelly, please.

MARK KELLY:

Thank you, Mr. Chairman. General Dickinson. Since we left off with Senator Scott's question about your answer a little bit about commercial space, I want to start there. So in February, the president of SpaceX revealed that the company had taken active steps to prevent Ukrainian forces from using StarLink technology with their drones.

SpaceX admitted they had not foreseen the weaponization--their words--of their capabilities. And I was personally disappointed to see discontinuation of full services at such a critical time for Ukraine self-defense. So General, as SpaceCom moves forward in deepening its partnership with industry and foreign partners, how are you approaching the agreements with industry on military use of commercial capabilities?

JAMES DICKINSON:

Senator, there's--there's no question that SpaceX and StarLink system has been used extensively by Ukraine in its response to the Russian aggression. I think the use of StarLink has been described in numerous media accounts almost since the beginning of that conflict. I think this demonstrates that commercial space capabilities can play a significant role in our modern high intensity conflicts.

And the concerns I think SpaceX representatives recently expressed about Ukraine's use of StarLink highlight the importance of shared understanding between commercial service providers and their customers and users. So, these issues, in my mind, bear on contracts in all operational domains, not just specific to space.

MARK KELLY:

So, do you feel there's a connection between the availability of this capability to our partners ,being Ukraine in this conflict, and relationships we have with companies like SpaceX?

JAMES DICKINSON:

Yes.

MARK KELLY:

And how are we going to ensure that DOD and our partners will have all the capabilities available, throughout the range of military operations? And if you have any specifics about this going forward, I'd love to hear them.

JAMES DICKINSON:

Yeah, there is an initiative that is working right now within the department within the Space Force that-- that is actually looking at what you just described there. How do we--how do we make sure, during times of conflict, that if we're relying on commercial companies for certain services, that they'll be available to us. There are models like that right now, for example, the craft model that we use in the department, right now.

The civilian reserve air fleet, you know, there. So, that may serve as a model as they go forward in their -- in their work. And we participate US Space Command in in that process.

MARK KELLY:

General, I'm going to have my office follow up if you need assistance there. We're here to help.

JAMES DICKINSON:

Thank you.

MARK KELLY:

And General Cotton, in the year since Russia's unprovoked assault in Ukraine, the US has been forced to rethink our nuclear posture and how we think about deterrence. Just a few weeks ago, Russia announced that it would suspend its participation in the New START treaty. But even prior to that, I mean, we all knew that Russia was refusing inspection of nuclear facilities, which was a key condition of the agreement.

And this behavior, along with increased Chinese aggression and the influence from China, but also North Korea's regular testing of ballistic missiles and Iran's, I would say undisputed progress to enrich uranium. It underscores the importance of having a strong deterrence. 

The long-range standoff weapon, the long-range standoff missile system being developed by Raytheon in Tucson, Arizona, is going to play a critical role in the deterrence of our top four adversaries in the future and the ability to forward deploy this missile on US bombers sends a powerful message to our adversaries but also our allies.

So General, can you expand on why this is such a critical asset for our nation?

ANTHONY COTTON:

Senator, thank you for the question. LRSO is a replacement for the airlines cruise missile, which is the airline's cruise missile nuclear leg of our triad. Um, that weapon is still a reliable weapon and it's a safe and secure weapon. But it's--but it's well past its life, as far as capabilities sustain. So, we need to replace it with the LRSO. And you're absolutely right, I'm quite pleased with what I've seen with the--with the contractor and the work that they're doing.

It's fundamental because that's fundamental to long range standoff for the air leg of the nuclear triad.

MARK KELLY:

Well, thank you. And I my understanding without going into anything, you know classified, that we'll get more capability out of this weapon than we had with the prior, I think it was AGM 86, was it?

ANTHONY COTTON:

Yes, and we could talk more about that in the closed meeting if you--you'd like.

MARK KELLY:

Thank you. And thank you, Mr. Chairman. I'm going to submit another question for the record on traveling wave tubes, specific capability that we don't have a lot of depth in here in a--in our industrial base. Thank you.

JACK REED:

Thank you, Senator Kelly. Senator Budd, please.

TED BUDD:

Thank you, Chairman. General Dickinson, General Cotton, thank you both for being here, today. You know, last year, President Biden's defense budget was woefully insufficient to keep pace with China and Russia and also inflation. I think many of us are concerned with this upcoming budget, particularly, when it comes to nuclear modernization.

So General Cotton, other than budgetary constraints--we've talked a lot about that today--what barriers exist to nuclear modernization efforts.

ANTHONY COTTON:

Senator, thank you for the question. I think fundamental to me is ensuring that that we don't have any slips in any of the modernization programs that we have, as far as timelines on being able to get to completion. The industrial base and supply chain, we hear many people talk about that. It's a thing. And that -- that -- that -- that is worrisome to me because that's external to even what folks might think are technical challenges.

But when you throw that on top of--of what we're trying to do and what we're seeing, that becomes a challenge.

