

Stenographic Transcript  
Before the

COMMITTEE ON  
ARMED SERVICES

**UNITED STATES SENATE**

HEARING TO RECEIVE TESTIMONY ON  
UNITED STATES STRATEGIC COMMAND AND UNITED  
STATES SPACE COMMAND IN REVIEW OF THE DEFENSE  
AUTHORIZATION REQUEST FOR FISCAL YEAR 2023 AND THE  
FUTURE YEARS DEFENSE PROGRAM

Tuesday, March 8, 2022

Washington, D.C.

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1                   HEARING TO RECEIVE TESTIMONY ON  
2                   UNITED STATES STRATEGIC COMMAND AND UNITED STATES SPACE  
3                   COMMAND IN REVIEW OF THE DEFENSE AUTHORIZATION REQUEST FOR  
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6                   Tuesday, March 8, 2022

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8                   U.S. Senate

9                   Committee on Armed Services

10                  Washington, D.C.

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12                  The committee met, pursuant to notice, at 9:30 a.m. in

13                  Room SD-106, Dirksen Senate Office Building, Hon. Jack Reed,

14                  chairman of the committee, presiding.

15                  Committee Members Present: Senators Reed [presiding],

16                  Shaheen, Gillibrand, Blumenthal, Kaine, King, Warren,

17                  Peters, Rosen, Kelly, Wicker, Fischer, Cotton, Rounds,

18                  Ernst, Tillis, Cramer, Scott, Blackburn, Hawley, and

19                  Tuberville.

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1           OPENING STATEMENT OF HON. JACK REED, U.S. SENATOR FROM  
2 RHODE ISLAND

3           Chairman Reed: Let me call this hearing to order.

4           Good morning. The Committee meets today to receive  
5 testimony from Admiral Charles Richard, Commander of U.S.  
6 Strategic Command, or STRATCOM, and General James Dickinson,  
7 Commander of U.S. Space Command, or SPACECOM. Admiral  
8 Richard, General Dickinson, I want to thank you for your  
9 service to our nation, and I would like to extend my thanks  
10 to the men and women serving under your commands.

11          Maintaining our nuclear deterrent and preserving our  
12 ability to operate in space are fundamental to our long-term  
13 strategic competition with Russia and China.

14          There is a reason we have asked the commanders of  
15 STRATCOM and SPACECOM to testify together. Until 2019,  
16 Space Command was part of Strategic Command. Now, as  
17 SPACECOM stands up as an independent command, I would like  
18 to know what gaps or seams remain exposed during this  
19 transition and how they can be addressed.

20          Much has changed since our last hearing in 2021.  
21 Russia's ongoing unprovoked and illegal invasion of Ukraine  
22 has shaken the international order that has maintained  
23 nuclear stability for the better part of a century.  
24 Vladimir Putin's behavior has been reckless to a dangerous  
25 degree. Just prior to its invasion, Russia conducted a

1 large out-of-cycle nuclear exercise, and the Kremlin has  
2 since made a series of escalatory statements. Normally,  
3 Russia conducts its nuclear exercises in the fall and the  
4 United States conducts ours afterwards in a stable,  
5 predictable fashion. Not so this year. More than ever, our  
6 nuclear deterrent, the bedrock of our national defense, is  
7 being relied upon as we witness the realities of a European  
8 conflict involving a nuclear armed nation.

9           In the past year, we have also seen China develop three  
10 missile fields in hardened silos throughout the country.  
11 This development, along with China's completion of its  
12 nuclear triad and modernization of its nuclear command,  
13 control, and communications fundamentally change the nature  
14 of Beijing's nuclear doctrine. We need to understand why  
15 China is undertaking this expansion, what it means for  
16 stability in the Indo-Pacific region, and how we should  
17 adjust our own nuclear deterrence to protect our nation and  
18 uphold the fundamental extended commitment to our allies.

19           Similarly, over the past year we gained a clearer  
20 picture of the threat we face in space, which has become a  
21 contested domain. In any future conflict, China will  
22 quickly extend its capabilities into space in a seamless  
23 fashion. Russia, for its part, acted recklessly in November  
24 by destroying a satellite in space while building up forces  
25 on the Ukrainian border. During today's hearing we will

1 discuss these threats and the nature of conflict we can  
2 expect in space in the years to come.

3 In particular, General Dickinson, I would like to make  
4 sure that SPACECOM is fulfilling the space and ground  
5 functions you inherited from STRATCOM with respect to  
6 missile warning and nuclear command, control, and  
7 communications. Ensuring we can accurately warn both  
8 Strategic and Northern Commands, and our senior leadership,  
9 of a missile attack on the homeland is of the utmost  
10 importance.

11 SPACECOM is also responsible for integrating and  
12 tasking both ground and space sensors for better space  
13 situational awareness, essentially becoming DoD's "sensor  
14 command." General Dickinson, I ask that you share your  
15 vision on how to integrate this myriad number of sensors,  
16 which range from radars on the ground and at sea to sensors  
17 aboard satellites.

18 General, I would also like to know the progress your  
19 command is making during its stand-up and how you are  
20 finding and retaining personnel with the specialized skill  
21 sets associated with SPACECOM operations.

22 Admiral Richard, your command is undergoing an intense  
23 period of modernization that began with the ratification of  
24 the New START Treaty. This will be the third modernization  
25 cycle since 1960, as parts of each leg of our triad age out.

1 I am interested in hearing about the progress of modernizing  
2 the entire triad and the implications of altering that plan,  
3 especially with respect to our near-peer competitors.

4 In addition, I would like to know your views on the  
5 efforts by the National Nuclear Security Administration to  
6 re-capitalize its uranium and plutonium handling  
7 infrastructure. Some of these facilities date back to the  
8 Manhattan Project and are single points of failure in  
9 supporting your mission. It is essential that we understand  
10 what impacts this may have on your operations.

11 Thank you again for appearing today and I look forward  
12 to your testimonies.

13 Ranking Member Inhofe cannot be here today. We  
14 anticipate he will return next week. But I would ask that  
15 his opening statement be submitted to the record, and  
16 without objection, so ordered.

17 [The prepared statement of Senator Inhofe follows:]

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1           Chairman Reed: And I would also note for my colleagues  
2       that there will be a classified briefing immediately  
3       following this session in SVC-217 to continue our  
4       discussion.

5           And with that let me recognize Admiral Richard.

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1 STATEMENT OF ADMIRAL CHARLES RICHARD, COMMANDER,  
2 UNITED STATES STRATEGIC COMMAND

3 Admiral Richard: Chairman Reed, distinguished  
4 committee members, I am pleased to testify today with my  
5 fellow combatant commander, General Dickinson.

6 Before I begin, given the ongoing and historically  
7 significant crisis that is happening in Ukraine right now, I  
8 am going to need to defer all questions regarding Russia and  
9 a number of questions related to our own forces to the  
10 closed session.

11 I want to thank Secretary Austin, Chairman Milley for  
12 their continued support to the strategic deterrence and  
13 strategic defense of the nation as well as their overall  
14 leadership under some very trying conditions.

15 Ladies and gentlemen, right up front I want to assure  
16 you that the 150,000 soldiers, sailors, airmen, marines,  
17 guardians, civilians of U.S. Strategic Command, as always,  
18 are ready to execute our strategic deterrence mission.

19 Chairman Milley rightly stated, we are witnessing one  
20 of the largest shifts in global geostrategic power the world  
21 has ever witnessed. Today we face two nuclear-capable near-  
22 peers who have the capability to unilaterally escalate to  
23 any level of violence, in any domain, worldwide, with any  
24 instrument of national power, at any time, and we have never  
25 faced a situation before like that in our history.

1       Last fall, I formally reported to the Secretary of  
2 Defense the PRC's strategic breakout. Their expansion and  
3 modernization in 2021 alone is breathtaking, and the concern  
4 I expressed in my testimony last April has now become a  
5 reality. I had previously emphasized our need to be able to  
6 deter two adversaries at the same time. That need is now an  
7 imperative.

8       I have said this before and I think it is worth  
9 repeating. Every operational plan in the Department of  
10 Defense and every other capability we have rests on an  
11 assumption that strategic deterrence is holding, and in  
12 particular that nuclear deterrence is holding. If strategic  
13 or nuclear deterrence fails, no other plan and no other  
14 capability in the Department of Defense is going to work as  
15 designed. The nation's nuclear forces underpin integrated  
16 deterrence and enable the U.S., our allies, and our partners  
17 to confront aggressive and coercive behavior.

18       The strategic security environment is now a three-party  
19 nuclear near-peer reality. Today's nuclear force is the  
20 minimum required to achieve our national strategy. Right  
21 now I am executing my strategic deterrence mission under  
22 historic stress, crisis levels of deterrence, crisis  
23 deterrence dynamics that we have only seen a couple of times  
24 in our nation's history, and I am doing it with submarines  
25 built in the '80s and '90s, and air-launched cruise missile

1 built in the '80s, intercontinental ballistic missiles built  
2 in the '70s, a bomber built in the '60s, part of our nuclear  
3 command and control that predates the internet, and a  
4 nuclear weapons complex that dates back to the Manhattan  
5 era.

6 We must modernize the nuclear triad, the NC3, the  
7 nuclear weapons complex, and supporting infrastructure to  
8 meet presidential objectives. And while modernization must  
9 be the priority, please make no mistake. STRATCOM's forces  
10 are ready today.

11 Thank you, and I look forward to your questions.

12 [The prepared statement of Admiral Richard follows:]

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1                   Chairman Reed: Thank you very much, Admiral.

2 General Dickinson, please.

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1 STATEMENT OF GENERAL JAMES DICKINSON, COMMANDER,  
2 UNITED STATES SPACE COMMAND

3 General Dickinson: Good morning, ladies and gentlemen,  
4 and thank you, Chairman Reed and members of the Senate Armed  
5 Services Committee. As always, I am honored today to  
6 represent the approximately 18,000 men and women of the  
7 United States Space Command. We are a joint and diverse  
8 team of professionals who value the honorable service of  
9 everyone within our ranks.

10 Today we are not only in full support of our joint  
11 forces globally and NATO in Europe but we remain hard at  
12 work building the command toward full operational  
13 capability. We are steadily building the capability and  
14 capacity in our headquarters, and its composition reflects  
15 our joint, combined, and partnered approach to executing our  
16 critical mission. As of this month we have over 1,000  
17 members assigned to our headquarters, including civilians,  
18 contractors, active-duty personnel from all services,  
19 representatives from the interagency, and servicemembers  
20 from the National Guard and Reserves.

21 We also recognize the vital importance of our allies  
22 and partners through the contributions of an assigned  
23 international general office and two international liaison  
24 officers on our staff. We are pleased to have all of them  
25 on our team.

1            Responding to the threats to the U.S. and allied  
2    interests in space demands the teamwork and expertise of  
3    every one of our people. We are prepared to execute our  
4    unified command plan missions and responsibilities, yet  
5    acknowledge that the challenges from our competitors in the  
6    domain are substantial and, in fact, growing.

7            China remains our pacing challenge. Current PLA  
8    development is directed towards creating a joint, versatile,  
9    professional, and lethal force capability of power  
10   projection globally, and the space layer is critical to  
11   their efforts. In 2021, the PRC increased on-orbit assets  
12   by 27 percent. This increase brings their on-orbit  
13   satellite total from just over 100 satellites 10 years ago  
14   to more than 500 satellites today. Their recent counter-  
15   space capability demonstrations include the DN-1 and the DN-  
16   2 direct descent anti-satellite tests and a hypersonic glide  
17   vehicle test.

18           In October of 2021, the PRC launched their SJ-21  
19   satellite, described as a, quote, "space debris mitigation,"  
20   end quote, satellite. In January, the SJ-21 docked with a  
21   defunct PRC satellite and moved it to an entirely different  
22   orbit. This activity demonstrated potential dual-use  
23   capability in SJ-21 interaction with other satellites and  
24   builds on the previous demonstrations in late 2016 of  
25   potential dual-use capability that we saw in the SJ-17.

1       Over the past 2 weeks we have witnessed Russian  
2 aggression in Europe on a significant scale. Space is not a  
3 sanctuary from similar behavior. Russia is actively working  
4 to regain its prestige as a space power. The destructive  
5 direct ascent test just this last November is an example of  
6 their activity. Space is no longer a sanctuary, and U.S.  
7 Space Command stands ready to protect and defend the space  
8 assets of the United States and our partners and allies.

9       U.S. Space Command is committed to deterring the use of  
10 any space capabilities for nefarious purposes within the  
11 framework of the Department of Defense Integrated Deterrence  
12 Strategy. Key to all of this is U.S. and allied space  
13 superiority informed through space domain awareness, or SDA,  
14 capabilities. SDA helps us analyze, not just identify, what  
15 is occurring in space, which when combined with the  
16 information from our intelligence agency helps develop an  
17 understanding of why things are happening, characterize  
18 intent, and provide decision advantages to our leaders. Our  
19 SDA capabilities are part of a broader resilience space  
20 architecture that enables command and control and provides  
21 the tools to sustain freedom of action in the space domain.

22       Within this broader resilience space architecture, SDA  
23 remains my top mission priority for U.S. Space Command. SDA  
24 provides the backbone of U.S. Space Command's strategy for  
25 accomplishing our mission. That strategy sets the

1 conditions to understand and attribute activities in space.  
2 This enables our mission to deter first, and when called  
3 upon, to defend space capabilities and to deliver combat  
4 power for the United States and our allies.

5 Our strategy has three main areas of focus: first,  
6 countering competitive influence; second, strengthening  
7 relationships and attracting new partners; and third,  
8 building and maintaining a competitive edge. With continued  
9 support from Congress, U.S. Space Command will do all of  
10 that and more. U.S. Space Command is postured to protect  
11 and defend the space domain while ensuring continuous space  
12 effects are delivered to our joint and combined force.

13 I assure you, here today, that U.S. Space Command is  
14 ready. So on behalf of the most critical resource in our  
15 command, the soldiers, marines, sailors, airmen, guardians,  
16 civilians, and families of the command, thank you, Chairman  
17 Reed and members of this Committee, for your support of our  
18 mission to conduct operations in, from, and to space.

19 I submit my statement for the record, and I look  
20 forward to your questions.

21 [The prepared statement of General Dickinson follows:]

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1           Chairman Reed: Thank you very much, General Dickinson.  
2       And Admiral Richard, I concur with your assessment that we  
3       should reserve questions regarding Ukraine and Russia to the  
4       closed session, so I will do that.

5           But let me begin with a question regarding the  
6       modernization of the triad and also the capabilities at the  
7       National Nuclear Security Administration. You have said in  
8       the past that we are at a point of no return, so can you  
9       please elaborate a bit, particularly with respect to  
10      Minuteman-III ICBMs and the pit production capability at  
11      NNSA.

12          Admiral Richard: Chairman, one, I am pleased to  
13       report, based on what services and agencies are reporting,  
14       that the overall recapitalization of the triad is on track.  
15       No margin is left, but right now all of those programs are  
16       proceeding the way that is necessary for them to deliver  
17       capability on time to meet my requirements.

18          The weapons complex is a different story, and we have  
19       crossed one of those points of no return that I referred to  
20       previously in that we now know we will not get 80 pits per  
21       year by 2030, as is statutorily required. And even  
22       unlimited money at this point will not buy that back.

23          So there is active work underway inside the Nuclear  
24       Weapons Council to understand exactly how much of a delay we  
25       are going to have, how much of it can be addressed by

1 funding. The fundamental question we have to answer to  
2 Congress is to certify NNSA's budget.

3 And I want to make another point here, which is we are  
4 not mitigating this problem. We have shot all the  
5 mitigation to get us to this point. It is the fourth time  
6 the nation has tried to recapitalize its pit production  
7 infrastructure. Now the question becomes how much damage  
8 have we done and what are the consequences of that, and we  
9 are working to better understand that, sir.

10 Chairman Reed: Thank you very much, Admiral. Also, we  
11 are working on a Nuclear Posture Review. I know you are  
12 deeply involved that. And a key element is our declaratory  
13 policy, what is our intention in terms of use, in terms of  
14 our strategy. What is your assessment of our extended  
15 deterrence commitment to our allies, particularly in light  
16 of current hostilities, and any perception of changes in the  
17 declaratory policy?

18 Admiral Richard: Senator, what I will offer is that I  
19 have testified to this committee and others as to my  
20 recommendations with regard to possible changes to  
21 declaratory policy. Those have not changed. That was a  
22 part of my input into the Nuclear Posture Review. As you  
23 know, that ultimately will be decided by the President.

24 We received very clear feedback from the allies in  
25 terms of their opinion and the harmful effects on extended

1 deterrence and assurance that changes would have. That is  
2 one factor of many to be considered.

3 I do think right now we are getting a very vivid  
4 example, real-world, of the importance of extended  
5 deterrence and assurance, that if we want our allies to  
6 assist us in standing up to aggression we have to provide  
7 that assurance to them such that they are in a position go  
8 after our mutual goals.

9 Chairman Reed: Thank you, Admiral.

10 General Dickinson, in some respects you have been  
11 promoted to Sensor Command as well as Space Command, because  
12 one of your first major tasks is to link sensors both in  
13 space, on the earth, and below the seas. Can you give us an  
14 idea of what it will take to perform this integration and  
15 where you might be now?

16 General Dickinson: Thank you, Chairman. So we have  
17 made a lot of progress over the last 2, 2 1/2 years with  
18 identifying and incorporating sensors that we traditionally  
19 did not use for space domain awareness, missile warning, or  
20 missile defense in the global perspective. And we have  
21 really identified radars such as TPY-2s around the world as  
22 well as BMD, ships afloat, and Aegis Ashore sites as well.  
23 And our goal is to link these sensors together from a  
24 terrestrial perspective.

25 We add to those. We add the UEWRs that we have

1 traditionally used for NC3 around the world for early  
2 warning and brought all those terrestrial capabilities to  
3 bear, if you will, in terms of understanding what we see in  
4 the space domain.

5 In addition to that, we are linking our space-based  
6 assets in addition to that, bringing them into a common  
7 operating picture. We still have work to be done with  
8 regards to that, but we have made some good progress over  
9 the last 2 years, 2 1/2 years, and we are working towards  
10 that, the ultimate piece, where we have one operating  
11 picture that has those sensors fused into it. And that  
12 really kind of pulls in some of the work that the Department  
13 of the Air Force is doing with JADC2 and some of those ABMS  
14 efforts that are going on right now.

15 And as you can imagine, Chairman, that has a massive  
16 data burden, if you will, that has to be properly  
17 synthesized, properly organized, making sure that it is  
18 cyber protected so that you have a database and you have  
19 information that is authoritative and available at the speed  
20 of relevance.

21 Chairman Reed: The backbone of this is constant,  
22 uninterrupted, encrypted communication between all your  
23 assets. Is that one way to look at it?

24 General Dickinson: That is one way to look at it, yes,  
25 Chairman.

1           Chairman Reed: And are we getting there?

2           General Dickinson: We are getting there. We are  
3 getting there, and like I said, those are sensors, many of  
4 those sensors, TPY-2s, BMD, Aegis BMD ships, those sensors  
5 traditionally were not required or expected to have a  
6 capability looking up in the space domain, but what we are  
7 finding out is those exquisite radars do have capability.

8           And what capability we need to add to that we are  
9 identifying those gaps in requirements now at U.S. Space  
10 Command, and then putting that demand signal back onto those  
11 specific assets.

12          Chairman Reed: Thank you very much, gentlemen.

13          Senator Wicker, please.

14          Senator Wicker: Thank you very much, Mr. Chairman, and  
15 General Dickinson and Admiral Richard, thank you very much  
16 for your service on a very, very vital part of our national  
17 defense strategy.

18          Admiral Richard, the United States is currently engaged  
19 in negotiations with Iran on the Iran nuclear deal. Can you  
20 tell me, are you being consulted about those negotiations?

21          Admiral Richard: Senator, I am not, and that is  
22 appropriate. My forces do not play a role in terms of where  
23 that treaty and our overall desire to avoid Iran from  
24 getting a nuclear weapon.

25          Senator Wicker: So your experience in making our

1 nuclear policy work is not deemed important to those who are  
2 negotiating how we go forward with Iran?

3                   Admiral Richard: Senator, as you know I do not enter  
4 into treaties or agreements. That is a Department of State  
5 function. What I do is provide technical expertise. For  
6 example, I had my deputy commander as a part of the New  
7 START Treaty negotiation team so that that team had  
8 immediate access to any operational implications of what  
9 they were doing. While I am certainly available to do the  
10 same thing for those negotiations, currently that is not  
11 needed.

12                  Senator Wicker: Okay. Well, I may not get an answer  
13 to this question but it is a question that is on the minds  
14 of Americans today. We are told, with relative certainty,  
15 that the talks are going on and that Russia is a part of the  
16 nuclear discussions between the United States and Iran about  
17 reentering this nuclear deal.

18                  Let me just say, Russia is led by the dictatorship and  
19 the kleptocracy of Vladimir Putin, a serial international  
20 war criminal. And it is astonishing to me that they would  
21 be anywhere near the negotiating room in a process that  
22 might lead us to making concessions to Iran that we would  
23 not otherwise have made. You probably do not want to  
24 comment on that, I guess, Admiral.

25                  Admiral Richard: Senator, what I would look forward to

1 commenting in the closed session, is an overall assessment  
2 of threats to the nation and how we are going to defend and  
3 deter against those.

4 Senator Wicker: Okay. Let me leave it at that, but I  
5 would simply say, Mr. Chairman, and to my colleagues and to  
6 my fellow Americans that it is highly troubling, I think to  
7 most Americans, that Vladimir Putin would have anything at  
8 all to say about any decision the United States would make  
9 about what is best for our people and our national security,  
10 considering the fact that he is, without a doubt, a serial  
11 war criminal.

12 The distinguished ranking member of this committee, Mr.  
13 Chairman, has suggested a question or two, which I would  
14 like to submit on his behalf.

15 Russia has a nuclear arsenal larger and more modern  
16 than the United States, and currently threatened nuclear  
17 escalation during the invasion of Ukraine. Admiral Richard,  
18 we have heard for a long time how critical it is that we  
19 rebuild our nation's nuclear deterrent, but we are still  
20 years away from fielding any new systems. How important is  
21 it that we accelerate the U.S. nuclear modernization plan as  
22 quickly as possible?

23 Admiral Richard: Senator, I would offer three points  
24 on that, and again can go into more detail in the closed  
25 session. It is very clear that the absolute minimum that we

1 need to do is to recapitalize the triad, the nuclear command  
2 and control, and the nuclear weapons complex.

3         But there are two other questions we need to be asking  
4 ourselves along the way with that. The threats are changing  
5 in a way that we have not seen in 30 years. We do not know  
6 the endpoints of where either of those other two are going,  
7 either in capability or capacity. We are just now starting  
8 to work out what three-party stability looks like, what  
9 three-party deterrence dynamics works out.

10         On top of that, we are learning a number of lessons in  
11 real time on how actual crisis deterrence works. It is  
12 different from steady-state deterrence that most of us have  
13 experience in.

14         Those two questions, I think, need to be asked much  
15 more frequently than we have needed to in the past, followed  
16 with what is the capability, capacity, and posture we  
17 require from our strategic forces moving forward.

18         Senator Wicker: And, Mr. Chairman, if you would  
19 indulge me for another moment with regard to a question that  
20 the ranking member has asked repeatedly and which deserves  
21 to be asked today.

22         Admiral Richard, you have testified that you do not  
23 believe it is in the national interest of the United States  
24 to change our policy with regard to no-first-use or sole  
25 purpose nuclear declaratory policy. Would you explain why

1 that has been, and is it still your position?

2           Admiral Richard: Well, Senator, I have testified to  
3 that and my position is unchanged. That, of course, will be  
4 decided along with a number of other factors and we will see  
5 what the answer is in the Nuclear Posture Review. But  
6 fundamentally I can go into a lot longer answer, but is,  
7 one, your adversaries will not believe you so it does not  
8 enhance deterrence in any way, but your allies will believe  
9 you and it is highly corrosive to your extended deterrence  
10 and assurance commitments.

11           Senator Wicker: Thank you, Mr. Chair.

12           Chairman Reed: Thank you, Senator Wicker.

13           Senator Gillibrand, please.

14           Senator Gillibrand: Thank you, Mr. Chairman. General  
15 Dickinson, I am concerned that our lack of international  
16 agreements barring conventional weapons in space has led to  
17 a space arms race that threatens our civil and commercial  
18 systems in space. How much of a role is SPACECOM playing in  
19 developing international norms about the use of weapons in  
20 space?

21           General Dickinson: Thank you, Senator, for the  
22 question. In my job as the SPACECOM Commander I work very  
23 closely with the Department of Defense, and in particular  
24 the policy folks in the Department of Defense in terms of  
25 working through those types of issues. What I have been

1 charged to do, by the Secretary of Defense back in July, was  
2 he gave me a memo that outlined the five tenets of  
3 responsible behavior for the Department of Defense. And so  
4 right now we are working through how we implement that  
5 within the department.

6 But to your point is that with those tenets become our  
7 base plate, if you will, that we talk with the Department of  
8 Defense, and then subsequently they would start talking with  
9 Department of State.

10 So we have kind of an indirect role that we start kind  
11 of from the combatant command up through the department in  
12 that regard. But those tenets of responsible behavior,  
13 there are five of them, and I think they are very good in  
14 terms of outlining what we would expect not only for the  
15 Department of Defense in terms of responsible behavior but  
16 for our allies and partners. We have had a lot of good  
17 discussions on that in several different forms.

18 Senator Gillibrand: Given the lack of codified norms  
19 in space, what, in your view, constitutes an armed attack in  
20 the domain and how would you deal with a proportionate  
21 response?

22 General Dickinson: Well, Senator, I would say that,  
23 you know, these tenets, I think, outline kind of what we  
24 would think as responsible behavior in space, and as we look  
25 through that, how do we make sure that we are able to

1 understand that. I think the first thing we have to look at  
2 is how well can we understand what is happening in the space  
3 domain.

4 As I mentioned in my opening remarks, my number one  
5 priority for the command, or top priorities is to be able to  
6 increase my space domain awareness so I can interpret and  
7 understand what those norms of behavior or those tenets are  
8 in space.

9 Senator Gillibrand: The "valley of death" in  
10 acquisition references the transition from innovative,  
11 small-scale projects to full-scale funded programs, which is  
12 often stunted with budget challenges, risk mitigation, and  
13 integration problems leading to immense waste. Innovative  
14 technology and the ability to quickly field the warfighter  
15 in space is critical to matching China's competencies.

16 In your view, is the use of other transaction  
17 agreements or OTAs by the DoD being effectively implemented,  
18 and do we need more emphasis on non-Federal acquisition  
19 regulation contracting solutions?

20 General Dickinson: So Senator, in my role right now I  
21 am a customer, if you will, for the United States Space  
22 Force and some other agencies, and I would categorize myself  
23 as a demanding customer. And I think we have to move very  
24 quickly in terms of building new and better capabilities for  
25 the space domain. And so I know that the Space Force and

1 the Department of the Air Force are looking right now in  
2 terms of how do they streamline those processes in order to  
3 deliver capabilities to me on a much faster timeline.

4 Senator Gillibrand: Thank you. Admiral Richard,  
5 JADC2, over the past several years DoD has worked on  
6 developing JADC2 architecture to speed sensor to shooter  
7 responses and integrate communications across the services.  
8 In your view, how should DoD prioritize competing  
9 communications requirements for its future work, and what  
10 role, if any, will artificial intelligence play in future  
11 non-nuclear command and control decision-making systems?

12 Admiral Richard: Senator, I would like to point out  
13 that, one, I am responsible for nuclear command and control  
14 from an operations requirements and systems integration  
15 piece, and in that responsibility I am very familiar with  
16 what JADC2 is doing in conventional command and control, and  
17 in fact was very pleased that a subset of what JADC2 is  
18 doing is for nuclear command and control. The two systems  
19 have to be overlapped to a great extent, so that we can have  
20 integration.

21 So we are headed in the right path to make sure we take  
22 full advantage of the investments we are making in  
23 conventional command and control, while recognizing that  
24 certain portions of nuclear command and control have to  
25 serve at a higher standard than we ask regular command and

1 control, and making sure we identify those and meet those  
2 requirements.

3 Senator Gillibrand: Thank you. Thank you, Mr.  
4 Chairman.

5 Chairman Reed: Thank you very much, Senator  
6 Gillibrand.

7 Senator Tuberville, please.

8 Senator Tuberville: Thank you, Mr. Chairman. Thanks  
9 for being here today with all the problems going on.

10 General Dickinson, Space Command is designated a  
11 geopolitical command. How do you plan to synchronize  
12 efforts with other geographic commands in a time of  
13 conflict? I mean, I am sure you have worked on that?

14 General Dickinson: Thank you, Senator. Absolutely.  
15 We do that every day. In particular, we have exercised it  
16 through many different exercises over the last couple of  
17 years. I think we have had five major exercises.

18 But to your point, we do that each and every day, and  
19 the way we do that is when the U.S. Space Command was stood  
20 up in 2019, we identified a gap, if you will, within each of  
21 the combatant commands in terms of space expertise. And so  
22 one of the first things we did as we stood up was we  
23 immediately started putting what we call joint integrated  
24 space teams, or JISTS, within each of the combatant  
25 commands, and we kind of started that with INDOPACOM, EUCOM,

1 CENTCOM, and we are working through the other 10 combatant  
2 commands now.

3 But these elements, at the beginning we thought would  
4 have a planning-only function within these commands. What  
5 we found out, through day-to-day operations and through  
6 exercises and real-world events, is that it is more than  
7 just planning. It is planning. It is operations. It is  
8 intelligence. It is the integration of those capabilities  
9 within each of the combatant commands that provides that  
10 regional combatant commander space expertise and the ability  
11 to leverage the space domain in order to meet their  
12 requirements for their either day-to-day operations or their  
13 op plans.

14 Senator Tuberville: Thank you. Pretty complex,  
15 especially being new.

16 Admiral, last year you said, quote, "For the first time  
17 in history the nation is facing two potential strategic  
18 peer, nuclear-capable adversaries at the same time." But  
19 our nuclear posture, my understanding, has been not about  
20 two threats. So in your best military advice, should the  
21 U.S. consider changes to the size of its nuclear force in  
22 order to account for having now two peer threats?

23 Admiral Richard: Senator, first, I have already  
24 repositioned it, and I will be happy to give you some details  
25 of what we have done in the closed session. The answer is

1 yes. We do not necessarily have to match weapon for weapon,  
2 right. The key is do you have enough capability to execute  
3 your strategy. But it is clear what we have today is the  
4 absolute minimum, and we are going to have to ask ourselves  
5 what additional capability, capacity, and posture do we need  
6 to do, based on where the threat is going. It is not all  
7 strategic. There is a significant class of theater threats  
8 that we are going to have to rethink potentially how we  
9 deter that.

10 You have to deter them all the time. I do not get the  
11 luxury of having a priority to one and lesser to the other.  
12 You have to do them all at the same time. And we are  
13 learning a number of lessons in crisis dynamics, because we  
14 have had so few times in our history we have been in that,  
15 that those will need to be applied too, sir.

16 Senator Tuberville: How does the hypersonic missile,  
17 now that we are seeing online, how does that change us in  
18 terms of your thoughts on the time frame of a threat, how  
19 quick we have to respond?

20 Admiral Richard: I look at hypersonics in two ways.  
21 One is the threat that it presents to us, and that  
22 fundamentally is a warning problem. In fact, the chairman  
23 mentioned seams opening up with the establishment of Space  
24 Command. Actually, it has worked the exact opposite of  
25 that. We mentioned the sensor commander, which is what I

1 like to call it. Technically in DoD it is sensor manager,  
2 but sensor commander sounds better.

3 The way Jim is integrating across missile defense,  
4 missile warning, and space situational awareness, he is  
5 producing a better outcome than what we had in the past, and  
6 I am actually getting a better service because of his  
7 efforts in that. That is defensive.

8 Offensive, I will be ready to put online the first day  
9 any service makes it available a hypersonic capability. I  
10 have work for it right now. We have had requirements dating  
11 back to 2016 and earlier, and I will put that to good use  
12 the first day any service makes it available in defense of  
13 the nation.

14 Senator Tuberville: Thank you. Now that we do have  
15 hypersonics, just from my information, I am sure were  
16 changing protocol for our President, because it takes a  
17 pretty good while to get all the factors done to get to a  
18 point where a President can make a decision. Please tell me  
19 we are changing those protocols to answer a first attack.

20 Admiral Richard: Senator, one, I think it will be  
21 important that as a hypersonic capability comes into the  
22 Department of Defense that we not label it as strategic or  
23 theater or tactical. We already have examples of platform.  
24 My bombers are an example. I can use it strategically down  
25 one command and control decision path that you talked about.

1 I can use them conventionally down another. I can give them  
2 to a geographic combatant commander for that commander's  
3 use. And I think we are going to want an equivalent,  
4 flexible, command and control structure for hypersonics.

5 Senator Tuberville: Thank you, Mr. Chairman.

6 Chairman Reed: Thank you, Senator Tuberville.

7 Senator King, please.

8 Senator King: Thank you, Mr. Chairman. Before  
9 beginning my questions I wanted to respond to Senator  
10 Wicker. We have a national interest in Iran not obtaining a  
11 nuclear weapon. Russia has a national interest in Iran not  
12 obtaining a nuclear weapon. If, in this particular case, we  
13 have an identity of interest it would seem to me to make  
14 sense to have both parties at the table. We are not  
15 negotiating with Russia. We are negotiating with Iran. And  
16 if they can add weight to those negotiations, as they did in  
17 the initial negotiations, it seems to me that serves our  
18 national interest.

19 Let me turn to General Dickinson. ISR is very  
20 important generally, but I want to talk about a war that is  
21 not Ukraine. It is the war that is killing our people in  
22 Maine, two a day, and I refer to the international trade of  
23 narcotics. The question is, do we have sufficient space  
24 assets that can provide ISR and monitoring of drug shipments  
25 that can assist us in interdicting those drug shipments and

1 preventing the death of our people? This is a war that is  
2 killing Americans in a large number every single day, and to  
3 say we cannot afford to watch what is going on with those  
4 shipments, particularly from Latin America and the  
5 Caribbean, it seems to me is a dereliction of our duty to  
6 defend the country.

7 General Dickinson: Senator, up front I would say that  
8 is a little bit maybe out of my purview as a combatant  
9 commander in the Department of Defense. However, I would  
10 say to you that watching the -- to answer your question, I  
11 think when you look at the explosion in the commercial  
12 market in terms of ISR, and quite frankly some of the things  
13 that we have just seen in the Ukraine situation over the  
14 last couple of weeks with regards to -- we are all watching  
15 TV and we see those images, you know, many of those, if not  
16 all of those are coming from a commercial company.

17 And so what is interesting is how much that commercial  
18 market has expanded, exploded if you will, to provide us  
19 additional capabilities. And so, in other words, I think we  
20 have a big enough commercial market that can satisfy that  
21 demand signal, and really for us, in U.S. Space Command,  
22 with that augmentation we are able to use our military type  
23 of ISR assets to do some other things.

24 Senator King: I hope you are right, but the word that  
25 disturbed me in your answer was one of your first words,

1 which was "not in my purview." That is my problem. It does  
2 not seem to be in anybody's purview. We have got DEA, we  
3 have got DHS, we have got the military, and we have got  
4 people dying. And I would hope that you would consider  
5 discussing this question to me. If this were an attack by  
6 another adversary on our country that was killing thousands  
7 of people a day, it would be within your purview. I am  
8 suggesting it is within your purview, and I hope that you  
9 will review that.

10 Let me ask a second question on your satellite  
11 capability. There has been a lot of discussion about  
12 resilience and redundancy. How are we in terms of cyber  
13 resilience, in terms of our space assets, blocking of  
14 signals, stealing of information coming from satellites?

15 General Dickinson: Senator, so when we stood up the  
16 Command in 2019, we made a very deliberate effort to make  
17 sure that we did not add cyber onto the equation as we grew.  
18 We built it in from the very beginning as we looked at our  
19 organization. And so from an organizational perspective we  
20 have got cyber expertise and capabilities built within the  
21 Command that is in particular in the headquarters.

22 So in the headquarters that I mentioned I have got  
23 about 1,000 people now. Within that headquarters itself I  
24 have got -- I just established my joint cyber cell within  
25 the Command that is under my J3 operations directorate. We

1 have got an integrated planning element from Paul Nakasone,  
2 CYBERCOM, embedded with us. And two of my five service  
3 components are dual-hatted as not only Space Command but  
4 also CYBERCOM. So that is kind of the structural piece.

5 Senator King: I would urge you to add to that  
6 structure a red team. Ask Paul Nakasone to attack you and  
7 see how it goes. Admiral Richard, I would make the same  
8 suggestion.

9 Admiral Richard, in the view seconds I have left, a  
10 major sort of strategic question. How would we respond,  
11 under our current nuclear posture, to a Russian use of a  
12 tactical nuclear weapon in Ukraine?

13 Admiral Richard: Senator, I would be happy to answer  
14 that question in closed session.

15 Senator King: I thought that might be your answer, and  
16 I will ask the question in closed session. Thank you.

17 Thank you, Mr. Chairman.

18 Senator Reed. Thank you, Senator King.

19 Senator Rounds, please.

20 Senator Rounds: Thank you, Mr. Chairman. And,  
21 gentlemen, first of all let me begin by saying thank you for  
22 your service to our country.

23 Admiral Richard, I would like a clarification if I  
24 could with regard to Senator Gillibrand had asked a question  
25 concerning command and control, and specifically command and

1 control between conventional weapon systems versus command  
2 and control for nuclear weapon systems. And you mentioned  
3 an overlay of the two with regard to JADC2. Could you  
4 clarify a little bit the separation between the two that I  
5 think we always try to keep, between command and control of  
6 conventional versus nuclear weapon systems?

7           Admiral Richard: Senator, first, we do not always try  
8 to keep separation between conventional and nuclear command  
9 and control. You cannot. We never have and we will never  
10 be able to achieve that. Strategic platforms are still  
11 platforms. They have to interoperate with other platforms  
12 to accomplish their mission, even for simple deconfliction  
13 purposes. So one, we have to be able to tell an airplane  
14 where the other airplanes are, even if they are not on a  
15 similar mission. So you have to have some overlap to do  
16 that.

17           Two, it is to our benefit, where appropriate, to use  
18 our conventional command and control to add redundancy and  
19 resiliency to our nuclear command and control. You could  
20 not afford to build two completely separate systems if we  
21 tried to achieve that in the real world.

22           The final piece, though, there is always a piece of  
23 nuclear command and control that has to go to a higher  
24 standard. Nuclear command and control has to be able to  
25 withstand the worst threats that we can postulate against

1 it. Regular command and control does not, and that is why  
2 we separate it out. We have always done that, and we are  
3 going to do it to an appropriate degree going into the  
4 future.

5 Senator Rounds: The reason for my question, with  
6 regard to clarification, is that I know that we are very  
7 sensitive to where other nations may try to impact our  
8 ability to command and control our nuclear weapons systems.  
9 We have the same concern about interacting with other  
10 nations' command and control.

11 Can you talk a little bit about the clarification  
12 between the two in terms of the interest in making sure that  
13 others are not put on alert because it appears that we are  
14 impacting theirs, and the same reason that we would have a  
15 concern about them impacting our ability, and what that does  
16 with regard to stability?

17 Admiral Richard: Senator, first I think it is  
18 important that I say here -- and I would be happy to go into  
19 a lot more detail in closed session -- the cause of, I would  
20 call it apprehension and valid concern over the security of  
21 our nuclear command and control, particularly the  
22 cybersecurity, is our nation's nuclear command and control  
23 has never been in a stronger, more protected, more resilient  
24 lineup than it is today, based on some very good work  
25 operationally done over the last 6 to 8 months, and I would

1 love to go into more detail as to why I say that.

2 As to your concerns about the strategic implications of  
3 threatening another nation's nuclear command and control,  
4 and vice versa, that is very well understood. That is very  
5 well factored in as we think through the overall effects  
6 that we are trying to achieve.

7 And I do want to put one more caution out in terms of,  
8 we tend to use terms, at least back at STRATCOM, in  
9 strategic stability. Our basic definitions of strategic  
10 stability are probably out of date. They date back to the  
11 Cold War. They are two-party dynamics pieces. They tend to  
12 think of nuclear as the only major effect that has to be  
13 considered. When you move this into a three-party problem  
14 it is a completely different set of effects dynamics that I  
15 think we need a lot of work to get into to understand how  
16 that works.

17 Senator Rounds: Thank you, sir. General Dickinson, in  
18 our ability to achieve and maintain a competitive edge in  
19 space relies heavily on a rapid capability and development  
20 in eliminating acquisition bottlenecks. Can you discuss how  
21 you are partnering with commercial and interagency  
22 organizations to expand our space capabilities at the pace  
23 that we need them to be expanded, and what steps have you  
24 taken to improve your acquisition process in order to  
25 onboard new capabilities at a faster pace?

1           General Dickinson: So that has really been one of the  
2 highlights with the Command over the last couple of years is  
3 really the partnership we have with the commercial industry.  
4 Two examples of that. One is the two main areas that we  
5 work closest with the commercial partners right now, but we  
6 are expanding that, is satellite communications and the  
7 other one is space domain awareness. Satellite  
8 communications capability with our commercial industry has  
9 really been out at Vandenberg Space Force Base for years,  
10 but has expanded. We have got 10 commercial partners right  
11 now as part of our commercial integration cell out at  
12 Vandenberg Space Force Base, and that is a great  
13 relationship in terms of how do we expand our capabilities  
14 and capacity in the satellite communications domain or  
15 enterprise and how we do that.

16           The second one is space domain awareness, and really  
17 that has been a rather new, about a year and a half or two  
18 years old. We have got a cell in Colorado Springs that  
19 works for my Joint Task Force Space Defense and a commercial  
20 integration cell that really what it does is it provides to  
21 us what commercial space domain awareness capabilities can  
22 see around the world. So they are looking up, looking in  
23 the space domain for us, telling us what they see, and we  
24 utilize that in addition to what we are doing with our  
25 exquisite sensors.

1           So the integration of those two enterprises, space  
2 domain awareness and SATCOM, has been very, very powerful.  
3 It is growing so much now that we have had to develop a new  
4 commercial framework by which we can bring those partners on  
5 board and expand it even more.

6           Senator Rounds: Thank you, sir. Thank you, Mr.  
7 Chairman.

8           Chairman Reed: Thank you, Senator Rounds.  
9 Senator Kaine, please.

10          Senator Kaine: Thank you to each of you for your  
11 service, and Admiral Richard, let me begin with you. You  
12 talked about how some of our defense concepts are a little  
13 bit outdated in your realm because they were based upon kind  
14 of a two-party dynamic and now we have to grapple with a  
15 three-party dynamic. I think it is even more complicated  
16 than that because two of the three parties are now  
17 cooperating in ways that they had not.

18          I have often asked questions in this committee and in  
19 the Foreign Relations Committee about growing cooperation  
20 between Russia and China, and usually folks on your side of  
21 the table tell me that I do not need to worry about it much  
22 because there is so much historical animosity between Russia  
23 and China that they are not likely to cooperate. I think we  
24 are finding that actually not to be the case. Whatever the  
25 past is, they are cooperating a lot more now.

1           So I would like you to each tell the committee in your  
2 domain how are you planning to take into account the  
3 increasing cooperation between Russia and China in either  
4 the STRATCOM or SPACECOM areas?

5           Admiral Richard: Senator, first I would say I am not  
6 going to tell you that I am not concerned about that. I am  
7 very concerned about what opportunistic aggression looks  
8 like. I am worried about what cooperative aggression looks  
9 like. And so, one, this gets back to I have to deter all of  
10 them, all of the time, which means every day we are thinking  
11 about their decision calculus and what we have to do to  
12 influence so that basically they say, "Not today."

13           And so right now you have to look at what is happening  
14 in one place and then walk over and see what that does to  
15 change decision calculus and change your messaging  
16 potentially, change your posture, and that is just in the  
17 opportunistic frame. And then do you have the plans ready  
18 to understand what cooperative looks like? So we do that  
19 every day, Senator.

20           Senator Kaine: Great. General Dickinson?

21           General Dickinson: Senator, we look at it each and  
22 every day, just as Admiral Richard does, but in the space  
23 domain we just have to look and see how much more capability  
24 development that they have done just on orbit. We can go  
25 back to November to look at the Nudol tests, and then as I

1 mentioned in my opening statements, the SJ-21, in  
2 particular.

3 So just individually, the growth of their capabilities  
4 on orbit is of concern. And then when you look at from the  
5 civil perspective, the Chinese and the Russians have entered  
6 into a lunar station agreement that they are going to build  
7 a station on the moon. So it is not just the military that  
8 we are looking at carefully. It is also kind of their civil  
9 piece as well, by both those nations.

10 Senator Kaine: General Dickinson, you have segued into  
11 my next question, the civil dimension. There has been news  
12 recently that was sort of interesting news, kind of in a way  
13 positive news. Elon Musk has been getting some press for  
14 his role in providing ground stations and internet coverage  
15 to Ukraine with the Starlink satellite connection. So that  
16 is positive. Russia has been trying to jam the signals and  
17 block coverage. That has made me wonder, hmm, there are  
18 non-state actors in space too that can enter into contested  
19 environments. Describe the legal framework for commercial  
20 capability in space, and the SPACECOM war game scenarios  
21 where private actors become involved in contested  
22 situations.