TED BUDD:

Thank you And for both of you to the extent that you can discuss it in this setting, maybe we'll hear more later on. How destabilizing is China's development, and this is a mouthful, but they're nuclear capable hypersonic fractional orbital bombardment capability? And I know that's a concept that's been around for decades, but we're seeing with new technology the redevelopment of that.

So, are there certain systems--first of all, how destabilizing is that and is there something that the US should field in response?

ANTHONY COTTON:

It is destabilizing, you're right. It's something that folks have been thinking through for decades. But--but because of the destabilization result of what that weapon can bring forth, others decided not to go in that direction. I think for--for our perspective and strategic command, it's about warning. So, as my fellow COCOM commander in NORTHCOM, in NORAD would tell you, that becomes--that becomes a problem and being able to--to--to understand what your timelines are on when something is--might be coming into the homeland.

JAMES DICKINSON:

From my perspective as the global sensor manager, being able to see it as is the first thing we have to be able to do. And so, as I've mentioned earlier in a previous response, you know, these are emerging type of threats, if you will, that we need to be able to address. And so, we're looking very closely at it in terms of how do we use capabilities that we didn't traditionally use for that type of activity, in this case, the fractional orbital bombardment capability.

And do we have things that we can better leverage today to help us maintain custody of, if you will, when it is in flight. So, so for me, it's an area that I'm, aggressively, working today with assets that that I have. And we're looking to the future, too, to bring on increased capability.

TED BUDD:

Thanks. We'll pick up the discussion of that in the other setting. General Dickinson, how would you characterize the current resilience of our military satellite constellations and what efforts are being made to improve resilience in the near and the short term? And the concern is that because these systems are so expensive that we buy less of them, thus making them more vulnerable.

So, if you would comment on that, please.

JAMES DICKINSON:

Certainly. So, as I look at the architecture that we have today and the resiliency of that architecture, we are looking at ways, today, that we hadn't looked at in the past in terms of making them more resilient. So, our ability to--to develop tactics, techniques and procedures for our assets that are on orbit in order to make them more resilient, maybe able to move, maybe point in a different direction are examples of that, or actually doing--so, as I mentioned in my opening comment, Senator, or remarks, that we look at it from a link, ground station and satellite perspective.

So, those are the three segments. And so in order to increase our resiliency, we look very carefully at how we can harden not only the satellite vehicle but the link to the ground and then the ground station through cyber protection back to wherever the command-and-control facility is. So, we look at it from that approach.

How can we better, how can we increase the resiliency on orbit, as I mentioned earlier, and then those two other links.

TED BUDD:

Is there a scenario where you would have less expensive, but so many more of them that we would thus reduce our vulnerability?

JAMES DICKINSON:

So, as we go to the--as we go to the future, the department is looking very closely at doing mega constellations, if you will, similar to what we've seen with some of the commercial companies here in the United States where we have thousands of satellites on orbit. The resiliency there is very good in terms of thousands of satellites not knowing which satellite does necessarily what function or the ability of that network to self-heal itself, if you lose two or three or four of them.

This--this type of resiliency actually causes some of our adversaries to pause because it's very difficult to--to defeat something like that or even degrade it. So, that's where we're

going in the future And that's exactly what we need to be doing.

TED BUDD:

Thank you, both. Chair, I yield back.

JACK REED:

Thank you very much, Senator Budd. Senator Hirono, please.

MAZIE K. HIRONO:

Thank you, Mr. Chairman. Thank you, General Cotton and General Dickinson. Hawaii holds a strategic position in the Pacific with many integral Department of Defense equities, which makes the threat of missile attack particularly acute for the people of Hawaii. I've been asking for many years now how DOD will ensure Hawaii is defended from missile attack and, recently, the Cost Assessment and Program Evaluation, or CAPE, conducted a study on how best to meet the current and future missile defense needs of Hawaii.

I have still not received a brief on the results of that study or the department's plan for how it intends to protect Hawai'i from all types of missile threats from current and future potential adversaries. Is it fair to--to say that each of you has roles to play in missile defense? Yes, I'm not hearing anything.

Yes, you do, right, it's fair to say. So, can you just briefly describe what these roles are that you have in missile defense, General Dickinson?

JAMES DICKINSON:

Thank you, Senator. So, in US Space Command, I've got a responsibility to provide space enabling capabilities to the Joint Force, in this case in INDOPACOM. And those space enabling capabilities are missile warning, as well as position navigation, timing, satellite communications. And so, those are the pieces that we provide to the missile defense architecture.

MAZIE K. HIRONO:

General Cotton.

ANTHONY COTTON:

And for mine, ma'am, thank you for the question. For us, above all else, it's about providing warning and future architectures in protection of the homeland. So that's the--that's the oversight that we have, as far as homeland defense providing effective protection of US against rogue nations.

MAZIE K. HIRONO:

So, you both have responsibilities regarding missile warnings. So, I do have serious concerns that there is not one dedicated person in the Department of Defense with the responsibility to ensure that there is a plan for missile defense of Hawaii, as there are many roles and responsibilities doled out, across the Department of Defense for this one issue.