23 General Dickinson: We do look at that, Senator, and  
24 really, to begin with, I think what we are seeing with Elon  
25 Musk and the Starlink capability he is providing is really

1 kind of showing us what a mega-constellation or proliferated  
2 architecture can provide in terms of redundancy and  
3 capability. But to your point, we work very closely in our  
4 commercial integration cells with that very issue.

5 Senator Kaine: Admiral Richard, one last question for  
6 you. I met last week with General Von Ovost of TRANSCOM,  
7 and we talked about future tanker requirements. It is my  
8 understanding that the airborne tankers that support the  
9 bomber leg of the triad have a varying degree of EMP,  
10 electromagnetic pulse hardening, to include the KC-46. So  
11 talk to us about STRATCOM's role in shaping requirements for  
12 future tanker programs to ensure that EMP hardening is part  
13 of the DNA.

14 Admiral Richard: Senator, you hit on a key point, as I  
15 am one of the customers of the tanker fleet, and in that I  
16 have certain requirements, EMP protection, electromagnetic  
17 pulse, being one of those. So one is to clearly articulate  
18 the requirements. Two is go see what we can do in terms of  
19 employment of our force to reduce that demand signal. A  
20 great example I would point to, and I would give credit to  
21 the Air Force, is the re-engining of the B-52s. The engines  
22 on those date back to the '60s and they burn a lot of gas.  
23 Re-engine, less fuel required, less tanker demand. And then  
24 what other efficiencies can we achieve while still  
25 maintaining the flexibility and the signaling capability of

1 the air leg, which is one of its prized attributes.

2 Senator Kaine: Thank you. I appreciate. Thank you,  
3 Mr. Chair.

4 Chairman Reed: Thank you, Senator Kaine.

5 Since a quorum is present I would now ask the committee  
6 to consider the following civilian nominations: the  
7 Honorable Robert P. Storch to be Inspector General of the  
8 Department of Defense, Dr. Lester Martinez Lopez to be  
9 Assistant Secretary of Defense for Health Affairs, Mr.  
10 Christopher J. Lowman to be Assistant Secretary of Defense  
11 for Sustainment, Mr. Peter Beshar to be General Counsel,  
12 Department of the Air Force, the Honorable Frank R. Parker  
13 to be Assistant Secretary of the Navy for Manpower and  
14 Reserve Affairs, Dr. Agnes G. Schaefer to be Assistant  
15 Secretary of the Army for Manpower and Reserve Affairs, and  
16 Mr. Frank Calvelli to be Assistant Secretary of the Air  
17 Force for Space Acquisition.

18 We have reviewed these nominations with Senator Inhofe  
19 and he concurs. Is there a motion to favorably report these  
20 seven nominations to the Senate?

21 Senator Wicker: So moved.

22 Chairman Reed: Is there a second?

23 [Multiple seconds.]

24 Chairman Reed: All those in favor, say aye.

25 [Chorus of ayes.]

1           Chairman Reed: The motion carries. Thank you very  
2 much.

3           And now let me recognize Senator Tillis, please.

4           Senator Tillis: Thank you, Mr. Chairman. Gentlemen,  
5 thank you for being here and for your service.

6           Admiral Richard, have you recognized any tangible  
7 operational changes resulting from Putin's announcement that  
8 they need to increase nuclear readiness, and have you seen  
9 any posture changes on the part of Russia or the PRC with  
10 respect to that?

11          Admiral Richard: Senator, I would like to go into  
12 detail in answer to that question inside the closed session,  
13 but if you will allow me to make a broader point that I  
14 think relates.

15          The scenarios that we are seeing right now, potential  
16 escalation, limited unclear use in a conventional aggression  
17 scenario, STRATCOM has been preparing for this for years,  
18 along with other combatant commands. General Dickinson's  
19 command has been doing that. And so we have rewritten  
20 deterrence dynamics theory over the years. We have new  
21 analysis that we are using. We got criticized for that. We  
22 got told that it was highly improbable or somehow self-  
23 serving for us to think our way through this, but we ignored  
24 that such that to this point nothing has happened that we  
25 did not anticipate, we had not thought about, and had not

1 prepared for.

2 Senator Tillis: Thank you for that. With Belarus  
3 indicating their willingness to have nuclear assets deployed  
4 within their territory, how does that rethink our forward-  
5 deployed capabilities in Europe?

6 Admiral Richard: Senator, again I respect your  
7 indulgence to allow me to answer that in closed session.

8 Senator Tillis: Thank you. General Dickinson, I want  
9 to talk a little bit about end strength. I think you are  
10 somewhere around 45 percent of goal, augmented by Reserves,  
11 civilians, and Guard, but you are relatively new. So what  
12 is right timeline to get up to the desired end strength, and  
13 what kind of strategies are you putting together to make  
14 sure that we get there?

15 General Dickinson: Yeah, thank you for the question,  
16 Senator. You are correct. We are at 45, 50 percent  
17 strength with an augmentation of contractors that get us  
18 over, like I said in my opening statement, to about 1,000.  
19 So our strategy, quite frankly, is to get to the end  
20 strength as quickly as I can. We have worked with the  
21 Department very carefully in terms of how do we bring  
22 manpower from certain fiscal years back to the left so that  
23 I can be at a reasonable strength here in a couple of years.

24 But that is where we are going, and what we are trying  
25 to do right now is attract that talent that we need in the

1 command, and that is both a balance between civilian as well  
2 as military. And the civilian force that I have is  
3 Department of the Air Force civilians, and we are working  
4 very closely right now in how to attract them. We have got  
5 some programs out there in terms of internship programs, to  
6 bring young adults into the command with STEM technical type  
7 of degrees.

8 And I have been very pleased with the military presence  
9 that we have had within the commands from all the services.  
10 The two biggest services that I have represented in the  
11 command right now is, quite frankly, as you would expect,  
12 the Space Force and the Army. And so bringing them into a  
13 joint command, building them to full operational capability,  
14 utilizing exercises, and, quite frankly, real-world  
15 operations. So we have had a couple of events over the last  
16 couple three years, if you will, that have really driven us  
17 to be very proficient in what we do.

18 I will just take the Nudol event, for example, back in  
19 November. That, for us, when I declared initial operational  
20 capability last August, was a direct result of having that  
21 talent and expertise within the command, rehearsed through  
22 processes and procedures and techniques that the joint world  
23 knows and recognizes, to the point where we can actually  
24 provide a strategic effect for our national-level leaders.  
25 That is really the strategy going forward. And right now we

1 have got an initial operational capability which means we  
2 can provide those effects, but we are building out the  
3 capacity within the command so that I can do that more  
4 robustly.

5 Senator Tillis: Do you have sufficient authorities to  
6 be able to get to where you need to be with end strength or  
7 resources?

8 General Dickinson: I do. I have the right authorities  
9 right now.

10 Senator Tillis: Admiral Richard, just really quickly,  
11 with advances, particularly with respect to China and  
12 hypersonics and other capabilities, is our current strategy  
13 mapping up against their emerging threats, or do we need to  
14 rethink maybe how we counter threats 10 years, 20 years from  
15 now, differently?

16 Admiral Richard: Senator, I am conscious of the fact  
17 that the Nuclear Posture Review and national defense  
18 strategies have not been promulgated, but I am confident  
19 that we are going to have a good strategy. The question is  
20 going to be capability, capacity, and posture, and to  
21 acknowledge those will not be static and we are going to  
22 have to think through those much more frequently than we  
23 have needed to in the past because of the very threats you  
24 are referring to.

25 Senator Tillis: Thank you. Thank you, Mr. Chair.

1           Chairman Reed: Thank you, Senator Tillis.

2           Senator Kelly, please.

3           Senator Kelly: Thank you, Mr. Chairman. Admiral  
4           Richard -- and good morning to you both. Thank you for  
5           being here, Admiral and General. Admiral Richard, we have  
6           all been following reports of Russian attacks on Ukrainian  
7           nuclear plants and other very concerning developments in  
8           this conflict, and Russia is now targeting civilians,  
9           probably out of frustration. This should be -- you know, I  
10          think is viewed as escalatory. It is clearly a war crime.

11           I am concerned about further escalation, and I  
12          understand the U.S. military has established a hotline or  
13          direct communication channel with the Russian military,  
14          particularly because Russia media and cyber actors have  
15          sought to spread disinformation, making reliable information  
16          hard to assess in real time. It is my view that this direct  
17          military-to-military communication is critical to avoid  
18          misunderstandings that could lead to a dangerous military  
19          escalation between two nuclear powers.

20           As this committee knows well, in a crisis decision  
21          time, time to respond to a nuclear threat is only a matter  
22          of minutes. Admiral Richard, I understand the hotline will  
23          be run out of U.S. European Command. Can you elaborate on  
24          how STRATCOM will remain in the communication loop of this  
25          hotline?

1           Admiral Richard: Senator, a couple of points if I  
2 could. Actually, you do not have to respond to threats,  
3 nuclear or otherwise, in minutes. In fact, I am not allowed  
4 to put the President in the position that he only has -- or  
5 her -- minutes to respond. So I want to make sure everybody  
6 understands, this nation always has the time to make a fully  
7 informed decision on any action that it takes.

8           Second, for strategic purposes, we have long had  
9 hotlines between the United States and Russia. They date  
10 back to the Cold War. They are still there, they are tested  
11 every day, and those are still available to us. We are a  
12 long way from needing to use anything like that right now.  
13 And I will go into more detail on the rest of your questions  
14 in closed session, sir.

15           Senator Kelly: All right. Thank you.

16           General Dickinson, we are currently seeing reports of  
17 commercial satellite systems, you know, very effectively  
18 being used, you know, information for the Ukrainians, also  
19 for us, and these satellite systems are likely to be of  
20 interest to Russia too and how should they ultimately  
21 counter them in the context of this invasion. And Russia's  
22 and China's anti-satellite capabilities have received a lot  
23 of attention in years with a couple of anti-satellite tests,  
24 one before one of my space shuttle launches in around 2008.

25           But I want to spend a little time today discussing

1 Iranian and North Korean anti-satellite capabilities that  
2 tend to get less airtime, especially North Korea, who  
3 obviously has an intercontinental ballistic missile  
4 capability. Iran hopes to develop one. One concern is that  
5 ICBMs can be used to create a debris cloud in low-Earth  
6 orbit, and that could impact U.S. satellites.

7 General Dickinson, can you expand on how U.S. Space  
8 Command is viewing both the North Korean and the Iran  
9 capabilities, and how do you assess their willingness to  
10 target and impact U.S. satellites in space?

11 General Dickinson: Thank you, Senator. First of all I  
12 would just say that you identify a big problem, if you will,  
13 within the space domain. We just saw it a couple of months  
14 ago when the Russians destroyed -- they had conducted their  
15 Nudol test that left about 1,500 pieces of debris in low-  
16 Earth orbit that, quite frankly, we are tracking every day  
17 now and we will continue to track that for years to come.

18 To your example, back before your flight, when the  
19 Chinese did that test, we still track objects today from  
20 that very test that, quite frankly -- and sir, you are an  
21 expert on this -- could be threatening to the International  
22 Space Station. And we do a lot of work each and every day  
23 very closely with NASA to make sure that we look at that and  
24 make sure that the astronauts on the International Space  
25 Station are safe.

1       With regard to both Iran and North Korea, I would like  
2 to expand on that, if I could, in the closed session.

3           Senator Kelly: All right. Thank you, and I yield back  
4 the remainder of my time.

5           Chairman Reed: Thank you, Senator Kelly.

6           Senator Blackburn, please.

7           Senator Blackburn: Thank you, Mr. Chairman, and to  
8 each of you I thank you for your service and thank you for  
9 being here today with our questions.

10          Admiral Richard, I do want to come to you first. I  
11 fully understand that there are sensitive matters that  
12 affect our government and STRATCOM, and we all understand  
13 that many times public comment is not appropriate or  
14 productive. However, we have to keep in mind that silence  
15 is also a message, and a very strong one, and you have been  
16 an excellent, outspoken commander of STRATCOM, and you have  
17 been a wonderful advocate in the public venue for why we  
18 need to modernize our nuclear forces. And I think you have  
19 been the commander we need at the time that we need him, and  
20 we thank you for that.

21          So I am disappointed by the lack of clarity on answers  
22 that you have today, and many of these are appropriate in an  
23 unclassified sphere, and I was disappointed in the weekend's  
24 cancellation of the Minuteman-III test, because we only have  
25 four of those a year, and I was disappointed to learn that

1 STRATCOM has put out a schedule of tests to consider others  
2 for cancellation.

3 And I appreciate -- I think we all do -- that you have  
4 to be careful, especially at a time like this, because of  
5 the message that our actions could send to Moscow. But this  
6 message of silence coupled with inaction, in my opinion,  
7 does not project one of strength. It is not a message of  
8 deterrence. And I would probably venture to guess in your  
9 opinion, your professional opinion, it would question the  
10 judgment of such actions.

11 We have to be ready to respond to any threat, any  
12 place, any time, and I think that we are facing two nuclear-  
13 capable adversaries at this point. So let us say speaking  
14 hypothetically, entirely hypothetically, what message does  
15 cancellation of a prescheduled, routine test send to our  
16 adversaries?

17 Admiral Richard: Senator, let me offer first that the  
18 test has been rescheduled, not cancelled, and it will be  
19 important for us to go do that test. I want to acknowledge  
20 up front that is an Air Force service weapons test. It is  
21 done under their authorities.

22 But it is very important to me, and to the Air Force.  
23 That is a 50-year-old rocket that we are talking about, and  
24 as it ages, our ability to understand its performance is  
25 very important both for my operational planning as well as

1 the effort the Air Force has to have to sustain it until we  
2 can get a replacement system.

3 My fundamental recommendation is that we maintain our  
4 normal set of operations. Day-to-day we very carefully  
5 craft a series of operations, activities, and other  
6 evolutions that are designed to show our readiness, it is  
7 designed to maintain that readiness, and it is designed to  
8 give us confidence in our forces. And so, in general, that  
9 is my recommendation under these conditions.

10 Senator Blackburn: Okay. Then let me take it this way  
11 with you. Then what impact does delay or reduction in  
12 funding, how does that affect the modernization and the  
13 implementation efforts that you need?

14 Admiral Richard: Ma'am, any delay or interruption in  
15 funding is one of the most corrosive things that we can do  
16 in order to enable those programs to stay on schedule such  
17 that we do not have a diminishment in the capabilities  
18 required to execute our strategy. So not only does it have  
19 a practical effect in terms of potential delays and the  
20 dates that we can have these systems, it is also a signal of  
21 a lack of will on our part, fundamentally to defend  
22 ourselves.

23 Senator Blackburn: So you would see that as  
24 diminishing and not improving our abilities, capabilities?

25 Admiral Richard: Yes, ma'am.

1 Senator Blackburn: Okay. General Dickinson, I do have  
2 some questions for you but I am running out of time. I am  
3 going to send these to you for answer, because I want to  
4 explore a little bit more the commercial opportunities that  
5 you have and how we can build off of some of the commercial  
6 advancements that are going to affect the space and your  
7 command.

8 So thank you, Mr. Chairman.

9 Chairman Reed: Thank you, Senator Blackburn.

10 Senator Warren, please.

11 Senator Warren: Thank you, Mr. Chairman, and thank you  
12 Admiral Richard and General Dickinson for being here.

13 So Admiral Richard, last year you testified before this  
14 committee that you hope the nuclear policy review would  
15 include looking at the wide array of capabilities we have in  
16 our arsenal, including space and cyber. In other words, our  
17 ability to deter adversaries is not only about nuclear  
18 weapons that we have, it is also about conventional weapons  
19 and other areas of strength. And it sounds like the  
20 adoption of integrated deterrence that will be part of this  
21 review does precisely that.

22 Was Strategic Command fully consulted and able to fully  
23 participate in the Nuclear Posture Review process?

24 Admiral Richard: Senator, first I want to endorse the  
25 idea of integrated deterrence, that STRATCOM and previous

1 commanders have been calling for this, the idea that you use  
2 every available instrument, beyond the military, to best  
3 deter your opponent and resolve political issues at the  
4 lowest possible level of violence. So we are strongly in  
5 support of that.

6 Second is to understand, though, that nuclear  
7 deterrence, in particular, is a part of integrated  
8 deterrence. They are not different things. In fact, if you  
9 do not have the nuclear piece inside of it the rest of  
10 integrated deterrence does not work because your opponent  
11 might be able to --

12 Senator Warren: Excuse me for interrupting, Admiral.

13 I understand this. I am just asking a question about  
14 process. Was Strategic Command fully consulted and able to  
15 fully participate in the Nuclear Posture Review process?

16 Admiral Richard: STRATCOM was fully involved in the  
17 Nuclear Posture Review process up through the Secretary of  
18 Defense. I had plenty of opportunity to tell the Secretary  
19 personally. We led portions of the Nuclear Posture Review.  
20 But beyond that, ma'am, I do not know.

21 Senator Warren: Okay. Now as we discussed last year,  
22 the nation's nuclear policy is up to the President and the  
23 Secretary, and the goal of the Nuclear Posture Review is to  
24 rigorously examine options to determine the proper role for  
25 nuclear weapons in our national security strategy. So,

1      Admiral Richard, do you agree that the Nuclear Posture  
2      Review benefits -- let me put it this way, from hearing a  
3      wide variety of views to make sure that we are developing  
4      the smartest possible policy?

5           Admiral Richard: Senator, yes, and my responsibility  
6      inside that is to offer the operational implications to each  
7      of those wide range of views.

8           Senator Warren: Okay. And do you think our nuclear  
9      policy should be informed by objective technical analysis?

10          Admiral Richard: Ma'am, we provide a lot of that  
11      objective technical analysis.

12          Senator Warren: So you think it should be informed by  
13      technical analysis and a broad variety of views. We are in  
14      agreement on that.

15          Admiral Richard: Yes, ma'am.

16          Senator Warren: Good. You know, I am looking forward  
17      to reviewing the Nuclear Posture Review when it is released,  
18      but the reason I am focused on this is because I have  
19      concerns about the process that produced it. Over the past  
20      year, the Pentagon has repeatedly pushed out and obstructed  
21      efforts to have more rigorous debates and analysis to  
22      support this review, and I just want to give one example of  
23      this.

24          The ground-based strategic deterrent is a \$264 billion  
25      program. I requested that DoD contract with a respected

1 group of outside experts to determine the technical  
2 feasibility of extending the Minuteman-III program instead  
3 of just buying expensive new weapons. I was then told that  
4 the DoD did not have the contract authority to do so, and  
5 that is just simply not true. It appears DoD simply did not  
6 want to do a study that might show that a massively  
7 expensive nuclear spending program was not actually  
8 necessary.

9 Now my view on this is no secret. We must reduce the  
10 role of nuclear weapons in our defense strategy. It is  
11 dangerous and it results in a staggering amount of spending,  
12 more than \$630 billion over the next decade. But no matter  
13 what you believe about these weapons, our nuclear policy  
14 should be developed by asking tough questions, not  
15 formulated in an echo chamber.

16 So thank you very much, Mr. Chairman.

17 Admiral Richard: Senator, can I suggest that I look  
18 forward to the Nuclear Posture Review being published so you  
19 can see exactly how and what it concluded. But I will add,  
20 thank goodness we have ICBMs right now. I will explain more  
21 in closed testimony.

22 Senator Warren: So I am glad that you are looking  
23 forward to seeing the report. As I said, I am as well. But  
24 my whole point is that if we do not have a process that  
25 includes alternative points of view, a widespread point of

1 view, then the product that comes from it is too likely to  
2 come from an echo chamber instead of being fully informed,  
3 and that is what troubles me.

4 Admiral Richard: Yes, ma'am.

5 Chairman Reed: Thank you, Senator Warren.

6 Senator Ernst, please.

7 Senator Ernst: Thank you, Mr. Chair, and thank you,  
8 gentlemen, very much for being here today.

9 Unfortunately, Russia's unprovoked invasion of Ukraine  
10 has really reminded us of the threat that is posed by our  
11 adversaries and threat to our own international stability.  
12 We certainly cannot take peace for granted, so again, thank  
13 you very much for your service to our nation.

14 If we could go back a little bit, you know, I  
15 understand some of the discussion that is here, but if you  
16 could again, Admiral Richard, just please reiterate why we  
17 cannot extend the life of the Minuteman-III.

18 Admiral Richard: Senator, there are a couple of  
19 reasons and there is one that I probably have not emphasized  
20 enough in my previous testimony. Any of our deterrence  
21 systems have to be able to operate in the threat environment  
22 that they face. Fundamentally, they have to be able to pace  
23 the threat. Minuteman-III, because it has been extended so  
24 long, has basically no margin left to be able to pace  
25 improvements in other nations' defensive systems. That is

1 on top of the cost benefit that we would achieve by changing  
2 to a new system, modern, well-designed, lower operating  
3 cost.

4 But I want to come back to, for any of these weapons  
5 systems, with Minuteman-III being the best example, it has  
6 to be able to pace the threat in order for it to deter  
7 anybody.

8 Senator Ernst: And pacing that threat but then also  
9 safety implications as well. You mentioned that the  
10 Minuteman-III is 50 years old, but certainly there are ways  
11 that we can modernize and not only impact safety  
12 implications going forward but also workforce implications.  
13 Maybe could you speak a little bit to that as we are going  
14 through modernization efforts and how we would be able to,  
15 as well, keep pace with the technology necessary to upgrade  
16 and modernize?

17 Admiral Richard: Senator, a common issue here is, it  
18 is not just about modernizing a rocket. It is the entire  
19 weapon system. So a key attribute the GBSD will bring is a  
20 much-improved nuclear command and control system for that  
21 particular piece. That alone is another significant reason  
22 that we have to go do that.

23 You mentioned workforce. The GBSD -- and I will defer  
24 to the Air Force for the specifics -- GBSD requires a lot  
25 less number of people to operate it because it has modern

1 methods of maintenance and sustainment. Remember,  
2 Minuteman-III was not designed to be modernized at all. The  
3 Air Force did heroics to reverse-engineer the ability to do  
4 that on a weapon system only designed to be in service for  
5 10 years. So there are a number of these benefits the  
6 nation will achieve if we modernize the intercontinental  
7 ballistic missiles.

8 Senator Ernst: I appreciate that. And you have also  
9 spoken to the fact that not having a stable appropriation,  
10 stable budget, how that has impacted negatively the  
11 modernization effort. So I just wanted to reemphasize that,  
12 that we really need to do our work as Congress and make sure  
13 that we get back into regular order.

14 So, Admiral, what is your assessment of the capability  
15 and ability of our domestic supply and production chains to  
16 produce our nuclear cores?

17 Admiral Richard: Senator, one, it would be best for me  
18 to defer the specifics of an answer to that to the people  
19 that actually buy this stuff. That is the services and the  
20 agencies. But bottom line is that is a very big concern  
21 that we have let, across the board, our industrial base  
22 atrophy, and we will need to take steps to restore  
23 capability and capacity in any number of areas -- weapons  
24 complex, nuclear command and control, delivery systems --  
25 such that we have a robust, resilient defense industrial

1 base that is able to produce the capabilities that  
2 commanders like I will have to use to defend us.

3 Senator Ernst: And just in the remaining time, I  
4 really appreciate that, the need to really modernize out  
5 there. I know there are a number of different opinions on  
6 this committee as we come to nuclear strategic deterrence,  
7 but the fact that we should have regular order in the way we  
8 do appropriations so that we can continue to modernize, if  
9 that is the directive that comes from this committee and  
10 from the Administration. But then also the workforce that  
11 goes with that as well. I think there are a lot of issues  
12 that comes to this discussion today. We are just very  
13 grateful to have you there and working on these issues with  
14 us.

15 So with that I will yield back. Thank you.

16 Chairman Reed: Thank you very much, Senator Ernst.

17 Senator Shaheen, please.

18 Senator Shaheen: Thank you, Mr. Chairman, and Admiral  
19 Richard, General Dickinson, thank you both for your  
20 testimony this morning.

21 General Dickinson, I want to follow up on the  
22 conversation that has come up in several questions around  
23 the proliferation of debris in space. It is my  
24 understanding that the current collision screening  
25 notification criteria were developed over a decade ago. Is

1 there an effort underway now to update that criteria, and  
2 who is in charge of that, and when do you expect that to  
3 happen?

4 General Dickinson: Thank you for the question. Just  
5 to the, right up front, if I could just talk about the size  
6 of the debris and how much that is growing, just to give you  
7 a statistic or a feel for that. Back in 2019, when the  
8 Command stood up, we tracked on a daily basis about 25,000  
9 objects in space. Today, in 2022, it is almost 44,000. So  
10 we have seen, obviously, a tremendous growth in things that  
11 we have to track each and every day around the globe. And  
12 really, you know, we have seen, with the Nudol test, for  
13 example, back in November, how that can expand quite  
14 quickly.

15 So the process that we use today to do that is done out  
16 at Vandenberg Space Force Base by the 18th Space Control  
17 Identification Unit out there. And the algorithms and the  
18 C2 that they use has been upgraded. And so we look at that  
19 each and every day in terms of how we are able to identify  
20 and work with NASA to make sure that we are able to identify  
21 potential issues with the International Space Station and  
22 its safety.

23 Senator Shaheen: But you are looking only at the  
24 International Space Station?

25 General Dickinson: No. Ma'am, we are looking at all

1 the debris up there in terms of being able to provide that  
2 information out. That is just one area that I highlight,  
3 because it has such visibility on it.

4 Senator Shaheen: And am I correct that there is  
5 specific collision screening and notification criteria that  
6 you are looking at?

7 General Dickinson: Yes, ma'am. So there is, and we  
8 work very closely with not only NASA but we also work very  
9 closely with our commercial partners as well. We have  
10 agreements with over 100 companies right now, what we call a  
11 space situational awareness agreement, and that agreement  
12 allows us to share that information with them. So for  
13 example, if you are a commercial company that has satellites  
14 on orbit, we will let you know, or we will let them know if  
15 there is an issue that we project with potential debris.

16 Senator Shaheen: Well, I guess what I am trying to  
17 figure out is this criterion that is updated on a regular  
18 basis, do you all do that? Does somebody else do that? How  
19 are other companies and other countries notified about that?

20 General Dickinson: So we do that. That is on a  
21 website that we have that is called spacetrack.org, where  
22 that unit at Vandenberg Space Force Base updates that  
23 routinely with information that we have that we are  
24 gathering from our sensors and through our analysis process.

25 Senator Shaheen: Okay. I want to switch to a more

1 mundane topic, because I certainly share the urgency with  
2 which both of you talked about the challenges we are facing  
3 from both China and Russia. And we have had a number of  
4 conversations on this committee about whether our decision-  
5 making process should be more efficient, should we address  
6 procurement. How do we address what we are seeing happening  
7 in China and Russia with respect to their increasing  
8 military capability, although we may want to raise questions  
9 about Russia after Ukraine?

10 But I raise this in the context of the proposed  
11 relocation of SPACECOM headquarters from Colorado to  
12 Alabama, because I am puzzled, given the urgency, given the  
13 challenges of setting up this new command of the fact that  
14 you are still only in about 50 percent capacity in terms of  
15 the staffing that you need, why we are going to spend  
16 several years now trying to move SPACECOM to a new location  
17 that is going to take us, as I understand, a year and a half  
18 before we actually even know whether Redstone is potentially  
19 an appropriate location because of environmental concerns.  
20 Are we reassessing that decision? And my understanding also  
21 is that it will take us until 2026 to actually move SPACECOM  
22 to that location, if the assessment proves to be that that  
23 is an appropriate location.

24 So help me understand why given all of our urgency and  
25 all of the decisions that we need to make we are going to

1 spend the money and the time to relocate Space Command to a  
2 totally different place?

3 General Dickinson: So, ma'am, Senator, there are two  
4 long-going efforts. I am sure you are probably aware the  
5 DoD IG is conducting their evaluation along with the GAO.  
6 Both of those are moving along, and I am looking forward to  
7 the completion of those two efforts.

8 For me, it is not necessarily about the location. It  
9 is about the decision. So, in other words, I need a  
10 decision as soon as I can possibly get one so that I can  
11 build to full operational capability as quickly as possible.

12 We do have competitors that are moving very quickly.  
13 Those competitors are not necessarily waiting for me to  
14 reach FOC, or full operational capability. So I need a  
15 decision, and based on that decision I will do whatever I  
16 need to do to make sure that I can achieve my mission.

17 Senator Shaheen: Okay. I am out of time but I just  
18 want to follow up one point on that. If you were going to  
19 stay in your current location, do you have any sense of how  
20 long it would take to settle in to do any renovations that  
21 you need to do there versus moving to a new location in  
22 Alabama, and how long that would take and the cost of that?

23 General Dickinson: So we are in the process right now  
24 of building the infrastructure that we need to do the  
25 mission that I have been given today, and we are moving in

1 that direction. I would say we are a couple three years  
2 away from full operational capability.

3 Senator Shaheen: Wherever you are located.

4 General Dickinson: Wherever I am located.

5 Senator Shaheen: And is that based on the number of  
6 personnel you have to hire?

7 General Dickinson: It is based on many things,  
8 Senator. One is personnel. The other has to do with  
9 expertise within the command, attracting the right expertise  
10 within the command, and making sure that I have trained  
11 those processes and procedures within the command to be able  
12 to do the entire mission set that I have been given.

13 Senator Shaheen: Thank you.

14 Chairman Reed: Thank you, Senator Shaheen.

15 Senator Fischer, please.

16 Senator Fischer: Thank you, Mr. Chairman. Thank you,  
17 Admiral and General, for being here today.

18 One of the reasons we have never adopted a no-first-use  
19 policy or made a sole purpose declaration is the real threat  
20 of a strategic non-nuclear attack. President Obama's 2010  
21 Nuclear Posture Review states the following: "There remains  
22 a narrow range of contingencies in which U.S. nuclear  
23 weapons may still play a role in deterring a conventional or  
24 CBW attack against the United States or its allies and  
25 partners. The United States is therefore not prepared at

1 the present time to adopt a universal policy that deterring  
2 nuclear attack is the sole purpose of nuclear weapons."

3                   Admiral Richard, chemical and biological threats are  
4 sometimes treated as an afterthought. How has the risk of  
5 major non-nuclear attack changed since 2010, and has it  
6 decreased?

7                   Admiral Richard: Senator, first it has certainly not  
8 decreased. You are correct that often gets overlooked, at  
9 least in public discourse. I will tell you, as a part of  
10 the Nuclear Posture Review that was looked at very closely,  
11 and I look forward to the publishing of the Nuclear Posture  
12 Review to show you what the result of that analysis was.

13                  Senator Fischer: Thank you. Also, those who favor  
14 reducing the size of our nuclear forces often argue that  
15 non-nuclear capabilities such as space and cyber  
16 capabilities can be substituted for nuclear weapons without  
17 diminishing our ability to credibly hold targets at risk,  
18 deter adversaries, and assure our allies. What are your  
19 views on this idea?

20                  Admiral Richard: Senator, what I would offer is, one,  
21 I applaud efforts -- that is fundamentally you are getting  
22 after some of the capabilities that are used inside  
23 integrated deterrence, and we applaud that effort.

24                  But I need to be clear about something here, which is  
25 there is no other capability or combination of capabilities

1 that gets anywhere close to the demonstrated destructive  
2 potential of a nuclear weapon. That is why it is integral  
3 to integrated deterrence. And then with that foundation,  
4 with that backstop, you then use every other capability in  
5 our disposal to deter the opponent.

6 An important point here, Senator, if I could. When we  
7 are talking about issues between nuclear-capable great  
8 powers, it quickly becomes less about an order of battle  
9 comparison and who wins the fight and quickly becomes more  
10 about who judges greater stake and who is willing to take  
11 greater risks to get it. Integrated deterrence sets us up  
12 very well to resolve issues like that.

13 Senator Fischer: And our threats are only increasing.  
14 We have already brought up that we have two peer  
15 competitors when it comes to the threats that we face now.  
16 How do you think we can get that message across to the  
17 people of this country so that they have a more complete  
18 understanding of the threats we face and what we must do to  
19 protect this homeland and also to offer assurances to our  
20 allies?

21 Admiral Richard: Senator, I would offer that our  
22 opponents' actions are speaking to us much better than  
23 anything I can say in words. I think it is important for us  
24 to understand we do not know how far China is going to go,  
25 and Russia is also expanding. But also we are seeing

1 demonstrations of how you can use these capabilities  
2 coercively.

3 We are so trained in thinking that all we do is deter.  
4 I do not think that we fully understand or have thought  
5 about, in a long time, what the coercive use of these  
6 capabilities looks like, and we are getting real-world  
7 demonstrations of that right now.

8 Senator Fischer: Administration, you quote China's  
9 strategic breakout in your opening statement and you note  
10 that, quote, "The PRC likely intends to have at least 1,000  
11 warheads by 2030, greatly exceeding previous DoD estimates."  
12 As concerning as that is, it only captures, I think, part of  
13 the problem.

14 I know there is not a lot you can say in this  
15 environment, but do you believe it is wise to assume that  
16 China's nuclear forces will stop expanding when they reach  
17 that point?

18 Admiral Richard: Senator, I will tell you, I told my  
19 staff that whatever the time estimate that the intelligence  
20 community gives you on anything from China, divide it by 2  
21 and maybe by 4 and you will get closer to the right answer.  
22 So no, I do not know that we have any idea of what the end  
23 point and/or speed. When I first testified here we were  
24 questioning whether or not China would be able to double  
25 that stockpile by the end of the decade. They are actually

1 very close to doing it on my watch, and I think we need to  
2 factor that into our calculations as we think through what  
3 we need to defend ourselves.

4 Senator Fischer: And as we look at China's breakout,  
5 or we look at the continued growth of Russia's non-strategic  
6 arsenal, obviously nuclear threats are still growing. We  
7 are not trying to match any adversary system for system, but  
8 at the same time, an imbalance in forces does undermine our  
9 strategic stability. Isn't that right?

10 Admiral Richard: Yes, ma'am, and said another way I  
11 think it emboldens coercion and aggression.

12 Senator Fischer: Thank you. Thank you, Mr. Chairman.

13 Chairman Reed: Thank you, Senator Fischer.

14 Senator Rosen, please.

15 Senator Rosen: Thank you, Chairman Reed, for holding  
16 this important hearing. I would also like to thank Admiral  
17 Richard and General Dickinson for testifying today and for  
18 your service to our country. Thank you.

19 I want to return now to the major role that Nevada  
20 plays in the capabilities and safety of our nuclear arsenal,  
21 specifically at the Nevada National Security Site, because  
22 we need some infrastructure upgrades in order to continue to  
23 complete and do our mission.

24 And so, Admiral Richard, since 1993, the Nevada  
25 National Security Site, or we call it NNSS, has overseen the

1 nuclear Stockpile Stewardship Program, principally at the  
2 U1a facility. It is an underground laboratory where  
3 scientists conduct those subcritical experiments to verify  
4 the reliability and effectiveness of our nuclear stockpile.  
5 This is the only facility in the country where this is done,  
6 and U1a is undergoing major construction projects that will  
7 soon host our most capable weapons radiographic system in  
8 the world. Of course, I have visited NNSS a few times. I  
9 am very proud of it, that it contributes to the  
10 certification of our nuclear stockpile.

11 However, the NNSA faces several challenges as we have  
12 seen and you have testified to, to its modernization  
13 programs, including significant infrastructure delays which  
14 you note in your testimony dates back to the Manhattan  
15 Project era. And the Nevada National Security Site is no  
16 exception. Unfortunately, Chairman Reed, the Nevada  
17 National Security Site is larger than all NSA sites combined  
18 and is the equivalent to the size of the state of Rhode  
19 Island, I might add.

20 Chairman Reed: Thank you.

21 Senator Rosen: So we have a vast amount of  
22 infrastructure to build and maintain.

23 So Admiral Richard, can you please speak to how  
24 upgrades to the Stockpile Stewardship Program like the U1a  
25 affect STRATCOM's certification of our nuclear stockpile,

1 and how do these delays impact your ability to fulfill your  
2 responsibilities?

3                   Admiral Richard: Senator, first I would put the  
4 Stockpile Stewardship Program on the list of things that  
5 make me proud to be an American that we actually figured out  
6 how to do that such that we relieved ourselves of the need  
7 to actually conduct nuclear weapons testing.

8                   But what I think is important to understand is that  
9 alone will not give us the confidence that we have to have  
10 in our weapons. That is what this fundamentally comes back  
11 to. Are you confident in your stockpile and your deterrent  
12 because that underpins credibility which is needed to deter?

13                  There are two other things we have to do in addition to  
14 the good work in the Stockpile Stewardship Program. One of  
15 them is you have to have a flexible and modern stockpile,  
16 which means we need to move past life extensions, which we  
17 have been doing for 30 years, and move into refurbishments,  
18 which is where NNSA is about to go. And the second one goes  
19 back to the infrastructure you are talking about. You have  
20 to have a modern, responsive, and resilient infrastructure,  
21 and we have delayed too long, in my opinion, giving NNSA the  
22 resources necessary to do that piece. All three of those  
23 are necessary for us to have the confidence we need to  
24 conduct my mission.

25                  Senator Rosen: Thank you. Speaking of mission, we

1 have cyber mission and space, and cyber, I could talk all  
2 about workforce, the workforce challenges that we have with  
3 developing that. Senator Ernst brought that up. But as we  
4 see what is happening particularly in the Ukraine, are you  
5 concerned, General Dickinson that the increasing threats of  
6 cyberattack from Russia could jeopardize our U.S. space  
7 operations? Maybe you cannot speak of it here. We will  
8 talk later about space cyber aggression as the war in  
9 Ukraine continues to go forward.

10 General Dickinson: Well, thank you, and I will provide  
11 more in the closed session. But I will say here, this  
12 morning, is just to echo what Admiral Richard said in terms  
13 of posture at this particular point. I support Admiral  
14 Richard in a lot of things that he does in terms of his  
15 nuclear command and control, and I am very satisfied in the  
16 posture that we have today with respect to space as well as  
17 cyber. We have taken a lot of effort to ensure that we are  
18 cyber hardened and that we have got the right types of  
19 experts looking at our systems, our vital space systems.  
20 But I can provide more to you in the closed session.

21 Senator Rosen: Thank you. I appreciate that. I know  
22 my time is almost up. I do want to talk about workforce  
23 development. I have been lucky enough to have a Junior ROTC  
24 STEM bill passed, which means our youngest kids, kids in  
25 high school, they have a track for joining Junior ROTC to

1 put them into STEM professions in the military. It is  
2 really important. We will talk later about developing that  
3 workforce. I will submit them for the record. But we  
4 really need to up our game there as well, to be nimble and  
5 modernize.

6 Thank you. Thank you, Mr. Chairman.

7 Chairman Reed: Thank you, Senator Rosen.

8 Senator Cramer, please.

9 Senator Cramer: Thank you, Mr. Chairman, and thanks to  
10 both of you for your service and for being here. Admiral  
11 Richard, let me just say as others have said, one of your  
12 strongest qualities, since I have known you anyway, has been  
13 your forthrightness and your clarity. But I have to say, in  
14 the moment that we are in right now, I have especially  
15 appreciated your boldness and clarity. We need to hear it.

16 The people we work for need to hear it.

17 I also have to compliment you on your composure, being  
18 able to sit through some of this. The suggestion that there  
19 has not been enough variables or enough varying opinions to  
20 commit \$630 billion over 10 years to the most important  
21 deterrence to aggression in the world is frightening enough,  
22 but it is galling in the context that around here some  
23 people think nothing of spending trillions of dollars over  
24 the course of 10 months or 10 weeks or even 10 days, based  
25 on the opinion of one person at HHS. And I will leave it at

1 that. So congratulations on having composure as well.

2 I do want to get back to an issue that Senator  
3 Blackburn raised with regard to the postponement of that  
4 ICBM watch. As you can imagine, those of us in North Dakota  
5 pay close attention to those things. I appreciate your  
6 answer, particularly your commitment that it is only a  
7 postponement, that it is now rescheduled. Did you agree  
8 with postponing that, if I might ask?

9 General Dickinson: Senator, I had an opportunity to  
10 directly advise the Secretary of Defense, among others. I  
11 think it would be best if I left that advice private between  
12 him and I.

13 Senator Cramer: I understand and I appreciate that,  
14 because it seems to me that reality is now clashing with  
15 some people's fantasies. And I appreciate you raising the  
16 reality of the moment. You said it well a little bit ago  
17 when you said opponents' actions are speaking as loudly as  
18 anything that we could probably say.

19 General, I want to talk a little bit about -- I want to  
20 bring it home a little bit as well. You, of course, are  
21 very familiar. You and I visited the very old PARCS radar  
22 station, the Cavalier Radar Station, now the Cavalier Space  
23 Force Station, it seems like last month but I think it was  
24 probably a year or two ago. As you know, we had this very  
25 important early warning system designed to, of course, warn

1 us early in case something is coming over the Arctic. Now,  
2 of course, it has been monitoring space as well. You have  
3 talked about the need for decision superiority. That was, I  
4 think, something you referenced or talked quite a bit about  
5 over the last couple of years.

6 I am just wondering if the PARCS array at Cavalier  
7 Space Station that relies on this very old technology, if  
8 there is modernization opportunities for our decision  
9 superiority as well that we should be talking about.

10 General Dickinson: Senator, thank you, and I did enjoy  
11 my trip up there. I think it was over a year ago, maybe 2  
12 years ago now. But certainly that particular sensor, and  
13 all of those early warning radars, are very critical to our  
14 overall architecture, to be able to provide that missile  
15 warning, missile defense, and space domain awareness. So  
16 critical to provide that very decision space to our  
17 national-level leaders.

18 So in terms of what that capability is today, we  
19 continue to look at that through a lifecycle management, and  
20 really I work very closely with the Space Force, because  
21 they are ultimately in charge of those upgrades and the  
22 modernization of those assets. What I do is identify  
23 whether or not we have a gap or a requirement that would  
24 need that. So we are working very closely with them and we  
25 are looking at the entire architecture, not just necessarily

1 one asset. Because as we look to the future, it will not  
2 only be a terrestrial-based type of capability that is up  
3 there right now but we will look at a space capability too,  
4 that augments that, so we have a layered warning capability  
5 globally.

6 Senator Cramer: I think, Admiral, you had mentioned  
7 earlier, maybe both of you have talked about, throughout  
8 this hearing, the delay or interruption in funding of  
9 modernization, what that means, the kind of signal that that  
10 sends, the practical, functional consequences of that.

11 Let me ask this. If we were, in this place, able to  
12 get our act together, if we were able to have enough  
13 consensus and realization that modernization is not just  
14 important but critical, and if we were to have the political  
15 will, would it even be possible to not only not delay but  
16 even accelerate any part of modernization if we were able to  
17 make that case?

18 Admiral Richard: Senator, I would defer to the  
19 services to give you the specifics of that. But I think you  
20 are hitting at, we need to ask questions differently. We  
21 used to ask what is it going to take, and we have gotten  
22 into the habit of saying how are we going to mitigate our  
23 assumed delay or failure. We used to ask the question the  
24 other way around. That is how we got to the moon by 1969.  
25 We need to get back to understanding the operational risk is

1 on par with programmatic and technical risk, reverse the way  
2 we ask questions, and get back to producing capabilities to  
3 way we used to.

4 Senator Cramer: I appreciate it. Thank you both.

5 Thank you, Mr. Chairman.

6 Chairman Reed: Thank you, Senator Cramer.

7 Let me recognize Senator Tuberville for the purpose of  
8 a unanimous consent request.

9 Senator Tuberville: Oh, thank you very much. Just  
10 really quickly, you know, I would like to correct for the  
11 record the remarks of my colleague from New Hampshire, and I  
12 appreciate General Dickinson being a bipartisan approach  
13 here on the movement of Space Command from Vandenberg to  
14 Redstone Arsenal in Alabama.

15 The recently released draft environmental study found,  
16 quote, "significant impact on socioeconomic conditions and  
17 environmental justice," end quote, at Vandenberg. By  
18 contrast, the study found no significant environmental  
19 concerns at Redstone.

20 So, Mr. Chairman, I would just like to submit this  
21 study to you for the record and correct that as we go along.

22 Chairman Reed: Without objection.

23 [The information follows:]

24 [COMMITTEE INSERT]

25

1 Senator Tuberville: Thank you.

2 Chairman Reed: Thank you, Senator Tuberville.

3 Senator Peters, please.

4 Senator Peters: Thank you, Mr. Chairman, and  
5 gentlemen, thank you for being here today, for your  
6 testimony, and thank you for your service.

7 General Dickinson, your posture statement provided a  
8 very detailed account of the significant progress that  
9 SPACECOM has made with some partners and allies all over the  
10 world. The illegal and unjust Russian invasion of Ukraine  
11 has certainly renewed NATO's sense of purpose. I think we  
12 would all agree on that. It is very encouraging to see, and  
13 it has driven some of our key allies to make some sorely  
14 needed changes, I think, in their security posture.

15 My question for you, sir, is with this increased  
16 appetite for defense cooperation around the free world, what  
17 should we be doing in the coming years to expand on this  
18 even more in the space domain?

19 General Dickinson: Thank you. That is one of the  
20 highlights in the Command, I think, over the last 2, 2 1/2  
21 years, is our ability to work with our allies and partners.  
22 It has really, quite frankly, exploded in terms of our  
23 partners coming to the table and wanting to be part of the  
24 efforts that we are working around the world. An example is  
25 our Combined Space Operations group that we have called

1 CSpOC, just signed a vision statement that came out a couple  
2 of weeks ago. But that is an example of the growing, if you  
3 will, the expansion of our partnership.