And then that is why I express frustration because every time I ask about missile defense for Hawaii, I--I don't get a response. So, as we have seen in the continuing challenges regarding the Red Hill crisis where there is not one ultimate person, ultimately responsible over the planning and execution of an issue as it relates to what needs to happen with Red Hill.

And as to the lack of trust within the community that the military will get things right with regard to Red Hill, so there is room for mishaps to occur. So I await someone to tell me how I will be defended from missile attacks. Moving on to--to continue in the line of missile defense. There is robust conversation occurring in Congress to look for ways to more effectively use the microwave spectrum to support developments in wireless telecommunications technologies, while protecting national security.

The development of 5G communications will have a great impact on the US's ability to remain a world leader both, in both the commercial and defense spaces. The Department of Defense is currently conducting a study in conjunction with NTIA on how it can more

effectively and efficiently use the spectrum and how spectrum sharing would impact current systems.

I believe this analysis will be critical to making an informed decision about this very important national issue and I believe it is critically important Congress extend the FCC Spectrum Auction Authority, until September 2023, while the DOD concludes this important study. As I am sure you are aware, the current auction authority will expire tonight, March 9th, unless Congress agrees to a short-term extension.

With negotiations ongoing, we should agree to a 60-day extension, at least in my view, and not let spectrum authority, auction authority lapse. So, it is critical that DOD and NTIA thoroughly conduct the study contemplating all options including vacating and sharing the spectrum band. It will be imperative that the study is not only comprehensive but is submitted in a timely manner.

So, clearly, I share the concerns expressed by Senator Rounds on this issue. In the meantime, General Dickinson and General Cotton, what types of impacts do you anticipate the study will identify, and do you see opportunities for greater sharing of the spectrum for civilian usage? My time is up, so perhaps you can be very brief.

JAMES DICKINSON:

Yes, Senator. So we are part of that ongoing study that the Department of Defense is doing. I can't--I won't try to guess what the outcomes will be from that. I know, as being part of that study, that my concerns and my voice will be heard in that study, in terms of how important that part of the spectrum is to--to my mission every day and my mission every day supports the rest of the Joint Force, as well.

ANTHONY COTTON:

Senator, the same with STRATCOM. We are part of that team that's part of that study. So, I'm awaiting the results of that as well.

MAZIE K. HIRONO:

It's going to be very important that the study gets done on time because there are other things that are happening with regard to this issue, as you all know. Thank you, Mr. Chairman.

JACK REED:

Thank you, Senator Hirono. Senator Schmitt, please.

ERIC SCHMITT:

Thank you, Mr. Chairman. I had a question, General Cotton, on--on modernization. Clearly, Whiteman Air Force Base in Missouri, we're very proud of that. I know you're very familiar and part of the nuclear triad and the--the B-2 stealth bomber. I guess you mentioned one of your focuses is to make sure that, as we approach this modernization that there aren't any--there aren't any gaps, along the way?

And I think, I guess the focus of my question would be, what is the level of concern that there might be, right? And what can we do to make sure that that doesn't happen? So along the way, as we move forward in this, what are some things to look out for and what can we be doing to help out with that?

ANTHONY COTTON:

Senator, thank you for the question. And yes, the incredible men and women of the 509th Whiteman Air Force Base. I think, fundamentally, is any--if we start seeing delays in programs and delays on getting to completion of a program because what I don't want and what I have articulated is I need to make sure, the B-2 is a good example, that I have sufficient forces in play all the time.

So, even during the transition, I must--we must ensure that I have the legacy systems in place where I can still present options to the president of the United States. If you start

getting slips, then folks start saying well, Ok, so when can I start, is there a--is there--when can I start divesting? And do I slow down divestiture or what do I do about divestiture.

As a--as a combat as a component commander, I need to make sure that I have those sources available. So, I'm constantly watching to make sure that those future roadmaps of for--for your area, the bomber force, for example, for Colombia, for example, for every portfolio that I own is being modernized, right now.

So, as we look to those and make sure that we don't--we don't build gaps because of--of delays and--

ERIC SCHMITT:

--Are you confident there aren't those gaps, right now, in wherever we're at in that process with the--under your command?

ANTHONY COTTON:

Well, as I said earlier, my bigger concern is what we're seeing with the industrial base and what we're seeing with and what we're seeing with the supply chain.

ERIC SCHMITT:

Ok. General Dickinson, I guess my question to you is on this space race. I do feel like, um, whether it was the Chinese spy balloon, whether it's the fentanyl that's been mentioned, TikTok, the public is becoming much more aware right now in real time, the real threat that China poses. I mean, they are not messing around.

They mean business. And I'm a new member here. And the briefings that we've had in my two months here are sobering in many ways. And that is a--will be, is, will be, continue to be a big focus of mine and my office is to make sure that we're doing everything we can to be ready to, to challenge that threat.