4 Just as an example, there are three different countries  
5 right now that have actually stood up their own version of  
6 U.S. Space Command. So the enterprise itself is growing,  
7 and the willingness to work is just like we have seen in  
8 other domains, for example, so air, land, and sea. But they  
9 are really coming and we are working closely together, and  
10 it is probably, when you look at our integrated deterrence  
11 strategy, one of the pillars of that is being able to  
12 leverage our allies and partners in not only situations we  
13 are seeing today but ones that we do each and every day.

14 Senator Peters: Great. Great. General Dickinson, as  
15 you know, on March 3rd, Russia stated that they will hold  
16 delivery of the RD-180 engines that are used by some U.S.  
17 defense industries as part of the Atlas V launch system.  
18 And while it certainly appears that this development will  
19 not significantly hinder any launching operations, I think  
20 it certainly underscores the importance of supply chain  
21 integrity. Semiconductors, for example, are a known  
22 liability all across the many domains.

23 So my question for you, sir, is are there additional  
24 space-specific material or technologies supplied by either  
25 Russia or China that could result in degraded military

1      readiness, if withheld?

2           General Dickinson: Not that I am aware of.

3           Senator Peters: Great. Admiral Richard, you indicated  
4      in your posture statement that while STRATCOM academic  
5      alliance is an excellent asset, with over 70 academic and  
6      industrial partners, quote, "It is only a fraction of what  
7      is needed to reinvigorate research and analysis for  
8      deterrence concepts," end of quote.

9           My question for you, sir, is what additional ways can  
10     we leverage the power of American and allied defense  
11     industry and academia to maintain our strategic edge?

12          Admiral Richard: Senator, first, beyond the academic  
13     alliance what we did at STRATCOM was put together an  
14     analytic agenda. What are the key questions that we need  
15     research done on -- three-party deterrence dynamics would be  
16     an excellent example of that -- so that we can harness the  
17     power of the Department of Defense, and the nation more  
18     broadly? Think your UARCs, your FFRDCs, other places where  
19     we can do that.

20          But even that, this is bigger than one combatant  
21     command. I think this is a broader Department of Defense or  
22     national issue. I am reminded, this nation invented the  
23     entire Rand Corporation to do not much more than think  
24     through deterrence back in the Cold War. We face an even  
25     bigger problem. I think it is going to need an equivalent

1 national-level response.

2 Senator Peters: Great. Great. Well, I agree.

3 Admiral Richard, you outlined how establishment of the Joint  
4 EMS Operation Center will facilitate joint electromagnetic  
5 spectrum operations throughout the Department of Defense and  
6 combatant commands. But as the electromagnetic spectrum is  
7 just as vital in terms of homeland security, how do you see  
8 the Joint EMS Operation Center working with non-DoD agencies  
9 as well?

10 Admiral Richard: Senator, first, I applaud where my  
11 Department is going in understanding the importance of  
12 electromagnetic spectrum and the fact that we cannot take it  
13 for granted anymore. It is a contested, congested space.  
14 And there is an EMS superiority strategy that our Secretary  
15 just signed out. We are responsible for a piece of it. You  
16 are hitting on that. We are the operational proponent, and  
17 so first we work to make sure that the standards and  
18 certification inside the Department in our forces are  
19 sufficient. We are moving out on that. We provide support,  
20 and we are doing that right now, in electromagnetic spectrum  
21 operations.

22 But fundamentally what I do is come back in and provide  
23 the operational consequence of programmatic decisions.  
24 Those changes those decisions to our benefit.

25 Senator Peters: Great. Thank you. Thank you, Mr.

1 Chairman.

2 Chairman Reed: Thank you, Senator Peters.

3 Senator Scott, please.

4 Senator Scott: Thank you, Chairman. First of all I  
5 want to thank both of you for your clarity and for your  
6 commitment to the freedoms of this country.

7 So Admiral Richard, as we all know we are in a position  
8 where we have to deter two nuclear-armed, great power  
9 adversaries, Russia and China. First off, based on the  
10 funding you received and based on how the Congress has been  
11 acting since you have had this job, do you feel comfortable  
12 that Congress has your back that we are going to provide you  
13 the resources that you are going to be able to deter both  
14 Russia and Communist China?

15 Admiral Richard: Senator, first, I would applaud my  
16 Department because over the course of my tour we are now  
17 able to say, and I expect this in the next budget, but the  
18 last one was one of the first ones we could say not only was  
19 the strategic deterrent forces fully funded, so was the  
20 nuclear command and control, which are the two pieces inside  
21 the Department of Defense. We are going to need to continue  
22 to do that. And additionally, Senator, continue to ask  
23 ourselves the question, what additional capability,  
24 capacity, and posture might we need to do?

25 So yes, I think Congress, as you said, "has my back" if

1 we would pass a budget. The budgets are adequate. We just  
2 need them enacted.

3 Senator Scott: So right now do you think we have  
4 enough capability to prevent Russia and Communist China from  
5 intimidating us and our allies?

6 Admiral Richard: Sir, my forces are ready right now to  
7 do anything the President asks us to do.

8 Senator Scott: Admiral Richard, you have been watching  
9 Putin's statements, and you might not be able to answer all  
10 these questions, about his potential use of nuclear weapons.  
11 So I have got a couple of questions. The first one is, have  
12 you seen any tangible operational changes following Putin's  
13 order to increase the readiness of his nuclear forces?

14 Admiral Richard: Senator, I would like to answer that  
15 question in closed session, but I will say we have been  
16 thinking through this class of problem for years.

17 Senator Scott: Second, given your experience of  
18 observing foreign leaders, which would be part of your job,  
19 in your personal opinion do you believe America and our  
20 allies, especially other nuclear powers, should treat  
21 Putin's words and actions as a legitimate indication that he  
22 is crazy enough and willing to employ nuclear weapons of any  
23 kind?

24 Admiral Richard: Senator, I will go into more detail  
25 in the closed session, but I would look to his previous

1 actions to give us a clue as to what his future ones might  
2 be.

3 Senator Scott: I see. The things that he said outside  
4 his nuclear capability, has he basically followed through?

5 Admiral Richard: Senator, again, I would prefer to  
6 answer that in closed session.

7 Senator Scott: Thank you. General Dickinson, is the  
8 U.S. fully treating our outer space as a warfighting domain,  
9 and are we developing systems consistent with that policy to  
10 combat and be able to defeat Russia and Communist China in  
11 their space capabilities?

12 General Dickinson: We certainly have seen some  
13 activity by both Russia and China over the last few years,  
14 going back to 2007 and 2008, when the Chinese destroyed a  
15 satellite on orbit, and then just as recently as November,  
16 with the Russian Nudol event that occurred. So we can see,  
17 at least from our competitor standpoint, they are, in fact,  
18 doing testing and development in that domain.

19 Senator Scott: It seems like there are people who are  
20 trying to talk about we ought to cooperate with these  
21 adversaries, but don't they need to know that we are going  
22 to deter and defeat them in space and we have to be willing  
23 to do everything we can to be able to beat them?

24 General Dickinson: Well, I think, Senator, that each  
25 and every day that we are operating in space we are doing

1 that very thing in terms of deterrence.

2 Senator Scott: Do you feel like you have been given  
3 the resources to be able to do that?

4 General Dickinson: I have the resources that I need to  
5 perform my mission today.

6 Senator Scott: So I believe that Communist China and  
7 Russia plan to use outer space against us. So what is your  
8 biggest concern about their plans, and what do we need to do  
9 that we are not doing?

10 General Dickinson: Well, it is fundamental, Senator,  
11 back to my opening statement when I said in order to be able  
12 to articulate what is happening I have got to have exquisite  
13 domain awareness, exquisite domain awareness. I need to be  
14 able to tell you what I see in the space domain, in terms of  
15 space domain awareness, as a critical function of that to be  
16 able to interpret what is happening so that I can make  
17 recommendations and take actions that I need to.

18 Senator Scott: General Dickinson, I know that Space  
19 Force was recently created, but do you feel like you have  
20 had sufficient progress toward integrating these  
21 capabilities all across the Pentagon?

22 General Dickinson: Senator that is a great question.  
23 Our relationship with the Space Force is as you would expect  
24 it to be. We have got a very close relationship with  
25 General Raymond and his team in terms of being the service

1 that provides most of my capability to the combatant  
2 command. We are also working with the other services  
3 because they, in fact, have capabilities that I can use in  
4 the space domain as well.

5 So it is really not just the relationship and  
6 integration with Space Force. It is across the Department  
7 to each one of the services.

8 Senator Scott: Thank you. Thank you, Chairman Reed.

9 Chairman Reed: Thank you, Senator Scott.

10 Senator Cotton, please.

11 Senator Cotton: Admiral Richard, last fall, and again  
12 today in your opening statement, you referred to a Chinese  
13 breakout -- "breakout" was your term -- of nuclear weapons  
14 and capabilities. Could you please explain a little bit  
15 more, just in plain English? I am not sure a normal  
16 American watching would understand what a "breakout" means.  
17 Explain a little more in plain English what you mean and its  
18 implications for our security.

19 Admiral Richard: Senator, so first that is not a  
20 talking point. I formally informed the Secretary of Defense  
21 of that fact last year. There are two components that I can  
22 talk about here. I would be happy to go into more detail in  
23 closed session.

24 First is it signals a significant shift in their  
25 capability and fundamentally their strategy. China has long

1 been in a minimum deterrence posture, which was consistent  
2 with their stated no-first-use policy. They now have  
3 significantly more capability than is necessary to execute a  
4 minimum deterrence strategy, and enables them now to execute  
5 any plausible nuclear employment strategy.

6 Second is on our side. It drove me to have to take  
7 operational actions in response to a dramatic change in the  
8 threat, and I will go into more detail as to what those were  
9 in closed session.

10 Senator Cotton: So despite their so-called no-first-  
11 use policy, they are building a nuclear arsenal capable of  
12 executing a first strike.

13 Admiral Richard: One, Senator, they have plenty of  
14 capability that have no role in a true minimum deterrence  
15 strategy, and, in fact, there is no technical difference  
16 between a system that is designed to go first or to go  
17 second. There are attributes that enable that, but we need  
18 to be very conscious of what they could do with it, not what  
19 they say they are going to do with it.

20 Senator Cotton: So I think we should focus on what  
21 they are spending and what they are building than rather on  
22 what they are saying, because they could change their no-  
23 first-use policy like that, could they not?

24 Admiral Richard: Senator, yes, and I put no more  
25 credence in that than I did in the Soviet Union's no-first-

1 use policy.

2 Senator Cotton: All right, Admiral. Earlier this  
3 year, media reports suggested that the Biden administration  
4 wanted to cut two nuclear systems from America's arsenal.  
5 These were so-called non-strategic nuclear weapons, weapons  
6 with smaller explosive yields, designed often to be used  
7 against military formations. Is this reporting accurate?  
8 Were there discussions to cut the Whiskey 76-2 and the sea-  
9 launched cruise missile, also known as the SLCM?

10 Admiral Richard: Senator, all the capabilities in our  
11 deterrence portfolio were examined inside the Nuclear  
12 Posture Review. Those are included in that, and I look  
13 forward to the results of the NPR to see what the decisions  
14 were.

15 Senator Cotton: When is the NPR going to be released?

16 Admiral Richard: Senator, I would have to defer you to  
17 OSD for that answer. But I do want to make a point about  
18 those capabilities in particular, which is every capability  
19 that is in the U.S. arsenal is therefore a reason. It is  
20 designed to produce an effect against an assessed threat.  
21 If we do not have a capability, the threat that drove it to  
22 be there still exists. And so we either as a nation have to  
23 choose to take the risk that we can achieve that effect or  
24 we have to go find another way to go do that, and that is  
25 something we are going to continue to have to do, even after

1 we finish the Nuclear Posture Review. I can give you more  
2 details, sir, in closed session.

3 Senator Cotton: Thank you. I agree with that, and I  
4 agree that we are, to a degree, self-deterring while we are  
5 letting Russia run wild on non-strategic nuclear weapons,  
6 yet we are considering cutting our own.

7 I want to turn to the cancelled test in recent days.  
8 Admiral, it is correct that we have routinely conducted  
9 unarmed tests for our Minutemen-III missiles and that we  
10 give Russia advance notice to those tests. Correct?

11 Admiral Richard: Senator, that is correct, for a long  
12 time.

13 Senator Cotton: And they are routine. They are  
14 scheduled well in advance. Correct?

15 Admiral Richard: Yes, they are, sir.

16 Senator Cotton: We cancelled one of those in the last  
17 week. Correct?

18 Admiral Richard: Senator, we rescheduled it.

19 Senator Cotton: So let me ask you this. These tests  
20 are a critical part of keeping our nuclear deterrent healthy  
21 and viable. Right?

22 Admiral Richard: Senator that is a 50-year-old weapon  
23 we are talking about. I need those tests, and actually I  
24 want to acknowledge they are Air Force tests, for us to  
25 maintain confidence in the reliability.

1 Senator Cotton: And so you can say we rescheduled it,  
2 but there is a detailed and longstanding testing schedule.  
3 So what we really did was cancel it. Did we cancel that  
4 test because we did not want to, quote/unquote, "escalate  
5 with Russia"?

6 Admiral Richard: Senator, we are trying very hard not  
7 to send any escalatory signals at this point. My  
8 recommendation, in general, has been to maintain our  
9 routine, normal, scheduled operations. I think we are all  
10 very familiar, and that is the best posture for us to be in.  
11 We very carefully think through those to maintain our  
12 readiness and to maintain our training, and demonstrate  
13 that. So my recommendation overall is that we maintain that  
14 cadence.

15 Senator Cotton: I am glad you recommended that. Do  
16 you know who, above your rank, decided not to accept that  
17 recommendation of this test?

18 Admiral Richard: Senator, I would like --

19 Senator Cotton: Was it the Secretary or --

20 Admiral Richard: -- to maintain private my specific  
21 recommendations in this case.

22 Senator Cotton: Okay. I will just say that there is  
23 nothing escalatory about longstanding, long-scheduled,  
24 routine tests that Russia knows about in advance, and it is  
25 just another example of how we have mistaken actions that

1 would have de-escalated this situation rather than escalated  
2 it. This is not within your combatant command, but if we  
3 had been sending all the missiles to Ukraine over the last  
4 five months that we had been sending on an emergency basis  
5 for the last two weeks, I know that some people fear that  
6 that might cause Vladimir Putin to invade Ukraine, but how  
7 foolish does that look now? And I think it also is a bad  
8 signal not to continue our routine nuclear testing.

9 Chairman Reed: Thank you, Senator Cotton.

10 Senator Hawley, please.

11 Senator Hawley: Thank you, Mr. Chairman. Thank you,  
12 gentlemen, both for being here. Thank you for your service  
13 as always. Admiral, if I could start with you, just a basic  
14 question here. You were just testifying to Senator Cotton.  
15 China is a nuclear power, right?

16 Admiral Richard: A near-peer.

17 Senator Hawley: Russia is a nuclear power.

18 Admiral Richard: Yes, sir.

19 Senator Hawley: You were just amplifying to Senator  
20 Cotton your testimony about China being in the midst of a  
21 strategic breakout. We see Vladimir Putin making now  
22 explicit nuclear threats. Is this a good time to weaken our  
23 own nuclear deterrent?

24 Admiral Richard: Senator, recapitalization of what we  
25 have today is the absolutely minimum that we need to do, and

1 we are going to need to further ask ourselves if any else in  
2 posture capability and capacity is warranted based on change  
3 in threat and what we are learning out of crisis deterrence  
4 dynamics right now.

5 Senator Hawley: Absolutely minimum, you testified. I  
6 think that is very important. Am I right in thinking that  
7 our nuclear forces remain the bedrock of our strategic  
8 deterrent?

9 Admiral Richard: Not only our strategic deterrent,  
10 Senator, but it is integral and foundational to integrated  
11 deterrence.

12 Senator Hawley: Including our ability to project power  
13 and to manage escalation beneath the nuclear threshold.  
14 That is what you are talking about, I think.

15 Admiral Richard: Senator, no other plan or no other  
16 capability in the Department of Defense is going to work if  
17 I cannot maintain strategic and nuclear deterrence.

18 Senator Hawley: Very good. Let me ask your about  
19 something you wrote in your testimony. You said  
20 prioritizing the crucial NNSA infrastructure modernization  
21 programs is the best and only option to pace projected  
22 threats and sustain strategic deterrence. We have got, in  
23 my state, in the state of Missouri, we have got the Kansas  
24 City National Security Campus which supports the nuclear  
25 deterrent. We are very proud of that.

1           Can you explain why it is important for us to fully  
2 fund NNSA infrastructure modernization?

3           Admiral Richard: Senator, we have reached the point  
4 where we can no longer deter with the leftovers of the Cold  
5 War. We have life-extended them to the maximum extent  
6 possible. We must now start to recapitalize, remanufacture  
7 those. That requires a very robust infrastructure. We are  
8 10 years behind the point where we needed to start  
9 recapitalizing the infrastructure, and that is NNSA and  
10 actually the rest of the complex. And the consequence is we  
11 simply will not have the capabilities that we are going to  
12 have to have to deter the threat environment we are in.

13          Senator Hawley: Very good. Thank you for that. You  
14 told me -- switching back to China, Admiral, you said during  
15 an appearance before this committee in 2019, to me, that  
16 China had the capabilities required to threaten or to  
17 actually use nuclear strikes to compel the United States to  
18 surrender in a potential war over Taiwan. We know that  
19 since then China has continued, and you just testified to  
20 this, China has continued to develop its nuclear forces in  
21 theater, and Chinese strategists are showing interest in  
22 changing their doctrine and also in the need for lower-yield  
23 nuclear weapons in order to increase the deterrence value of  
24 China's force.

25          Is it fair to say that China's ability to engage in

1 limited nuclear employment at the theater level is growing?

2           Admiral Richard: Senator, not only yes, if you will  
3 ask me that in closed session I will give you a very vivid  
4 example of what that could do to us.

5           Senator Hawley: Very good. If you could just explain  
6 for us, why are limited nuclear options like, for instance,  
7 the supplemental capabilities endorsed by the 2018 Nuclear  
8 Posture Review, why are those so important for deterring  
9 China or, for that matter, any other adversary that wants to  
10 use non-strategic nuclear weapons to coerce us?

11          Admiral Richard: Limited nuclear use is deterred  
12 differently than the way you deter the classic large attack,  
13 and it is designed to make sure that the opponent does not  
14 think that there is some threshold below which they could  
15 use the nuclear effect, leaving us with a disproportionate  
16 response that ultimately winds up self-deterring us.

17          Senator Hawley: Very good. General, let me switch to  
18 you, just in the time I have remaining here. Thomas  
19 Shugart, an analyst, and others have shown that the PLA is  
20 preparing to engage in a large-scale, pre-emptive strike  
21 operation at the outside, or would be prepared to engage at  
22 the outset of any conflict over Taiwan that we may find  
23 ourselves in, in an attempt to cripple our ability to  
24 project power in the Western Pacific.

25          It seems to me we have got to assume Beijing may be

1 incentivized to strike pre-emptively in space as well, which  
2 brings me to my question. What are the most important  
3 things that Congress can do this year to support SPACECOM's  
4 efforts to bolster the resilience of our architecture in  
5 space over the next 5 years?

6 General Dickinson: Thank you, Senator. So it boils  
7 down to, and Admiral Richard touched on it, is that  
8 predictable funding. So when I look at the size of the  
9 enterprise and the requirements and capabilities that we  
10 need, it all boils down to having a consistent stream of  
11 funding that will allow the Space Force and the other  
12 services to provide the capabilities that I will need.

13 Senator Hawley: Very good. My time has expired.  
14 Gentlemen, thank you both again for your testimony. Thank  
15 you for your service to this country.

16 Thank you, Mr. Chairman.

17 Chairman Reed: Thank you, Admiral. Thank you,  
18 General. The open portion of this hearing will adjourn, and  
19 we will reconvene in SVC-217, in approximately 15 minutes,  
20 and that would be 11:50 by my watch, roughly.

21 This portion is adjourned.

22 [Whereupon, at 11:36 a.m., the hearing was adjourned.]

23

24

25

**WORD INDEX**

< \$ >  
**\$264** 56:24  
**\$630** 57:12 74:20

< 1 >  
**1,000** 11:16 33:23 45:18  
 69:10  
**1,500** 50:15  
**1/2** 17:17 18:9 79:20  
**10** 12:13 28:1 38:10  
 47:14 60:5 74:20, 24  
 94:8  
**100** 12:13 63:10  
**11:36** 96:22  
**11:50** 96:20  
**15** 96:19  
**150,000** 7:16  
**18,000** 11:6  
**18th** 62:16  
**1960** 4:25  
**1969** 77:24  
**1993** 70:24

< 2 >  
**2** 12:16 13:1 17:17 18:9  
 69:20 76:11 79:20  
**20** 47:14  
**2007** 85:14  
**2008** 49:24 85:14  
**2010** 66:20 67:5  
**2016** 12:24 30:11  
**2018** 95:7  
**2019** 2:15 27:20 33:16  
 62:7 94:15  
**2021** 2:20 8:3 12:11, 18  
**2022** 1:6 62:9  
**2023** 1:4  
**2026** 64:21  
**2030** 15:21 69:11  
**25,000** 62:8  
**27** 12:12

< 3 >  
**30** 22:5 72:17  
**3rd** 80:15

< 4 >  
**4** 69:21  
**44,000** 62:9  
**45** 45:10, 16

< 5 >  
**5** 96:5  
**50** 45:16 59:10 64:14  
**500** 12:14  
**50-year-old** 52:23 90:22

< 6 >

**6** 36:25  
**60s** 9:2 42:22

< 7 >  
**70** 81:5  
**70s** 9:2  
**76-2** 89:8

< 8 >  
**8** 1:6 36:25  
**80** 15:20  
**80s** 8:25 9:1

< 9 >  
**9:30** 1:12  
**90s** 8:25

< A >  
**a.m** 1:12 96:22  
**abilities** 53:24  
**ability** 2:12 25:14 28:10  
 36:8, 15 37:18 52:24  
 54:17 60:3, 15 67:17  
 72:1 79:21 93:12 94:25  
 95:23  
**able** 8:5 24:25 25:5  
 32:22 35:10, 13, 24 47:6  
 54:22 55:11, 14 58:21, 22,  
 24 59:6, 14 61:1 62:19,  
 20 63:1 66:11 69:24  
 74:18 76:14 77:11, 12, 16  
 80:11 83:13, 17 84:9  
 85:10, 23 86:3, 11, 14, 16  
**ABMS** 18:13  
**aboard** 4:17  
**absolute** 21:25 29:4  
**Absolutely** 27:14 92:25  
 93:5  
**academia** 81:11  
**academic** 81:4, 5, 12  
**accelerate** 21:21 77:16  
**accept** 91:16  
**access** 20:8  
**accomplish** 35:12  
**accomplishing** 13:25  
**account** 28:22 40:2 79:8  
**accurate** 89:7  
**accurately** 4:7  
**achieve** 8:20 35:10, 21  
 37:6, 18 42:24 59:1 60:6  
 65:16 89:23  
**acknowledge** 12:5 47:21  
 52:19 90:24  
**acquisition** 25:10, 18  
 37:20, 24 43:17  
**act** 77:12  
**acted** 3:23  
**acting** 83:11  
**action** 13:21 49:7

**actions** 52:5, 10 68:22  
 75:17 84:21 85:1 86:17  
 88:7 91:25  
**active** 15:23  
**active-duty** 11:18  
**actively** 13:3  
**activities** 14:1 53:5  
**activity** 12:22 13:6 85:13  
**actors** 41:18, 21 48:14  
**actual** 22:11  
**add** 17:25 19:8 31:16  
 33:17 34:5 35:18 57:19  
 71:19  
**addition** 5:4 18:5, 6  
 38:24 72:13  
**additional** 29:5 32:19  
 80:23 81:9 83:23  
**additionally** 83:22  
**address** 64:5, 6  
**addressed** 2:19 15:25  
**adequate** 84:1  
**adjourn** 96:18  
**adjourned** 96:21, 22  
**adjust** 3:17  
**Administration** 5:5 15:7  
 61:10 69:8 89:3  
**Admiral** 2:5, 7 4:22 6:5  
 7:1, 3 9:12 10:1 15:2, 12  
 16:10, 18 17:9 19:15, 18,  
 21 20:3, 24, 25 21:17, 23  
 22:22 23:2 26:4, 12  
 28:16, 23 29:20 30:20  
 34:7, 9, 13, 23 35:7 36:17  
 39:11 40:5, 22 42:5, 14  
 44:6, 11 45:6 47:10, 16  
 48:3, 5, 22 49:1 51:10  
 52:17 53:14, 25 54:12, 13,  
 24 55:12, 16 56:1, 5, 10,  
 15 57:17 58:4, 16, 18  
 59:17 60:14, 17 61:18  
 66:17 67:3, 7, 20 68:21  
 69:18 70:10, 16, 24 71:23  
 72:3 73:12, 13 74:10  
 77:6, 18 81:3, 12 82:3, 10  
 83:7, 15 84:6, 8, 14, 24  
 85:5 87:11, 19 88:13, 24  
 89:2, 10, 16 90:8, 11, 15,  
 18, 22 91:6, 18, 20 92:13,  
 16, 18, 24 93:9, 15 94:3,  
 14 95:2, 11 96:7, 17  
**adopt** 67:1  
**adopted** 66:18  
**adoption** 54:20  
**adults** 46:6  
**advance** 90:10, 14 91:24  
**advancements** 54:6  
**advances** 47:11  
**advantage** 26:22  
**advantages** 13:18

**adversaries** 8:6 23:7  
 28:18 52:13, 16 54:17  
 58:11 67:18 83:9 85:21  
**adversary** 33:6 70:7 95:9  
**advice** 28:20 75:11  
**advise** 75:10  
**advocate** 51:17  
**Aegis** 17:22 19:4  
**Affairs** 43:9, 14, 15  
**affect** 51:12 53:12 54:6  
 71:25  
**afford** 32:3 35:20  
**afloat** 17:22  
**afterthought** 67:4  
**age** 4:25  
**agencies** 15:13 25:22  
 60:20 82:8  
**agency** 13:16  
**agenda** 81:14  
**ages** 52:24  
**aggression** 13:2 17:6  
 40:7, 8 44:16 70:11 73:8  
 74:21  
**aggressive** 8:17  
**Agnes** 43:14  
**ago** 12:13 50:14 61:25  
 75:16, 24 76:11, 12 80:2  
**agree** 56:1 75:7 79:12  
 82:2 90:3, 4  
**agreement** 41:6 56:14  
 63:11  
**agreements** 20:4 23:16  
 25:17 63:10  
**Air** 18:13 26:1 42:21  
 43:1, 12, 16 46:3 52:20,  
 22 53:1 59:24 60:3 80:8  
 90:24  
**airborne** 42:8  
**air-launched** 8:25  
**airmen** 7:16 14:15  
**airplane** 35:13  
**airplanes** 35:14  
**airtime** 50:2  
**Alabama** 64:12 65:22  
 78:14  
**alert** 36:13  
**algorithms** 62:17  
**alliance** 81:5, 13  
**allied** 12:1 13:12 81:10  
**allies** 3:18 8:16 11:21  
 13:8 14:4 16:15, 24 17:5  
 23:8 24:16 66:24 67:18  
 68:20 79:9, 13, 21 80:12  
 84:5, 20  
**allow** 44:13 45:7 96:11  
**allowed** 49:3  
**allows** 63:12  
**altering** 5:2  
**alternative** 57:25  
**America** 32:4 84:19

American 72:5 81:10 87:16	arsenal 21:15 54:16 70:6, 20 78:14 88:11 89:4, 19	21 39:2 63:11 76:15 86:13, 15	biggest 46:10 86:8 bill 73:24
Americans 20:14 21:6, 7 32:2	articulate 42:17 86:12	aye 43:24	billion 56:24 57:12 74:20
America's 89:4	artificial 26:10	ayes 43:25	biological 67:3
amount 57:11 71:21	ascent 13:5	< B >	bipartisan 78:12
amplifying 92:19	Ashore 17:22	B-52s 42:21	bit 15:9 32:8 35:4
analysis 44:21 56:9, 11, 13, 21 63:24 67:12 81:7	asked 2:14 22:14, 20, 21 34:24 39:18	back 5:7 9:4 15:22 19:10 24:1 30:11 37:8, 10 40:9, 25 42:22 45:22 46:18 49:10 50:18 51:3 58:14 59:4 60:13 61:15 62:7, 13 71:14 72:10, 19 75:2 77:25 78:2 81:24 82:22 83:12, 25 85:14 86:11 94:14	36:11 39:13 45:9 54:4 58:14 59:13 75:16, 19, 20 76:4 87:14
analyst 95:19	asking 22:3 55:13 57:14	backbone 13:24 18:21	Blackburn 1:18 51:6, 7 53:10, 23 54:1, 9 75:3
analytic 81:14	asks 84:7	backstop 68:4	block 41:17
analyze 13:14	assess 48:16 50:9	bad 92:7	blocking 33:13
and/or 69:23	assessed 89:20	balance 46:1	Blumenthal 1:16
animosity 39:22	assessment 15:2 16:14 21:1 60:14 64:22	ballistic 9:1 50:3 60:7	BMD 17:22 19:4
announcement 44:7	asset 77:1 81:5	barring 23:16	board 39:5 60:21
answer 16:1 20:12 23:5, 6 28:25 30:19 32:10, 25 34:13, 15 44:12 45:7 54:3 60:18 69:21 75:6 84:9, 14 85:6 89:17	assets 12:11 13:8 18:6, 23 19:11 31:24 32:23 33:13 45:3 76:22	base 24:7 38:9, 12 60:21 61:1 62:16 63:22	boils 96:6, 10
answers 51:21	assigned 11:17, 22	based 15:13 29:6 36:24 39:13 65:15 66:5, 7 74:24 83:9, 10 93:2	boldness 74:15
anticipate 5:14 44:25	assist 17:6 31:25	basic 37:9 92:13	bolster 96:4
anti-satellite 12:16 49:22, 23 50:1	Assistant 43:9, 10, 13, 14, 16	basically 40:12 58:24 85:4	bomber 9:2 42:9
anybody 59:7	associated 4:21	basis 62:8 63:18 92:4	bombers 30:24
anybody's 33:2	assume 69:15 95:25	battle 68:8	border 3:25
anymore 82:13	assumed 77:23	bear 18:3	bottlenecks 37:20
anyway 74:12	assumption 8:11	beat 85:23	bottom 60:20
appearance 94:15	assurance 17:1, 5, 7 23:10	becoming 4:13	breakout 8:2 69:9 70:4
appearing 5:11	assurances 68:19	bedrock 3:6 93:7	87:13, 16 92:21
appears 36:13 57:5 80:18	assure 7:15 14:13 67:18	began 4:23	breathtaking 8:3
appetite 79:16	astonishing 20:20	beginning 28:3 31:9 33:18	briefing 6:2
applaud 67:21, 23 82:10 83:15	astronauts 50:24	behalf 14:14 21:14	bring 39:4 45:21 46:6 59:19 75:20
applied 29:15	Atlas 80:17	behavior 2:24 8:17 13:3 24:3, 12, 15, 24 25:7	bringing 18:6 46:12
appreciate 43:2 52:3 60:8 61:4 73:21 75:5, 13, 15 78:4, 12	atrophy 60:22	Beijing 95:25	brings 12:12 96:2
appreciated 74:15	attack 4:9 24:19 30:19 33:5 34:6 66:20, 24 67:2, 5 95:12	Beijing's 3:14	broad 56:13
apprehension 36:20	attacks 48:6	Belarus 45:2	broader 13:19, 22 44:13 81:21
approach 11:15 78:12	attempt 95:23	believe 22:23 23:7, 8 57:13 69:15 84:19 86:6	broadly 81:18
appropriate 19:22 35:17 36:3 51:13, 22 64:19, 23	attention 49:23 75:5	beneath 93:13	brought 18:2 68:14 73:3
appropriation 60:9	attract 45:25 46:4	benefit 35:17 59:1 82:24	budget 16:2 25:12 60:10 83:17 84:1
appropriations 61:8	attracting 14:7 66:9	benefits 56:2 60:5	budgets 84:1
approximately 11:6 96:19	attribute 14:1 59:19	Beshar 43:11	build 35:20 41:6 54:5 65:11 71:22
April 8:4	attributes 43:1 88:17	best 21:9 28:20 55:2 59:5 60:17 75:11 91:10 93:21	Building 1:13 3:24 11:12, 13 14:8 25:24 46:13 47:2 65:24 88:11, 21
architecture 13:20, 22 26:6 42:2 76:14, 25 96:4	augmentation 32:22 45:17	better 2:23 4:12 16:9 25:24 30:2, 5, 6 68:22	builds 12:24
Arctic 76:1	augmented 45:10	beyond 55:2, 20 81:12	built 8:25 9:1, 2 33:18, 20
area 63:2	augments 77:4	Biden 89:3	burden 18:16
areas 14:5 38:4 40:4 54:19 60:23	August 46:20	big 32:20 50:12 60:20	burn 42:22
argue 67:14	Austin 7:11	bigger 81:20, 25	buy 15:22 60:19
Armed 1:9 3:8 11:4 24:19	authoritative 18:19	< C >	buying 57:3
arms 23:17	authorities 47:5, 8 52:21	C2 62:18	
Army 43:15 46:12	authority 57:4	cadence 91:14	
array 54:15 76:6	AUTHORIZATION 1:3	calculations 70:2	
	available 18:19 20:9 30:9, 12 49:11 55:2	calculus 40:11, 15	
	avoid 19:23 48:17	call 2:3 27:23 30:1	
	aware 65:4 81:2		
	awareness 4:13 13:13 17:19 25:6 30:4 38:7, 16,		

36:20 63:10 70:25 <b>called</b> 14:2 63:21 79:25 <b>calling</b> 55:1 <b>Calvelli</b> 43:16 <b>Campus</b> 93:24 <b>cancel</b> 91:3 <b>cancellation</b> 51:24 52:2, 15 <b>cancelled</b> 52:18 90:7, 16 <b>capabilities</b> 3:22 13:10, 14, 19 14:3 15:6 18:2 25:24 26:3 28:8 32:19 33:20 37:22, 25 38:13, 21 41:3 45:5 47:12 49:22 50:1, 9 53:17, 24 54:15 61:1 67:15, 16, 22, 25 69:1, 6 70:20 78:2 85:11 86:21 87:3, 14 89:10, 18 94:11, 16 95:7 96:9, 12 <b>capability</b> 7:22 8:10, 14 11:13 12:9, 15, 23, 25 15:10, 17 19:6, 7, 8 22:7, 16 29:2, 5 30:9, 21 33:11 37:19 38:8 40:23 41:20, 25 42:3, 25 46:13, 20 47:1, 20 50:4 60:14, 23 64:8 65:11, 14 66:2 67:25 68:4 76:18 77:2, 3, 4 83:23 84:4 85:4 87:1, 25 88:3, 14 89:18, 21 93:2, 16 <b>capable</b> 52:13 71:7 88:11 <b>capacity</b> 11:14 22:7, 16 29:5 38:14 47:3, 20 60:23 64:14 83:24 93:2 <b>captures</b> 69:12 <b>careful</b> 52:4 <b>carefully</b> 41:8 45:21 53:4 91:11 <b>Caribbean</b> 32:5 <b>carries</b> 44:1 <b>case</b> 31:12 39:24 76:1 77:17 91:21 <b>categorize</b> 25:22 <b>cause</b> 36:19 92:6 <b>caution</b> 37:7 <b>Cavalier</b> 75:22 76:6 <b>CBW</b> 66:24 <b>cell</b> 33:24 38:11, 18, 20 <b>cells</b> 42:4 <b>CENTCOM</b> 28:1 <b>Center</b> 82:4, 8 <b>century</b> 2:23 <b>certain</b> 26:24 42:16 45:22 <b>certainly</b> 20:9 58:12 59:10 64:1 67:7 76:12 79:11 80:18, 20 85:12 <b>certainty</b> 20:14 <b>certification</b> 71:10, 25	82:18 <b>certify</b> 16:2 <b>chain</b> 80:20 <b>chains</b> 60:15 <b>Chair</b> 23:11 43:3 47:25 58:7 <b>chairman</b> 1:14 2:3 6:1 7:3, 11, 19 10:1 11:4 14:16 15:1, 12 16:10 17:9, 16 18:15, 21, 25 19:1, 12, 14 21:5, 13 22:18 23:12, 14 27:4, 5, 8 29:22 31:5, 6, 8 34:17, 20 39:7, 8 43:4, 22, 24 44:1, 4 48:1, 3 51:5, 7 54:8, 9, 11 57:16 58:5 61:16, 18 66:14, 16 70:12, 13, 15 71:16, 20 74:6, 7, 9 78:5, 6, 20, 22 79:2, 4 83:1, 2, 4 87:8, 9 92:9, 11 96:16, 17 <b>challenge</b> 12:7 <b>challenges</b> 12:5 25:12 64:2, 13 71:11 73:2 <b>chamber</b> 57:15 58:2 <b>change</b> 3:13 22:24 29:17 40:15, 16 88:7, 22 93:2 <b>changed</b> 2:20 16:21 67:5 <b>changes</b> 16:16, 20 17:1 28:21 44:7, 9 79:14 82:24 84:12 <b>changing</b> 22:4 30:16, 19 59:1 94:22 <b>channel</b> 48:13 <b>characterize</b> 13:17 <b>charge</b> 62:2 76:21 <b>charged</b> 24:1 <b>Charles</b> 2:5 7:1 <b>chemical</b> 67:3 <b>China</b> 2:13 3:9, 15, 21 12:7 39:20, 23 40:3 47:11 64:3, 7 68:24 69:20, 24 80:25 83:9, 14 84:4 85:10, 13 86:6 87:25 92:15, 20 94:14, 16, 19, 20 95:9 <b>China's</b> 3:11 25:15 49:22 69:8, 16 70:4 94:24, 25 <b>Chinese</b> 41:5 50:19 85:14 87:12 94:21 <b>choose</b> 89:23 <b>Chorus</b> 43:25 <b>Christopher</b> 43:10 <b>City</b> 93:24 <b>civil</b> 23:17 41:5, 8, 11 <b>civilian</b> 43:6 46:1, 2 <b>civilians</b> 7:17 11:17 14:16 45:11 46:3 48:8 <b>clarification</b> 34:23 36:6, 11 <b>clarify</b> 35:4	<b>clarity</b> 51:21 74:13, 15 83:5 <b>clashing</b> 75:14 <b>class</b> 29:7 84:16 <b>classic</b> 95:12 <b>classified</b> 6:2 <b>clear</b> 16:24 21:25 29:3 67:24 <b>clearer</b> 3:19 <b>clearly</b> 42:17 48:10 <b>close</b> 68:1 70:1 75:5 86:24 <b>closed</b> 7:10 15:4 21:1, 24 28:25 34:14, 16 36:19 44:12 45:7 49:14 51:2 57:21 73:11, 20 84:15, 25 85:6 87:23 88:9 90:2 95:3 <b>colleague</b> 78:11 <b>colleagues</b> 6:1 21:5 <b>collision</b> 61:24 63:5 <b>Colorado</b> 38:18 64:11 <b>combat</b> 14:3 85:10 <b>combatant</b> 7:5 24:11 27:21, 24 28:1, 9, 10 31:2 32:8 44:18 81:20 82:6 87:1 92:2 <b>combination</b> 67:25 <b>combined</b> 11:15 13:15 14:12 71:17 79:25 <b>come</b> 4:2 50:17 51:10 58:2 59:4 61:6, 22 82:22 <b>comes</b> 30:21 58:1 61:9, 12 68:15 72:10 <b>comfortable</b> 83:11 <b>coming</b> 32:16 33:14 76:1 79:17, 23 80:9 <b>COMMAND</b> 1:2, 3 2:6, 7, 16, 17 3:12 4:6, 14, 19, 22 7:2, 17 9:3 11:2, 7, 12 12:4 13:7, 9, 20, 23 14:9, 10, 13, 15, 16 17:11 19:10 22:1 24:11 25:5 26:11, 13, 16, 18, 23, 24, 25 27:10, 11, 19 29:24 30:25 31:4 32:21 33:16, 21, 25 34:3, 25 35:1, 5, 8, 18, 19, 23, 24	36:1, 8, 10, 21, 22 37:3 38:2 44:19 46:1, 6, 11, 13, 21 47:3 48:23 50:8 54:7, 22 55:14 59:20 60:24 62:8 64:13 65:1 66:9 67:10 68:13 69:19 70:20 71:15 72:11 73:15 78:13 79:20 80:6 81:21 83:20 87:2 92:2 <b>Commander</b> 2:5, 7 7:1, 5 11:1 20:6 23:22 28:10 29:25 30:2 31:2 32:9 51:16, 19 <b>commanders</b> 2:14 55:1 61:2 <b>commander's</b> 31:2 <b>commands</b> 2:10 4:8 27:12, 21, 25 28:2, 4, 9 44:18 46:9 82:6 <b>Command's</b> 13:24 <b>comment</b> 20:24 51:13 <b>commenting</b> 21:1 <b>commercial</b> 23:17 32:11, 16, 17, 20 37:21 38:3, 5, 8, 10, 11, 19, 21 39:4 41:19 42:4 49:17 54:4, 5 63:9, 13 <b>commit</b> 74:20 <b>commitment</b> 3:18 16:15 75:6 83:6 <b>commitments</b> 23:10 <b>committed</b> 13:9 <b>Committee</b> 1:9, 12, 14, 15 2:4 7:4 11:5 14:17 16:19 21:12 39:18, 19 40:1 43:5 48:20 54:14 61:6, 9 64:4 78:24 94:15 <b>common</b> 18:6 59:17 <b>communication</b> 18:22 48:13, 17, 24 <b>communications</b> 3:13 4:7 26:7, 9 38:6, 8, 14 <b>Communist</b> 83:14 84:4 85:10 86:6 <b>community</b> 69:20 <b>companies</b> 63:10, 19 <b>company</b> 32:16 63:13 <b>comparison</b> 68:9 <b>compel</b> 94:17 <b>competencies</b> 25:15 <b>competing</b> 26:8 <b>competition</b> 2:13 <b>competitive</b> 14:6, 8 37:18 <b>competitor</b> 85:17 <b>competitors</b> 5:3 12:5 65:12, 13 68:15 <b>complete</b> 68:17 70:23 <b>completely</b> 35:20 37:14 <b>completion</b> 3:11 65:7 <b>complex</b> 9:4, 7 15:18 22:2 28:14 60:24 94:10
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complicated 39:15 compliment 74:17 components 34:3 87:21 composition 11:14 composure 74:17 75:1 concepts 39:12 81:8 concern 8:3 36:9, 15, 20 41:4 50:4 60:20 86:8 <b>concerned</b> 23:15 40:6, 7 48:11 73:5 <b>concerning</b> 34:25 48:7 69:12 <b>concerns</b> 37:2 56:19 64:19 78:19 <b>concessions</b> 20:22 <b>concluded</b> 57:19 <b>concur</b> 15:2 <b>concurs</b> 43:19 <b>conditions</b> 7:14 14:1 53:9 78:16 <b>conduct</b> 14:18 71:3 72:7, 24 <b>conducted</b> 2:25 50:14 90:8 <b>conducting</b> 65:5 <b>conducts</b> 3:3, 4 <b>confidence</b> 53:8 72:9, 23 90:25 <b>confident</b> 47:18 72:11 <b>conflict</b> 3:8, 21 4:1 27:13 48:8 95:22 <b>confront</b> 8:17 <b>congested</b> 82:13 <b>congratulations</b> 75:1 <b>Congress</b> 14:9 16:2 60:12 83:10, 12, 25 96:3 <b>connection</b> 41:15 <b>conscious</b> 47:16 88:18 <b>consensus</b> 77:13 <b>consent</b> 78:8 <b>consequence</b> 82:23 94:10 <b>consequences</b> 16:8 77:10 <b>consider</b> 28:21 33:4 43:6 52:1 <b>considered</b> 17:2 37:13 <b>considering</b> 21:10 90:6 <b>consistent</b> 85:9 88:1 96:10 <b>constant</b> 18:21 <b>constitutes</b> 24:19 <b>construction</b> 71:6 <b>consulted</b> 19:20 54:22 55:14 <b>contested</b> 3:21 41:18, 21 82:13 <b>context</b> 49:21 64:10 74:22 <b>contingencies</b> 66:22 <b>continue</b> 6:3 50:17 61:8 70:22 76:19 83:21, 22 89:25 92:8	<b>continued</b> 7:12 14:8 70:5 94:19, 20 <b>continues</b> 73:9 <b>continuous</b> 14:11 <b>contract</b> 56:25 57:4 <b>contracting</b> 25:19 <b>contractors</b> 11:18 45:17 <b>contrast</b> 78:18 <b>contributes</b> 71:9 <b>contributions</b> 11:22 <b>control</b> 3:13 4:6 9:3 13:20 22:2 26:11, 13, 16, 18, 23, 24 27:1 30:25 31:4 34:25 35:1, 2, 5, 9, 18, 19, 23, 24 36:1, 8, 10, 21, 22 37:3 59:20 60:24 62:16 73:15 83:20 <b>convention</b> 66:23 <b>conventional</b> 23:16 26:16, 23 35:1, 6, 8, 18 44:16 54:18 <b>conventionally</b> 31:1 <b>conversation</b> 61:22 <b>conversations</b> 64:4 <b>cooperate</b> 39:23 85:20 <b>cooperating</b> 39:17, 25 <b>cooperation</b> 39:19 40:3 79:16 <b>cooperative</b> 40:8, 18 <b>cores</b> 60:16 <b>Corporation</b> 81:23 <b>correct</b> 45:16 63:4 67:8 78:10, 21 90:8, 10, 11, 14, 17 <b>corrosive</b> 23:9 53:15 <b>cost</b> 59:1, 3 65:22 <b>Cotton</b> 1:17 87:10, 11 88:10, 20 89:2, 15 90:3, 13, 16, 19 91:1, 15, 19, 22 92:9, 14, 20 <b>Council</b> 15:24 <b>Counsel</b> 43:11 <b>counter</b> 12:14 47:14 49:21 <b>countering</b> 14:6 <b>countries</b> 63:19 80:4 <b>country</b> 3:10 32:6 33:6 34:22 68:17 70:18 71:5 83:6 96:15 <b>couple</b> 8:23 27:16 32:14 38:2 45:23 46:15, 16 49:1, 23 50:13 58:18 66:1 76:5 80:1 84:11 <b>coupled</b> 52:6 <b>course</b> 23:3 71:8 74:24 75:20, 25 76:2 83:16 <b>coverage</b> 41:14, 17 <b>craft</b> 53:5 <b>Cramer</b> 1:18 74:8, 9 75:13 77:6 78:4, 6	<b>crazy</b> 84:22 <b>create</b> 50:5 <b>created</b> 86:19 <b>creating</b> 12:8 <b>credence</b> 88:25 <b>credibility</b> 72:12 <b>credibly</b> 67:17 <b>credit</b> 42:20 <b>crime</b> 48:10 <b>criminal</b> 20:20 21:11 <b>cripple</b> 95:23 <b>crisis</b> 7:7 8:22 22:11 29:13 48:20 93:3 <b>criteria</b> 61:25 62:1 63:5 <b>criterion</b> 63:17 <b>critical</b> 11:16 12:10 14:14 21:18 25:15 48:17 76:13, 16 77:14 86:15 90:20 <b>criticized</b> 44:21 <b>crossed</b> 15:19 <b>crucial</b> 93:20 <b>cruise</b> 8:25 89:9 <b>CSPOC</b> 80:1 <b>Current</b> 12:7 16:16 34:11 47:12 61:24 65:19 <b>currently</b> 19:18 20:10 21:16 49:16 <b>customer</b> 25:21, 23 <b>customers</b> 42:15 <b>cut</b> 89:4, 8 <b>cutting</b> 90:6 <b>cyber</b> 18:18 33:12, 17, 20, 24 48:14 54:16 67:15 73:1, 8, 17, 18 <b>cyberattack</b> 73:6 <b>CYBERCOM</b> 34:2, 4 <b>cybersecurity</b> 36:22 <b>cycle</b> 4:25  <b>&lt; D &gt;</b> <b>D.C</b> 1:10 <b>daily</b> 62:8 <b>Dakota</b> 75:4 <b>damage</b> 16:7 <b>dangerous</b> 2:24 48:18 57:11 <b>data</b> 18:16 <b>database</b> 18:18 <b>date</b> 5:7 37:10 42:22 49:9 <b>dates</b> 9:4 53:20 71:14 <b>dating</b> 30:10 <b>day</b> 27:15, 18 30:8, 12 31:22 32:2 33:7 40:10, 19, 22 49:11 50:16, 22 62:11, 19 80:13 85:25 <b>days</b> 74:24 90:7 <b>day-to-day</b> 28:5, 12 53:4 <b>DEA</b> 33:2	<b>deal</b> 19:19 20:17 24:20 <b>death</b> 25:9 32:1 <b>debates</b> 56:21 <b>debris</b> 12:19 50:5, 15 61:23 62:6 63:1, 15 <b>decade</b> 57:12 61:25 69:25 <b>decided</b> 16:23 23:4 91:16 <b>decision</b> 13:18 21:8 30:18, 25 40:11, 15 48:20 49:7 64:4, 20 65:9, 10, 15 76:3, 8, 16 <b>decision-making</b> 26:11 <b>decisions</b> 64:25 82:23, 24 89:13 <b>declaration</b> 66:19 <b>declaratory</b> 16:12, 17, 21 22:25 <b>declared</b> 46:19 <b>deconfliction</b> 35:12 <b>decreased</b> 67:6, 8 <b>deemed</b> 20:1 <b>deeply</b> 16:12 <b>de-escalated</b> 92:1 <b>defeat</b> 85:10, 22 <b>defend</b> 13:7 14:3, 11 21:2 32:6 53:21 61:2 70:3 <b>DEFENSE</b> 1:3, 4 3:6 7:13 8:2, 10, 14 13:11 17:20 19:17 23:23, 24 24:1, 3, 8, 15 30:3, 12, 22 32:9 38:19 39:12 43:8, 9, 10 47:17 55:18 57:10 60:25 75:10 76:15 79:16 80:17 81:10, 17, 21 82:5 83:21 87:20 93:16 <b>defensive</b> 30:7 58:25 <b>defer</b> 7:8 59:23 60:18 77:18 89:16 <b>definitions</b> 37:9 <b>defunct</b> 12:21 <b>degraded</b> 80:25 <b>degree</b> 2:25 36:3 42:9 90:4 <b>degrees</b> 46:7 <b>delay</b> 15:24 53:11, 14 77:8, 15, 23 <b>delayed</b> 72:21 <b>delays</b> 53:19 71:13 72:1 <b>deliberate</b> 33:16 <b>deliver</b> 14:3 15:16 26:3 <b>delivered</b> 14:12 <b>delivery</b> 60:24 80:16 <b>demand</b> 19:10 32:21 42:19, 23 <b>demanding</b> 25:23 <b>demands</b> 12:2 <b>demonstrate</b> 91:12 <b>demonstrated</b> 12:22 68:1
--	--	--	---