I guess, Senator Scott asked the question about what we can do. I want to drill down on that a little bit more specifically. What are two or three things that you don't think from a space

perspective, you don't think that the public might be aware of as it relates to China in space that are terrifying?

JAMES DICKINSON:

A couple of things. If you just look at the sheer number of launches, space launches that they do in a year, that is a statistic that most people don't know. So, I'll give you a statistic there. So, in 2022 last year, there were 186 space launches. Of those, 64 were Chinese. US was 87, they were at 64. So just putting things on orbit, whatever they may be. They have-- they have rounded out their--their equivalent of our GPS satellite network.

They call that the BeiDou. So they have accurate position navigation and timing capabilities, worldwide. If you look at the--just the sheer number of satellites that are in orbit and what their--what their intent, what their intended use is, everything from ISR satellites to communications satellites to PA satellites.

So, they are moving in a direction where they want to be--appear to us in terms of capabilities in space. They're still there--we are still the best in space. But what we need to make sure is that that gap does not close and that we continue to keep the gap or increase it.

ERIC SCHMITT:

And I guess this final question, what are a couple of those capabilities, you think, outside of the launches, a couple of those capabilities that, again, most folks might not be that aware of.

JAMES DICKINSON:

Well, it would be ISR satellites, so--so they can--they have observations in terms of being able to see around the or around the globe in a persistent manner. And then the other piece is that position navigation and timing. That is, PNT is a critical component of any military operation. And quite frankly, any commercial or civilian operation, as well.

Having accurate PNT is very fundamental to that, and they have that.

ERIC SCHMITT:

Thank you. Thank you, Mr. Chairman.

JACK REED:

Thank you, Senator Schmitt, Senator Rosen, please.

JACKY ROSEN:

Well, thank you, Chairman Reed. I really appreciate you holding this hearing. I'd like to thank General Cotton and General Dickinson for, of course, your great testimony today and for your service to our country. And of course, we have the Nevada national security site right there in southern Nevada. And I want to speak a little bit about the upgrades that it needs.

So General Cotton, I want to follow up on a question I asked at your nomination hearing, now that you've taken command. It's an issue I've raised to the committee several times. At the Nevada national security site, we oversee the stockpile stewardship program, principally the U1A facility. It's that underground lab where scientists conduct the subcritical experiments to verify the safety and reliability of our nuclear stockpile, without explosive testing.

So, U1A is undergoing major construction. It's a project that will soon host the most capable weapons radiographic system in the world. However, NNSA currently faces significant infrastructure delays, including at the Nevada national security site. So how will the upgrades to the Stockpile Stewardship program, like the U1A affect STRATCOM certification of the nuclear stockpile?

And how do these infrastructure modernization challenges, overall, delay your impact to fully fulfill your responsibilities?

ANTHONY COTTON:

Senator, thank you for the question. And as I had said earlier to the committee, making sure that we have--we have the proper funding, the proper insight on the modernization of the weapons complex with writ large, to your point, is absolutely critical for us in the modernization of our programs when we've been talking about the weapon system platforms themselves.

So, that's going to be critically important. When we talk about NNSA and the problems that the challenges that they're facing in regards to infrastructure., I monitor that, daily.

JACKY ROSEN:

So, that's how you're addressing these structural delays, just monitoring. Is there something else that you're working on? I continue to push--the requirement, ma'am, for pit production for me, for example, has not changed. Ok, Thank you. I'm going to move on to you, General Dickinson, for Cyber mission and--and space because we know cyber operations--you've been mentioning it of course--they play a critical role.

Well, not just in our space capabilities, but honestly, I believe in every aspect of our capabilities. And we see our adversaries, increasingly ,developing the counter space capabilities that really undermine our interests. So China, they've emphasized the offensive cyber space capabilities that they are critical to their cyber warfare capabilities.

Are you concerned about the increasing threat of cyber-attacks from China and how they could jeopardize the US space operations? You spoke about doing the constellation mode, some of the other things that you might be doing, you can speak to in an unclassified setting. So, are they some of the best tools you can use against to kind of counter the space cyber aggression, if you will?

JAMES DICKINSON:

Thank you, Senator. So, cybersecurity is--is top priority within the command, because we understand the challenges and the threats, just as, just as you mentioned there. The command is actively working cybersecurity, every day. So as the command has matured

over the last three and a half years, we have built cyber in, cyber protection in from the very beginning.

An example of that, we have a joint cyber center that resides within the command now that is that operational capability.

JACKY ROSEN:

And are you using--I'm sorry to interrupt, are you using machine learning and artificial intelligence to maintain the digital superiority in the new centers?

JAMES DICKINSON:

We use that type of, those types of capabilities to do, as I described, in terms of our JCC, Joint Cyber Center, as well as the new Space Force Delta 6 that stood up that does cyber protection for our satellites, satellite communications control networks, as well as the integration of General Nakasone's integrated planning element within my command, as well.

We participate in the greater cyber security and the cyber deterrence process with US CYBERCOM, as well, through their cyber priority effects list. So, so every day one of my top command priorities is doing, securing the terrain, doing the digital superiority. And part of that is making sure that we're hard in terms of cyber defense.