<p><b>demonstrations</b> 12:15, 24 69:1, 7</p> <p><b>Department</b> 8:9, 14 13:11 18:12 20:4 23:23, 24 24:3, 5, 7, 9, 11, 15 26:1 30:22 32:9 43:8, 12 45:21 46:3 81:17, 21 82:5, 11, 18 83:16, 21 87:6 93:16</p> <p><b>deployed</b> 45:3, 5</p> <p><b>deputy</b> 20:6</p> <p><b>dereliction</b> 32:5</p> <p><b>descent</b> 12:16</p> <p><b>Describe</b> 41:19</p> <p><b>described</b> 12:19</p> <p><b>deserves</b> 22:20</p> <p><b>designated</b> 27:10</p> <p><b>designed</b> 8:15 53:6, 7 60:2, 4 75:25 88:16 89:6, 20 95:13</p> <p><b>desire</b> 19:23</p> <p><b>desired</b> 45:12</p> <p><b>despite</b> 88:10</p> <p><b>destroyed</b> 50:14 85:14</p> <p><b>destroying</b> 3:24</p> <p><b>destructive</b> 13:4 68:1</p> <p><b>detail</b> 21:24 36:19 37:1 44:12 49:13 84:24 87:22 88:8</p> <p><b>detailed</b> 79:8 91:2</p> <p><b>details</b> 28:24 90:2</p> <p><b>deter</b> 8:6 14:2 21:3 29:9, 10 40:9 54:17 55:3 59:6 67:18 68:5 69:3 72:12 83:8, 13 85:22 94:4, 12 95:12</p> <p><b>determine</b> 55:24 57:1</p> <p><b>deterring</b> 95:11</p> <p><b>deterrance</b> 3:17 7:12, 18 8:11, 12, 13, 16, 21, 22, 23 13:11 16:15 17:1, 5 22:9, 11, 12 23:8, 9 44:20 52:8 54:20, 25 55:7, 8, 10 58:20 61:6 67:23 68:3, 11 74:21 80:10 81:8, 15, 24 86:1 88:1, 4, 14 89:11 93:3, 11, 17, 22 94:23</p> <p><b>deterrant</b> 2:11 3:6 21:19 56:24 72:11 83:19 90:20 92:23 93:8, 9, 25</p> <p><b>deterring</b> 13:9 66:23 67:1 95:8</p> <p><b>develop</b> 3:9 13:16 39:3 50:4 94:20</p> <p><b>developed</b> 57:14 61:25</p> <p><b>developing</b> 23:19 26:6 56:3 73:3 74:2 85:9</p> <p><b>development</b> 3:11 12:8 37:19 40:24 73:23 80:18 85:18</p>	<p><b>developments</b> 48:7</p> <p><b>DHS</b> 33:3</p> <p><b>Dickinson</b> 2:6, 8 4:3, 14 7:5 10:2 11:1, 3 14:21 15:1 17:10, 16 18:24 19:2, 15 23:15, 21 24:22 25:20 27:10, 14 31:19 32:7 33:15 37:17 38:1 40:20, 21 41:10, 23 45:8, 15 47:8 49:16 50:7, 11 54:1, 12 61:19, 21 62:4, 25 63:7, 20 65:3, 23 66:4, 7 70:17 73:5, 10 75:9 76:10 78:12 79:7, 19 80:14 81:2 85:7, 12, 24 86:4, 10, 18, 22 96:6</p> <p><b>Dickinson's</b> 44:18</p> <p><b>dictatorship</b> 20:18</p> <p><b>difference</b> 88:15</p> <p><b>different</b> 12:21 15:18 22:12 24:17 27:16 37:14 55:8 61:5 65:2 80:4</p> <p><b>differently</b> 47:15 77:20 95:12</p> <p><b>dimension</b> 41:11</p> <p><b>diminishing</b> 53:24 67:17</p> <p><b>diminishment</b> 53:17</p> <p><b>direct</b> 12:16 13:5 46:20 48:13, 16</p> <p><b>directed</b> 12:8</p> <p><b>direction</b> 66:1</p> <p><b>directive</b> 61:9</p> <p><b>directly</b> 75:10</p> <p><b>directorate</b> 33:25</p> <p><b>Dirksen</b> 1:13</p> <p><b>disappointed</b> 51:21, 23, 25</p> <p><b>discourse</b> 67:9</p> <p><b>discuss</b> 4:1 37:20</p> <p><b>discussed</b> 55:21</p> <p><b>discussing</b> 33:5 49:25</p> <p><b>discussion</b> 6:4 33:11 58:15 61:12</p> <p><b>discussions</b> 20:16 24:17 89:8</p> <p><b>disinformation</b> 48:15</p> <p><b>disposal</b> 68:5</p> <p><b>disproportionate</b> 95:15</p> <p><b>distinguished</b> 7:3 21:12</p> <p><b>disturbed</b> 32:25</p> <p><b>diverse</b> 11:7</p> <p><b>divide</b> 69:20</p> <p><b>DN</b> 12:15</p> <p><b>DN-1</b> 12:15</p> <p><b>DNA</b> 42:13</p> <p><b>docked</b> 12:20</p> <p><b>doctrine</b> 3:14 94:22</p> <p><b>DoD</b> 25:17 26:5, 8 30:1 56:25 57:4, 5 65:5 69:11</p> <p><b>DoD's</b> 4:13</p> <p><b>doing</b> 8:24 18:13 20:9 26:16, 18 38:24 44:19</p>	<p>70:1 72:17 79:17 82:20 85:18, 25 86:9</p> <p><b>dollars</b> 74:23</p> <p><b>domain</b> 3:21 7:23 12:6 13:13, 21 14:11 17:19 18:4 19:6 24:20 25:3, 6, 25 28:11 38:7, 14, 16, 21, 23 39:2 40:2, 23 50:13 76:15 79:18 85:8, 18 86:13, 14 87:4</p> <p><b>domains</b> 80:8, 22</p> <p><b>domestic</b> 60:15</p> <p><b>double</b> 69:24</p> <p><b>doubt</b> 21:10</p> <p><b>Dr</b> 43:8, 14</p> <p><b>draft</b> 78:15</p> <p><b>dramatic</b> 88:7</p> <p><b>driven</b> 46:16 79:13</p> <p><b>drove</b> 88:6 89:21</p> <p><b>drug</b> 31:24, 25</p> <p><b>dual-hatted</b> 34:3</p> <p><b>dual-use</b> 12:22, 25</p> <p><b>duty</b> 32:5</p> <p><b>dying</b> 33:4</p> <p><b>dynamic</b> 39:14, 15</p> <p><b>dynamics</b> 8:23 22:9 29:13 37:11, 14 44:20 81:15 93:4</p>	<p><b>&lt; E &gt;</b></p> <p><b>earlier</b> 30:11 77:7 89:2</p> <p><b>early</b> 18:1 75:25 76:1, 13</p> <p><b>earth</b> 17:13 50:16</p> <p><b>echo</b> 57:15 58:2 73:12</p> <p><b>edge</b> 14:8 37:18 81:11</p> <p><b>effect</b> 37:12 46:24 53:19 89:20, 23 95:15</p> <p><b>effectively</b> 25:17 49:17</p> <p><b>effectiveness</b> 71:4</p> <p><b>effects</b> 14:12 16:25 37:5, 14 47:2</p> <p><b>efficiencies</b> 42:24</p> <p><b>efficient</b> 64:5</p> <p><b>effort</b> 33:16 53:1 60:11 62:1 67:23 73:17</p> <p><b>efforts</b> 5:5 12:11 18:14 27:12 30:7 53:13 56:21 59:14 65:4, 7 67:21 79:24 96:4</p> <p><b>either</b> 22:6, 7 28:12 40:3 80:24 89:22</p> <p><b>elaborate</b> 15:9 48:23</p> <p><b>electromagnetic</b> 42:10, 16 82:4, 6, 12, 20</p> <p><b>element</b> 16:12 34:1</p> <p><b>elements</b> 28:3</p> <p><b>eliminating</b> 37:20</p> <p><b>Elon</b> 41:13, 24</p> <p><b>embedded</b> 34:2</p> <p><b>emboldens</b> 70:11</p> <p><b>emergency</b> 92:4</p> <p><b>emerging</b> 47:13</p> <p><b>EMP</b> 42:9, 12, 16</p> <p><b>emphasis</b> 25:18</p> <p><b>emphasized</b> 8:5 58:19</p> <p><b>employ</b> 84:22</p> <p><b>employment</b> 42:19 88:5 95:1</p> <p><b>EMS</b> 82:4, 8, 14</p> <p><b>enable</b> 8:16 53:16 88:17</p> <p><b>enables</b> 13:20 14:2 88:4</p> <p><b>enacted</b> 84:2</p> <p><b>encouraging</b> 79:12</p> <p><b>encrypted</b> 18:22</p> <p><b>endorse</b> 54:24</p> <p><b>endorsed</b> 95:7</p> <p><b>endpoints</b> 22:6</p> <p><b>engage</b> 94:25 95:20, 21</p> <p><b>engaged</b> 19:18</p> <p><b>engines</b> 42:21 80:16</p> <p><b>English</b> 87:15, 17</p> <p><b>enhance</b> 23:8</p> <p><b>enjoy</b> 76:10</p> <p><b>ensure</b> 42:12 73:17</p> <p><b>Ensuring</b> 4:7 14:11</p> <p><b>enter</b> 20:3 41:18</p> <p><b>entered</b> 41:5</p> <p><b>enterprise</b> 38:15 80:6 96:9</p> <p><b>enterprises</b> 39:1</p> <p><b>entire</b> 5:2 59:18 66:12 76:25 81:23</p> <p><b>entirely</b> 12:21 52:14</p> <p><b>environment</b> 8:18 58:21 69:15 94:12</p> <p><b>environmental</b> 64:19 78:15, 17, 18</p> <p><b>environments</b> 41:19</p> <p><b>equation</b> 33:17</p> <p><b>equivalent</b> 31:3 71:18 81:25</p> <p><b>era</b> 9:5 71:15</p> <p><b>Ernst</b> 1:18 58:6, 7 59:8 60:8 61:3, 16 73:3</p> <p><b>escalate</b> 7:22 91:4</p> <p><b>escalated</b> 92:1</p> <p><b>escalation</b> 21:17 44:16 48:11, 19 93:13</p> <p><b>escalatory</b> 3:2 48:10 91:7, 23</p> <p><b>especially</b> 5:3 28:15 50:2 52:4 74:14 84:20</p> <p><b>essential</b> 5:9</p> <p><b>essentially</b> 4:13</p> <p><b>established</b> 33:24 48:12</p> <p><b>establishment</b> 29:23 82:3</p> <p><b>estimate</b> 69:19</p> <p><b>estimates</b> 69:11</p> <p><b>EU COM</b> 27:25</p> <p><b>Europe</b> 11:11 13:2 45:5</p>
--	---	--	---

<b>European</b> 3:7 48:23 <b>evaluation</b> 65:5 <b>event</b> 46:18 85:16 <b>events</b> 28:6 46:15 <b>everybody</b> 49:5 <b>evolutions</b> 53:6 <b>exact</b> 29:24 <b>exactly</b> 15:24 57:19 <b>examine</b> 55:24 <b>examined</b> 89:11 <b>example</b> 13:5 17:4 20:6 30:24 42:20 46:18 50:18 56:22 59:5 62:13 63:13 79:24 80:2, 4, 8, 21 81:16 91:25 95:4 <b>examples</b> 30:23 38:4 <b>exceeding</b> 69:11 <b>excellent</b> 51:16 81:5, 16 <b>exception</b> 71:16 <b>Excuse</b> 55:12 <b>execute</b> 7:18 12:3 29:2 53:18 88:3, 4 <b>executing</b> 8:21 11:15 88:12 <b>exercise</b> 3:1 <b>exercised</b> 27:15 <b>exercises</b> 3:3 27:16, 17 28:6 46:14 <b>exists</b> 89:22 <b>expand</b> 37:22 38:13 39:5 50:7 51:2 62:13 79:17 <b>expanded</b> 32:18 37:23 38:10 <b>expanding</b> 38:6 68:25 69:16 <b>expansion</b> 3:15 8:2 80:3 <b>expect</b> 4:2 24:14 46:11 62:2 83:17 86:23 <b>expected</b> 19:5 <b>expensive</b> 57:3, 7 <b>experience</b> 19:25 22:13 84:17 <b>experiments</b> 71:3 <b>expert</b> 50:21 <b>expertise</b> 12:2 20:5 27:21 28:10 33:20 46:21 66:9 <b>experts</b> 57:1 73:19 <b>expired</b> 96:13 <b>explain</b> 22:25 57:20 87:14, 17 94:1 95:5 <b>explicit</b> 92:22 <b>exploded</b> 32:18 79:22 <b>explore</b> 54:4 <b>explosion</b> 32:11 <b>explosive</b> 89:6 <b>exposed</b> 2:18 <b>expressed</b> 8:4 <b>exquisite</b> 19:7 38:25	<b>86:12, 13</b> <b>extend</b> 2:9 3:22 58:17 <b>extended</b> 3:18 16:14, 25 17:4 23:9 58:23 <b>extending</b> 57:2 <b>extensions</b> 72:16 <b>extent</b> 26:19 94:5  <b>&lt; F &gt;</b> <b>face</b> 3:20 7:21 58:22 68:15, 18 81:24 <b>faced</b> 7:25 <b>faces</b> 71:11 <b>facilitate</b> 82:4 <b>facilities</b> 5:7 <b>facility</b> 71:2, 5 <b>facing</b> 28:17 52:12 64:2 <b>fact</b> 12:6 21:10 26:17 29:22 47:16 49:3 55:8 60:9 61:7 64:13 82:12 85:17 87:3, 21 88:15 <b>factor</b> 17:2 70:2 <b>factored</b> 37:5 <b>factors</b> 23:4 30:17 <b>fails</b> 8:13 <b>failure</b> 5:8 77:23 <b>fair</b> 94:25 <b>fall</b> 3:3 8:1 87:11 <b>familiar</b> 26:15 75:21 91:10 <b>families</b> 14:16 <b>fantasies</b> 75:15 <b>far</b> 68:24 <b>fashion</b> 3:5, 23 <b>faster</b> 26:3 37:25 <b>favor</b> 43:24 67:13 <b>favorably</b> 43:19 <b>fear</b> 92:5 <b>feasibility</b> 57:2 <b>feedback</b> 16:24 <b>feel</b> 62:7 83:11 86:2, 19 <b>fellow</b> 7:5 21:6 <b>FFRDCs</b> 81:18 <b>field</b> 25:14 <b>fielding</b> 21:20 <b>fields</b> 3:10 <b>fight</b> 68:9 <b>figure</b> 63:17 <b>figured</b> 72:5 <b>final</b> 35:22 <b>find</b> 89:24 95:22 <b>finding</b> 4:20 19:7 39:24 <b>finish</b> 90:1 <b>first</b> 14:2, 5 17:12 25:1 27:22 28:16, 23 30:8, 12, 19 32:25 34:21 35:7 36:17 40:5 50:11 51:10 52:17 54:24 67:7 69:23 72:3 81:12 82:10, 17 83:4, 9, 15, 18 84:11	<b>87:19, 24 88:12, 16</b> <b>first-use</b> 88:23 <b>FISCAL</b> 1:4 45:22 <b>Fischer</b> 1:17 66:15, 16 67:13 68:13 69:8 70:4, 12, 13 <b>five</b> 24:2, 13 27:17 34:2 92:4 <b>fleet</b> 42:15 <b>flexibility</b> 42:25 <b>flexible</b> 31:4 72:15 <b>flight</b> 50:18 <b>FOC</b> 65:14 <b>focus</b> 14:5 88:20 <b>focused</b> 56:18 <b>folks</b> 23:24 39:20 <b>follow</b> 61:21 65:18 <b>followed</b> 22:15 85:4 <b>following</b> 6:3 43:6 48:6 66:21 84:12 <b>follows</b> 5:17 9:12 14:21 78:23 <b>foolish</b> 92:7 <b>force</b> 8:19 12:9 14:12 18:13 25:22, 25 26:1 28:21 38:9, 12, 19 42:19, 21 43:12, 17 46:2, 3, 12 52:20, 22 53:1 59:24 60:3 62:16 63:22 75:23 76:20 86:19, 23 87:6 90:24 94:24 96:11 <b>forces</b> 3:24 7:9 8:15 9:9 11:11 19:22 22:17 51:18 53:8 67:14 69:16 70:8 82:18 83:19 84:6, 13 93:7 94:20 <b>Foreign</b> 39:19 84:18 <b>formally</b> 8:1 87:20 <b>formations</b> 89:7 <b>forms</b> 24:17 <b>formulated</b> 57:15 <b>forthrightness</b> 74:13 <b>forward</b> 5:11 9:11 14:20 20:2, 25 22:17 45:4 46:25 56:16 57:18, 23 59:12 65:6 67:11 73:9 89:13 <b>found</b> 28:5 78:15, 18 <b>foundation</b> 68:3 <b>foundational</b> 93:10 <b>four</b> 51:25 <b>fourth</b> 16:5 <b>fraction</b> 81:6 <b>frame</b> 29:18 40:17 <b>framework</b> 13:11 39:4 41:19 <b>Frank</b> 43:12, 16 <b>frankly</b> 32:12 45:19 46:11, 14 50:16, 20 79:22 <b>free</b> 79:16	<b>freedom</b> 13:21 <b>freedoms</b> 83:6 <b>frequently</b> 22:15 47:22 <b>frightening</b> 74:21 <b>front</b> 7:15 32:7 52:20 62:5 <b>frustration</b> 48:9 <b>fuel</b> 42:23 <b>fulfill</b> 72:1 <b>fulfilling</b> 4:4 <b>full</b> 11:10, 12 26:22 46:13 65:11, 14 66:2 <b>full-scale</b> 25:11 <b>fully</b> 49:6 51:11 54:22 55:14, 15, 16 58:2 69:4 83:19 85:8 94:1 <b>function</b> 20:5 28:4 86:15 <b>functional</b> 77:10 <b>functions</b> 4:5 <b>fund</b> 94:2 <b>fundamental</b> 2:12 3:18 16:1 53:3 86:10 <b>fundamentally</b> 3:13 23:6 29:22 53:21 58:22 67:21 72:10 82:22 87:25 <b>funded</b> 25:11 83:19 <b>funding</b> 16:1 53:12, 15 77:8 83:10 96:8, 11 <b>further</b> 48:11 93:1 <b>fused</b> 18:11 <b>FUTURE</b> 1:4 3:21 26:9, 10 36:4 42:7, 12 77:1 85:1
			<b>&lt; G &gt;</b> <b>gained</b> 3:19 <b>galling</b> 74:22 <b>game</b> 41:20 74:4 <b>GAO</b> 65:5 <b>gap</b> 27:20 76:23 <b>gaps</b> 2:18 19:9 <b>gas</b> 42:22 <b>gathering</b> 63:24 <b>GBSD</b> 59:19, 23, 24 <b>General</b> 2:6, 8 4:3, 14, 18 7:5 10:2 11:1, 3, 23 14:21 15:1 17:10, 16 18:24 19:2, 15 23:14, 21 24:22 25:20 27:10, 14 31:19 32:7 33:15 37:17 38:1 40:20, 21 41:10, 23 42:6 43:7, 11 44:18 45:8, 15 47:8 48:5 49:16 50:7, 11 53:8 54:1, 12 61:19, 21 62:4, 25 63:7, 20 65:3, 23 66:4, 7, 17 70:17 73:5, 10 75:9, 19 76:10 78:12 79:7, 19 80:14 81:2 85:7, 12, 24 86:4, 10, 18, 22, 25 91:8 95:17 96:6, 18 <b>generally</b> 31:20