JACKY ROSEN:

Thank you. I'm going to--AND really quickly and I'll probably take the answer off the record because I ask everybody this. STEM outreach programs--how are we going to reach these goals, if we don't have the workforce, the pipeline folks coming in or being trained. And so, I'll take it off the record as my time is expiring.

But I want to know about your STEM outreach efforts, particularly in cyber. How do you plan to grow them? How do you plan to retain good people Because it really is, It's critical. So thank you, Mr. Chair. I'll take that off the record. Thank you.

JACK REED:

Thank you very much, Senator Rosen. Senator Tuberville, please.

TOMMY TUBERVILLE:

Thank you, Chairman Reed. Generals, thanks for being here and service for all of you here in this room, today. General Dickson, I know you talked about Skylake a little bit, Ukraine. Give your personal assessment or really how that's worked for Ukraine and for all of us in the future.

JAMES DICKINSON:

Thank you, Senator. So, I think the lesson that I take from watching that capability by the StarLink capability is I think it demonstrates what those large constellations can provide, in terms of thousands of satellites providing a service or a capability to--to--to a certain entity, in this particular case, Ukraine.

I think shows the, one is the--the maturation, if you will, of our commercial space industry and able to build something as technically sophisticated as that on scale and put it on orbit and maintain it. I think that is a big lesson learned or a takeaway for me from the Ukraine, Russia conflict.

TOMMY TUBERVILLE:

Thank you. General Cotton, a lot of people talk about tactical nuclear weapons but don't know what that really means. If Putin were to use a tactical weapon in Kyiv, what damage would that do and what would be the fallout?

ANTHONY COTTON:

Sir, so when we talk about non-strategic nuclear weapons, just for a definition, non-strategic nuclear weapons or any weapons that are currently not under the New START Treaty. So for

Russia, that's approximately 2,000 weapons. For the effects, would like to hold off and have that answer to you during the closed session, if we could.

TOMMY TUBERVILLE:

Ok, thank you very much. General Dickinson, it probably wouldn't be--It'd be unfitting for me not to ask you about Space Command in your last hearing here since the Senator from Colorado, I mean, New Hampshire brought it up a little bit. So you know, we've heard a lot about, in the last few years, about basing decision of the command headquarters.

I didn't want to get back into this back-and-forth decision. But when my colleagues bring it up, I want to make sure the facts are correct. General, in 2019, the Air Force identified six suitable locations for Space Command. Is that correct? In 2020, when the Secretary of Defense Mark Esper testified before this committee, he instructed the Air Force to allow for committees or communities to self-nominate.

That resulted in the Air Force examining 66 communities across 26 states, correct?

JAMES DICKINSON:

As best I can recall.

TOMMY TUBERVILLE:

It was an exhaustive selection process that weighed 21 different factors and involved site visits, interviews, inputs from up and down the chain of command. That process took eight months, correct.

JAMES DICKINSON:

As best I can recall.

TOMMY TUBERVILLE:

Thank you. Which community ranked number one in your, in that analysis at the end of the day?

JAMES DICKINSON:

I don't recall exactly which one.

TOMMY TUBERVILLE:

I'll refresh your memory-Huntsville. Do you recall which base ranked second?

JAMES DICKINSON:

I don't recall.

TOMMY TUBERVILLE:

Offutt Air Force Base in Nebraska. Do you recall third, you probably don't, which was a joint base in San Antonio. The commander in chief selected the location that the Air Force ranked number one. So yet since the president selected Huntsville, the location, the Air Force study ranked number one in January 2021, we've had two years of delay and the world is on fire right now.

We need to catch up. The Colorado delegation asked for an investigative report and the GAO report on the process, ironic, Colorado wasn't even second or third, but they asked for a report. So, when the GAO examined this process, they said I'm going to quote here, "The Redstone Arsenal ranked as the highest scoring location in the evaluation phase, the highest ranked location in the selection phase and the location with the most advantages in the decision matrix." Air Force officials stated that the decision to identify Redstone Arsenal as a preferred location stem from Air Force analysis showing it was the strongest candidate location.

So you know, we've gone back and forth with this, and I know Secretary Kendall is going back and forth and, hopefully, we get this done. Hopefully, we get it done before--before your term's out. I know that we've got commercial people that are involved in this. I'

commercial people are going to be hugely involved in our in space Command in years and years to come.

And we look forward to all of that coming together in one location in the very near future and, hopefully, that's Huntsville. So General, thank you for your service. Really thank you for serving, what you've done for Space Command. You've been the only one there. You brought it from infancy. You've done a great job.

Thank you. Thank you. Thank you.

JACK REED:

Thank you, Senator Tuberville. Senator Cramer, please.

KEVIN CRAMER:

Thank you, Mr. Chairman. Thank you to both generals for your service and for being here. I want to start -- maybe start and end with you, General Cotton. I want to, want to ask you, you know, your predecessors had some luxuries you don't have. Of course, they had--they had six B-52 bases in the northern tier capable of--of taking off and landing that great big legacy machine, six of them between Michigan and Montana.

There are only two that remain that have the cement. And one of course is Minot, which you're more than a little bit familiar with. And the other being Grand Forks. The base in Grand Forks has narrowed the 300-foot-wide runway to 150, by moving the lights in. But all the concrete remains. As you look forward, and I was interested in--in one of your previous answers about the LRSO, the importance of LRSO in the legacy systems, particularly, in the context of a potential gap.

But when it comes to bomber agile combat employment base that we've talked about a few times, how useful would, you know, more runway space be for the disbursement of those B-52s and maybe other large aircraft, especially, while we still have some of them intact that could be prepared, quickly?

ANTHONY COTTON:

Senator Cramer, thank you for the question. And You know our baby, the buff. the B 52, I just recently looked at an article that was published on the Air and Space Forces magazine that's showing the testing that's underway for the re-engining of the B-52. So, I'm knocking on wood that everything is going well in regards of SERP and the commercial engine replacement program for--for that, that venerable incredible machine.

To your point, you're absolutely right. Back, we used to have numerous airfields throughout the United States of America that could act as dispersal sites for a lot of our strategic forces and weapons, not permanent locations. But the places where--where you can disperse. Over the decades, that has eroded.

Many communities will look and see and say I don't understand why I have an 11,000-foot runway at my regional airport, and then it's no longer a 11,000-foot runway. So, we're looking into it. I'm actually having the commander of Air Force Global Strike take a look at kind of dispersal locations because now once again, as we've been discussing, we have two near peers.

First time in the history of what STRATCOM has had to deal with. So, we're looking into that, right now, sir. So, to answer your question.

KEVIN CRAMER:

No, I appreciate that. And as you know, the folks up in Grand Forks are capable of moving a lot of snow fast. So that 300-foot runway's ready--ready to be deployed. With regard to those two near peer adversaries or threats, you know, China's capabilities, of course, are growing at an unprecedented pace as you guys have already referenced.

And Russia, of course, becomes more unpredictable and dangerous all of the time. Some of the programs that we're relying to maintain that deterrence were created with different threats in mind, obviously, or at least different scales of those threats. And I often joke with

Senator King that the reason I accepted the ranking position on the Sea Power Subcommittee was so I can get my hands on the third leg of the triad.

But do you think--are 12 Columbia class submarines enough? I guess that's--that's the bottom line. And I know we have a lot of challenges but given this threat. Particularly. from China. are 12 enough?

ANTHONY COTTON:

Senator, thank you for that question. I think it goes--it goes back to the original statement that I made in regards to--I think we have to have a conversation and look at force posture. And--and force posture is all three legs of the--of the triad to ensure that we have what we need moving forward into the--into the 30s, 40s and 50s.

KEVIN CRAMER:

Since I have about half a minute left, I do want to ask both of you a really basic question that I know requires just a simple answer.

ANTHONY COTTON:

And it's really in response to Senator Warren's line of questioning regarding the budget and unfunded priorities. Do you consider national security as a like to have or a must have in today's threats. General Cotton first and then General Dickinson. It's a must have.

KEVIN CRAMER:

General Dickinson.

JAMES DICKINSON:

It is a must have.

KEVIN CRAMER:

Thank you.

Thank you, Mr. Chairman.

JACK REED:

Thank you, Senator Cramer. Senator Sullivan, please.

DAN SULLIVAN:

Thank you, Mr. Chairman. Gentlemen, good to see you. General Cotton, thanks again for coming to the Alaska Day event. The native people in my state were very honored by your presence. And I think it was a really good event. So thank you very much on that. I wanted to ask you about the recently conducted CSIS. Taiwan scenario war game--and I'm sure you're familiar with it--recommended that the B-1s not be retired, until the full complement of B-21s and modernize and B-52s are fully on hand.

Did you see that and do you agree with that assessment?

ANTHONY COTTON:

So, I haven't seen the assessment that articulates the B-1 perspective.

DAN SULLIVAN:

What do you think about that general statement? I'm sure it's not the first time you've heard something along those lines. So I think we need to look at mitigating the risk of a B-21 delivery time going to the right.

ANTHONY COTTON:

Senator, I absolutely agree that and what I want to ensure is that we have enough of the bomber force available that's legacy, until we have a fair amount of B-21 brand new modernized systems, so I don't see a huge dip in my capability and capacity, moving forward.

DAN SULLIVAN:

Ok, let me ask another issue. I had a very senior US Air Force officer when he was on his way out retiring, and he was talking about Force posture for some of the strategic forces and mentioned, and I wasn't pushing it, but he mentioned that with regard to looking at where the B-21 should be placed, that one place that would certainly get our adversaries' attention, particularly China and Russia, is having a certain element of those homeported in Alaska, given our strategic location.

As you know, Billy Mitchell called Alaska the most strategic place in the world and with B-21s and our closeness to Russia and Japan and Korea and the Taiwan Strait, um, this was a recommendation that he thought made sense. A lot of the INDOPACOM Theater, Generals and Admirals always talk about West to the international dateline.

I try to encourage them to not use that. It's kind of a lazy term. A lot of what's further north is actually closer to key theaters of engagement. Whether or not you're west or east of the international dateline, it's all about miles. And if you're north, a lot of times you're closer. For example, forces in Alaska are closer, for the most part, to key theater areas than Darwin, Australia.

A lot of people don't know that. A lot of four-star generals and admirals don't know that. So, what's your thought about something like that in terms of force posture, especially as it relates to near peer. It's not even near peer competition; it's clearly peer competition in my view now.

ANTHONY COTTON:

Senator, thank you for that. We actually had a discussion about that in my last role as a commander of Global Strike Command, in regards to. You know, I think from the location of where the forces are postured I look to my JFAC, my Joint Forces air component commander to figure out where they can best maximize where that would be. As you know, we would always consider and have considered and do use the bases in Alaska for--for dispersal locations for our bomber forces, even today when we're doing our bomber task forces.

So you know, that's a conversation that--that I think should continue to, we should continue to have. But it would be with the Air Force and regardless of--of location.

DAN SULLIVAN:

Thank you. My final question, I'm going to ask for both of you. I think the Chinese spy balloon has raised a lot of issues. But one of the issues that I know that General VanHerck is looking at--and to his credit has been really pressing for a couple of years now, is domain awareness, domain awareness, particularly as it relates to hypersonics, to cruise missiles and even to slow moving objects.

A lot of our detection devices. and as you know, Alaska, again, is key here because anything coming into the lower 48 to strike Chicago or New York City is going to come through the airspace in Alaska. But we've traditionally been focused on ballistic missiles tracking and then bombers. So, how do we get on the whole issue of domain awareness, as it relates to hypersonics, cruise missiles and then even slow-moving entities like balloons, spy balloons.

JAMES DICKINSON:

Senator, in--in my portfolio in terms of space domain awareness, that's a critical capability that we continue to look at, continue to develop requirements and also continue to leverage assets that we haven't necessarily used in the past to do that very function. Of course, Senator, you know, you've got two great sensors that are in your home state.

We're looking forward to the--the LRDR coming online here, soon. That will be, obviously, a big asset in addition to our architecture, itself. But I think as we look at the evolving threats that we're seeing now, you know, our approach has to be a layered approach in terms, not only particularly with missile defense but also in sensing.

So, one sensor doesn't do it all. So we've got to figure out and we are figuring out where those--where those gaps are, where those seams are and how to get better at understanding the threat.

DAN SULLIVAN:

Great. Thank you. Thank you, Mr. Chairman.

JACK REED:

Thank you, Senator Sullivan. Senator Cotton, please.

TOM COTTON:

Thank you, gentlemen. Welcome back. General Cotton, I can't remember if we've addressed this before at your confirmation hearing, but I've addressed it with a lot of your predecessors. So, I want to raise it with you again. Sometimes, we hear criticism about our nuclear forces along the lines of that we--we shouldn't spend so much money on weapons that we never use.

I sometimes point out that we don't actually spend that much money on our nuclear forces in the grand scheme of our defense budget. We do happen to be going through a somewhat expensive modernization, right now. But in the--in general, it's in the low single percentiles. I also point out that we actually do use our nuclear weapons.

We use them every single day, since August of 1945, to deter the kind of war that we had from 1939 to 1945. Would you agree with that assessment?

ANTHONY COTTON:

I would agree with that, Senator.

TOM COTTON:

That every single day, our nuclear weapons deter our adversaries, not just from nuclear warfare, but from the kind of conventional warfare that we saw so often in the first half, even in some cases, at a lower intensity level, the second half of the 20th century.

ANTHONY COTTON:

I do agree. So, we have to have a credible nuclear deterrent to achieve those continued effects.

TOM COTTON:

Right now, we have one nuclear arms control treaty in effect, the New START treaty. However, Russia has recently suspended its cooperation with that treaty. Is that right?

ANTHONY COTTON:

They have suspended, yes, sir.

TOM COTTON:

What do you think are the prospects for Russia returning into compliance with that treaty, given their history of cheating on other treaties like the Intermediate Nuclear Forces Treaty and the Open Skies Treaty?

ANTHONY COTTON:

I would hope that they would come back and try to get in compliance but hope it's not a plan.

TOM COTTON:

Right. So over time, there's really no way to know if they're actually complying with the limits on warheads or delivery systems, under that treaty.

ANTHONY COTTON:

That's correct.

TOM COTTON:

I also want to talk a little bit about Russian's nuclear forces that are sometimes known as tactical nukes or non-strategic nukes or low yield nukes to, whatever you want to call it. To

put it simply, small, smaller nuclear warheads, maybe something akin to what we used to in World War II, as opposed to four megaton city killers.

Is that a fair characterization?

ANTHONY COTTON:

That's correct. And to define it, non-nuclear strategic weapons are defined as any weapon that is not under the New START treaty, and that's about 2,000 weapons.

TOM COTTON:

Exactly. So all these--all these weapons, whatever their yield, are not covered by the New START treaty and therefore not covered by any treaty. Correct?

ANTHONY COTTON:

That is correct.

TOM COTTON:

You want to say how many of those kinds of weapons we have. If you don't want to in this setting, that's fine.

ANTHONY COTTON:

We can talk about that in a closed session, sir.

TOM COTTON:

I think we have a little bit fewer than 2,000 is the way I'd put it. And you might say. well, we have four megaton city killers-why do we need it. So the logic here is that if--if all you have are giant city killers and your adversary has thousands of smaller nuclear weapons, they might believe that they can detonate one of those smaller weapons and you won't retaliate because you're not going to trade a four-megaton city killer with a nuclear weapon that took an artillery battalion off the battlefield.

Is that right?

ANTHONY COTTON:

There's a potential for that, exactly.

TOM COTTON:

Totally--and Russia is totally unconstrained in building those and--and using them if they choose under arms control treaties. How many arms control treaties do we have with communist China?

ANTHONY COTTON:

Zero.

TOM COTTON:

Zero, so China's not constrained at all in building every kind of nuclear weapon it wants. And in fact it is on a crash course, especially in building missile fields in China. Is that correct?

ANTHONY COTTON:

That is correct. What do you think China's appetite is to enter some nuclear arms control agreement, say like the New START treaty? I would hope they would want to come to the table, but my first comment stands.

TOM COTTON:

They haven't--yeah, so hope it's not a strategy and they haven't manifested much desire to come to the table. Even if they did, do you think China would ever accept an arms control agreement that less--left them with fewer warheads and delivery systems than either Russia or the United States had?

ANTHONY COTTON:

Now, that I couldn't answer.

TOM COTTON:

I mean, if--if I were the leader of China, I don't think I'd accept that. And if you did assume that, let's say China accepted some constraint like the New START treaty, that would mean, by definition, that China and Russia together had significant overmatch against the United States in warheads and delivery systems.

So, I just think that the idea that we are restraining ourselves from building the nuclear forces that we need to deter both Russia and China is a height of folly. I know you're not responsible for that, but I think your question, your answers here illuminate it. General Dickinson, I want to turn to you.

I have a question about the commercial integration sale. I think as the security environment has grown more complex, it's necessary for our military to work with partners to share information, partners in industry to share information and collaborate on new capabilities. You've led the way with your commercial integration sale.

Could you just discuss the status of that sale and the successes you've had and the lessons you've learned that we might build upon, especially in the other combatant command?

JAMES DICKINSON:

Senator, that is a bright spot, within the command. Over the last three and a half years, we've taken our relationships with commercial industry and have expanded it. We've actually had such a bow wave, if you will, of commercial companies wanting to come participate with us and be part of the team, we've actually had to rewrite our strategy so we would have the appropriate framework, in order to onboard commercial companies that want to be part of the command.

They perform two primary functions within the command from a commercial perspective. One is satellite communications and the other one is space domain awareness. And so currently, we've got ten partners, commercial partners out at Vandenberg Space Force Base, traditional SATCOM type of capabilities that they provide to us. In Colorado Springs, we have what we call the Joint Task Force Space Defense Commercial Operations Cell.

They are a group of contractors that provide space domain awareness, telescopes, if you will, radars that can look into space and report back to us what they see. And that's actually been a very promising enterprise there, as we continue to grow that. That is actually where we've actually had a lot of growth with our allies and partners.

And so, our allies and partners around the world want to participate in that particular space domain awareness function. And what's--what's good about that particular capability is it's unclassified. So, our obstacles to classification barriers, etc., we don't see that with that particular cell. And it's--it's growing.

We're getting more and more partners into--allies and partners, as well as commercial companies. And we actually exercise that capability during an exercise we call it Global Sentinel, which actually has 24 of our partners and allies around the world that participate in that. And we go through various scenarios on space debris mitigation.

But it is growing, and we've got interest in the allies and partners to participate and contribute more to it.

TOM COTTON:

Ok, thank you. Gentlemen, thank you both for your service and thanks to you and all the troops who serve in your commands. What you do is deadly serious business.

JACK REED:

Thank you very much, Senator Cotton. We will adjourn the open hearing and reconvene in SVC-217 in, let's say in 15 minutes. So give everybody a chance to rest and recuperate. And also we have to vote. With that, the open portion of the hearing is adjourned.

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SEN. TED BUDD (R-N.C.)

SEN. ERIC SCHMITT (R-MO.)

WITNESSES:

UNITED STATES SPACE COMMAND JAMES H. DICKINSON

R-NORTH CAROLINA TED BUDD

UNITED STATES STRATEGIC COMMAND COMMANDER ANTHONY J. COTTON

UNITED STATES SPACE COMMAND COMMANDER JAMES DICKINSON

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