<b>gentlemen</b> 7:15 11:3 19:12 34:21 44:4 58:8 79:5 92:12 96:14 <b>geographic</b> 27:12 31:2 <b>geopolitical</b> 27:11 <b>geostrategic</b> 7:20 <b>getting</b> 17:3 19:1, 2, 3, 24 30:6 41:13 67:21 69:6 <b>Gillibrand</b> 1:16 23:13, 14 24:18 25:9 26:4 27:3, 6 34:24 <b>give</b> 17:13 28:24 31:1 42:20 53:8 56:22 62:6 72:9 77:19 85:1 90:1, 10 95:3 <b>given</b> 7:6 24:18 64:12, 24 65:25 66:12 84:17 86:2 <b>gives</b> 69:20 <b>giving</b> 72:21 <b>glad</b> 57:22 91:15 <b>glide</b> 12:16 <b>global</b> 7:20 17:20 <b>globally</b> 11:11 12:10 77:5 <b>globe</b> 62:11 <b>go</b> 17:7 20:2 21:24 23:6 35:23 36:18 37:1 40:24 42:18 44:11 49:13 52:19 58:14 59:22 68:24 72:18 73:9 78:21 84:24 87:22 88:8, 16 89:24 <b>goal</b> 17:23 45:10 55:23 <b>goals</b> 17:8 <b>goes</b> 34:7 61:11 72:18 <b>going</b> 7:8 8:14 15:25 18:14 20:15 21:2 22:6 27:9 29:4, 6, 8 31:3 32:3 36:3 40:6 41:6 45:24 46:25 47:19, 20, 21 54:3, 6 59:12, 13 64:15, 17, 25 65:18 68:24 77:21, 22 81:25 82:11 83:12, 13, 21 85:14, 21 88:19 89:15, 25 93:1, 16 94:11 <b>Good</b> 2:4 11:3 18:8 24:13, 16 30:11, 17 36:24 47:19 48:4 56:16 72:14 92:22 93:18 94:13 95:5, 17 96:13 <b>goodness</b> 57:20 <b>gotten</b> 77:21 <b>government</b> 51:12 <b>granted</b> 58:12 82:13 <b>grapple</b> 39:14 <b>grateful</b> 61:13 <b>great</b> 26:19 38:12 40:20 42:20 68:7 80:14 81:3 82:2, 25 83:8 86:22 <b>greater</b> 68:10, 11	<b>greatly</b> 69:11 <b>grew</b> 33:17 <b>ground</b> 4:4, 12, 16 41:14 <b>ground-based</b> 56:24 <b>group</b> 57:1 79:25 <b>growing</b> 12:6 39:3, 19 62:6 70:6 80:2, 6 95:1 <b>growth</b> 41:3 62:10 70:5 <b>Guard</b> 11:20 45:11 <b>guardians</b> 7:17 14:15 <b>guess</b> 20:24 52:8 63:16	<b>hitting</b> 77:20 82:16 <b>hmm</b> 41:17 <b>hold</b> 67:17 80:15 <b>holding</b> 8:11, 12 70:15 <b>home</b> 75:20 <b>homeland</b> 4:9 68:19 82:7 <b>Hon</b> 1:13 2:1 <b>honorable</b> 11:8 43:7, 12 <b>honored</b> 11:5 <b>hope</b> 32:24 33:4, 8 54:14 <b>hopes</b> 50:4 <b>host</b> 71:7 <b>hostilities</b> 16:16 <b>hotline</b> 48:12, 22, 25 <b>hotlines</b> 49:9 <b>hypersonic</b> 12:16 29:16 30:9, 21 <b>hypersonics</b> 29:20 30:15 31:4 47:12 <b>hypothetically</b> 52:14	<b>improbable</b> 44:22 <b>improve</b> 37:24 <b>improvements</b> 58:25 <b>improving</b> 53:24 <b>inaction</b> 52:6 <b>incentivized</b> 96:1 <b>include</b> 12:15 42:10 54:15 <b>included</b> 89:12 <b>includes</b> 57:25 <b>including</b> 11:17 54:16 71:13 93:12 <b>incorporating</b> 17:18 <b>increase</b> 12:12 25:6 44:8 84:13 94:23 <b>increased</b> 12:11 79:15 <b>increasing</b> 40:3 64:7 68:13 73:5 <b>independent</b> 2:17 <b>indicated</b> 81:3 <b>indicating</b> 45:3 <b>indication</b> 84:21 <b>indirect</b> 24:10 <b>individually</b> 41:3 <b>Indo-Pacific</b> 3:16 <b>INDOPACOM</b> 27:25 <b>indulge</b> 22:19 <b>indulgence</b> 45:7 <b>industrial</b> 60:21, 25 81:6 <b>industries</b> 80:17 <b>industry</b> 38:3, 8 81:11 <b>influence</b> 14:6 40:12 <b>information</b> 13:16 18:19 30:15 33:14 48:15 49:18 63:2, 12, 23 78:23 <b>informed</b> 13:13 49:7 56:9, 12 58:2 87:20 <b>infrastructure</b> 5:7 9:7 16:7 65:24 70:22 71:13, 22 72:19, 20 93:20 94:2, 7, 9 <b>inherited</b> 4:5 <b>Inhofe</b> 5:13, 17 43:18 <b>initial</b> 31:17 46:19 47:1 <b>innovative</b> 25:10, 13 <b>input</b> 16:22 <b>INSERT</b> 78:24 <b>inside</b> 15:23 44:12 55:9 56:6 67:22 82:18 83:20 89:11 <b>Inspector</b> 43:7 <b>instance</b> 95:6 <b>instrument</b> 7:24 55:2 <b>integral</b> 68:2 93:10 <b>integrate</b> 4:15 26:7 <b>integrated</b> 8:15 13:11 27:23 34:1 54:20, 25 55:7, 10 67:23 68:3, 11 80:10 93:10 <b>integrating</b> 4:11 30:3 86:20
---	---	---	---

<b>integration</b> 17:14 25:13 26:14, 20 28:8 38:11, 20 39:1 42:4 87:6 <b>integrity</b> 80:21 <b>intelligence</b> 13:16 26:10 28:8 69:19 <b>intends</b> 69:10 <b>intense</b> 4:22 <b>intent</b> 13:18 <b>intention</b> 16:13 <b>interacting</b> 36:9 <b>interaction</b> 12:23 <b>interagency</b> 11:19 37:21 <b>intercontinental</b> 9:1 50:3 60:6 <b>interdicting</b> 31:25 <b>interest</b> 22:23 31:10, 11, 13, 18 36:12 49:20 94:21 <b>interested</b> 5:1 <b>interesting</b> 32:17 41:12 <b>interests</b> 12:2 <b>international</b> 2:22 11:23 20:19 23:15, 19 31:22 50:21, 24 58:11 62:21, 24 <b>internet</b> 9:3 41:14 <b>internship</b> 46:5 <b>interoperate</b> 35:11 <b>interpret</b> 25:6 86:16 <b>interrupting</b> 55:12 <b>interruption</b> 53:14 77:8 <b>intimidating</b> 84:5 <b>invade</b> 92:6 <b>invasion</b> 2:21, 25 21:17 49:21 58:9 79:10 <b>invented</b> 81:22 <b>investments</b> 26:22 <b>involved</b> 16:12 41:21 55:16 <b>involving</b> 3:8 <b>Iran</b> 19:19, 23 20:2, 16, 22 31:10, 11, 15 50:4, 8 51:1 <b>Iranian</b> 50:1 <b>ISLAND</b> 2:2 71:19 <b>ISR</b> 31:19, 24 32:12, 23 <b>issue</b> 42:4 59:17 63:15 75:2 81:22 <b>issues</b> 23:25 55:3 61:11, 13 62:21 68:7, 12 <b>its</b> 2:25 3:3, 11, 12, 22, 23 4:19 5:6 11:14 13:4 16:6 26:9 28:21 43:1 52:24 62:22 66:24 71:12 87:17 94:20	<b>jam</b> 41:16 <b>James</b> 2:6 11:1 <b>January</b> 12:20 <b>jeopardize</b> 73:6 <b>Jim</b> 30:3 <b>JISTS</b> 27:24 <b>job</b> 23:22 83:11 84:18 <b>joining</b> 73:25 <b>joint</b> 11:7, 10, 15 12:8 14:12 27:23 33:24 38:19 46:13, 22 82:3, 4, 8 <b>judges</b> 68:10 <b>judgment</b> 52:10 <b>July</b> 24:1 <b>Junior</b> 73:23, 25 <b>justice</b> 78:17	<b>larger</b> 21:15 71:17 <b>large-scale</b> 95:20 <b>largest</b> 7:20 <b>late</b> 12:24 <b>Latin</b> 32:4 <b>launch</b> 80:17 <b>launched</b> 12:18 89:9 <b>launches</b> 49:24 <b>launching</b> 80:19 <b>layer</b> 12:10 <b>layered</b> 77:4 <b>lead</b> 20:22 48:18 <b>leaders</b> 13:18 46:24 76:17 84:18 <b>leadership</b> 4:8 7:14 <b>leading</b> 25:13 <b>learn</b> 51:25 <b>learning</b> 22:10 29:13 93:3 <b>leave</b> 21:4 74:25 <b>leaving</b> 95:15 <b>led</b> 20:18 23:16 55:19 <b>left</b> 15:15 34:9 45:22 50:15 58:24 75:11 <b>leftovers</b> 94:4 <b>leg</b> 4:25 42:9 43:1 <b>legal</b> 41:19 <b>legitimate</b> 84:21 <b>lesser</b> 29:11 <b>lessons</b> 22:10 29:13 <b>Lester</b> 43:8 <b>lethal</b> 12:9 <b>letting</b> 90:5 <b>level</b> 7:23 55:4 95:1 <b>levels</b> 8:22 <b>leverage</b> 28:11 80:12 81:10 <b>liability</b> 80:22 <b>liaison</b> 11:23 <b>life</b> 58:17 72:16 <b>lifecycle</b> 76:19 <b>life-extended</b> 94:5 <b>light</b> 16:15 <b>limited</b> 44:16 95:1, 6, 11 <b>line</b> 60:20 <b>lineup</b> 36:24 <b>link</b> 17:12, 23 <b>linking</b> 18:5 <b>list</b> 72:4 <b>little</b> 32:8 35:4 36:11 39:12 45:9 49:25 54:4 58:14 59:13 75:16, 19, 20 87:14, 17 <b>located</b> 66:3, 4 <b>location</b> 64:16, 19, 22, 23 65:8, 19, 21	<b>long-going</b> 65:4 <b>long-scheduled</b> 91:23 <b>longstanding</b> 91:2, 23 <b>long-term</b> 2:12 <b>look</b> 5:11 9:11 14:19 18:23, 24 20:25 24:24 25:1 29:20 32:11 40:13, 21, 23, 25 41:4, 23 50:23 57:17 62:18 67:11 70:4, 5 76:19 77:1, 3 80:10 84:25 89:12 92:7 96:8 <b>looked</b> 33:18 67:10 <b>looking</b> 19:6 26:1 38:22 41:8 54:15 56:16 57:22 62:23, 25 63:6 65:6 73:19 76:25 <b>looks</b> 22:8 40:7, 8, 18 69:6 <b>loop</b> 48:24 <b>Lopez</b> 43:8 <b>lot</b> 17:17 23:6 24:16 33:11 36:19 37:15 39:25 42:22 49:22 50:22 56:10 59:24 61:11 69:14 73:14, 17 <b>loudly</b> 75:17 <b>love</b> 37:1 <b>low</b> 50:15 <b>low-Earth</b> 50:5 <b>lower</b> 59:2 <b>lower-yield</b> 94:22 <b>lowest</b> 55:4 <b>Lowman</b> 43:10 <b>lucky</b> 73:23 <b>lunar</b> 41:6 <b>luxury</b> 29:11
<b>&lt; J &gt;</b> <b>J3</b> 33:25 <b>Jack</b> 1:13 2:1 <b>JADC2</b> 18:13 26:5, 6, 16, 17 35:3	<b>&lt; L &gt;</b> <b>label</b> 30:22 <b>laboratory</b> 71:2 <b>lack</b> 23:15 24:18 51:21 53:21 <b>Ladies</b> 7:15 11:3 <b>land</b> 80:8 <b>large</b> 3:1 32:2 95:12	<b>&lt; M &gt;</b> <b>Ma'am</b> 53:14, 25 55:20 56:10, 15 58:4 62:25 63:7 65:3 70:10 <b>main</b> 14:5 38:4 <b>Maine</b> 31:22 <b>maintain</b> 37:18 53:3, 7 71:22 81:11 90:25 91:8, 11, 12, 13, 20 93:17 <b>maintained</b> 2:22 <b>Maintaining</b> 2:11 14:8 42:25 <b>maintenance</b> 60:1 <b>major</b> 17:12 27:17 34:10 37:12 67:5 70:19 71:6 <b>making</b> 4:19 18:17 19:25 20:22 26:22 27:1 36:12 48:15 64:5 66:10 92:21 <b>manage</b> 93:13 <b>management</b> 76:19 <b>manager</b> 30:1 <b>Manhattan</b> 5:8 9:4 71:14	

<b>Manpower</b> 43:13, 15 45:22	<b>mission</b> 5:9 7:18 8:21 11:16 13:23, 25 14:2, 18 35:12, 15 65:16, 25 66:12 70:23 72:24, 25 73:1 86:5	<b>21:9</b> 22:23 31:10, 11, 18 47:17 55:25 70:21, 25 71:15, 17 81:22 93:24	<b>88:2</b>
<b>mapping</b> 47:13	<b>national-level</b> 46:24 76:17 82:1	<b>nominations</b> 43:6, 18, 20	
<b>March</b> 1:6 80:15	<b>nations</b> 36:7, 10 41:9 58:25	<b>non-DoD</b> 82:8	
<b>margin</b> 15:15 58:24	<b>nation's</b> 8:15, 24 21:19 36:22 37:3 55:22	<b>non-Federal</b> 25:18	
<b>marines</b> 7:16 14:15	<b>NATO</b> 11:11	<b>non-nuclear</b> 26:11 66:20 67:5, 15	
<b>market</b> 32:12, 18, 20	<b>NATO's</b> 79:11	<b>non-state</b> 41:18	
<b>Martinez</b> 43:8	<b>nature</b> 3:13 4:1	<b>non-strategic</b> 70:5 89:5 90:5 95:10	
<b>massive</b> 18:15	<b>Navy</b> 43:13	<b>normal</b> 53:4 87:15 91:9	
<b>massively</b> 57:6	<b>NC3</b> 9:6 18:1	<b>Normally</b> 3:2	
<b>match</b> 29:1 70:7	<b>near</b> 7:21 20:21	<b>norms</b> 23:19 24:18 25:7	
<b>matching</b> 25:15	<b>near-peer</b> 5:3 8:19 92:16	<b>North</b> 50:1, 2, 8 51:1 75:4	
<b>material</b> 80:24	<b>necessarily</b> 29:1 65:8, 13 76:25	<b>Northern</b> 4:8	
<b>matter</b> 48:21 57:12 95:9	<b>necessary</b> 15:16 57:8 59:15 72:22, 23 88:3	<b>note</b> 6:1 69:9 71:14	
<b>matters</b> 51:11	<b>need</b> 3:14 7:8 8:5, 6 19:8 22:1, 3, 14 25:18 29:5, 15 37:15, 23 39:21 44:8 45:25 47:6, 13 51:18, 19 53:13 60:12, 22 61:4 64:15, 25 65:9, 14, 16, 21, 24 67:24 70:1, 3, 22 72:6, 16, 23 74:4, 15, 16 76:3, 24 77:20, 25 81:14, 25 83:21, 24 84:2 85:21 86:4, 8, 13, 17 88:17 90:23 92:25 93:1 94:22 96:10, 12	<b>notice</b> 1:12 90:10	
<b>maximum</b> 94:5	<b>needed</b> 20:11 22:15 47:23 72:12 79:14 81:7 94:8	<b>notification</b> 61:25 63:5	
<b>mean</b> 27:13 87:17	<b>needing</b> 49:12	<b>notified</b> 63:19	
<b>means</b> 3:15 40:10 47:1 72:16 73:24 77:9 87:16	<b>nefarious</b> 13:10	<b>November</b> 3:23 13:5 40:25 46:19 62:13 85:15	
<b>media</b> 48:14 89:3	<b>negatively</b> 60:10	<b>NPR</b> 89:13, 15	
<b>meet</b> 9:8 15:17 27:1 28:11	<b>negotiating</b> 20:2, 21 31:15	<b>NSA</b> 71:17	
<b>meets</b> 2:4	<b>negotiation</b> 20:7	<b>nuclear</b> 2:11, 23 3:1, 3, 6, 8, 12, 14, 17 4:6 5:5 8:12, 13, 15, 19 9:2, 4, 6, 7 15:7, 23 16:11, 22 19:19, 24 20:1, 16, 17 21:15, 16, 19, 21 22:1, 2, 25 23:5 26:13, 18, 24 28:19, 21 31:11, 12 34:11, 12 35:2, 6, 8, 19, 23, 24 36:8, 21, 22 37:3, 12 44:8 45:3 47:17 48:7, 19, 21 49:3 51:18 52:12 54:14, 17, 23 55:6, 9, 15, 17, 19, 22, 23, 25 56:1, 8, 17 57:7, 10, 13, 18 59:20 60:16, 24 61:6 66:21, 22 67:2, 10, 11, 14, 16 68:2 69:16 70:6, 20 71:1, 4, 10, 25 72:7 73:15 83:20 84:10, 13, 20, 22 85:4 87:13 88:5, 11 89:4, 5, 11 90:1, 5, 20 92:8, 15, 17, 22, 23 93:7, 13, 17, 24 94:17, 20, 23 95:1, 6, 7, 10, 11, 15	
<b>mega-constellation</b> 42:1	<b>never</b> 7:24 35:9 36:23 66:18	<b>nuclear-armed</b> 83:8	
<b>Member</b> 5:13 21:12 22:20	<b>New</b> 4:24 14:7 20:6 21:20 25:24 28:15 37:25 38:17 39:3 44:20 45:11 57:3 59:2 64:13, 16 65:21 78:11	<b>nuclear-capable</b> 7:21 28:18 68:7	
<b>Members</b> 1:15 7:4 11:4, 17 14:17	<b>news</b> 41:11, 12, 13	<b>Nudol</b> 40:25 46:18 50:15 62:12 85:16	
<b>memo</b> 24:2	<b>nimble</b> 74:4	<b>number</b> 4:15 7:9 22:10 23:4 25:4 29:13 32:2	
<b>men</b> 2:10 11:6	<b>NNSA</b> 15:11 71:11 72:18, 21 93:20 94:2, 9	59:25 60:5, 23 61:5 64:3 66:5	
<b>mentioned</b> 25:4 29:23, 25 33:22 35:2 41:1 59:9, 23 77:6	<b>NNSA's</b> 16:2	<b>&lt;O&gt;</b>	
<b>message</b> 51:15 52:5, 6, 7, 14 68:16	<b>NNSS</b> 70:25 71:8	<b>Obama's</b> 66:20	
<b>messaging</b> 40:15	<b>no-first</b> 88:10, 25	<b>objection</b> 5:16 78:22	
<b>met</b> 1:12 42:6	<b>no-first-use</b> 22:24 66:18	<b>objective</b> 56:9, 11	
<b>methods</b> 60:1			
<b>midst</b> 92:20			
<b>military</b> 28:20 32:22 33:3 41:7 46:2, 8 48:12, 13, 18 55:2 64:8 74:1 80:25 89:7			
<b>military-to-military</b> 48:17			
<b>Milley</b> 7:11, 19			
<b>mind</b> 51:14			
<b>minds</b> 20:13			
<b>minimum</b> 8:20 21:25 29:4 88:1, 4, 14 92:25 93:5			
<b>Minuteman-III</b> 15:10 51:24 57:2 58:17, 23 59:5, 10 60:2			
<b>Minutemen-III</b> 90:9			
<b>minutes</b> 48:22 49:3, 5 96:19			
<b>missile</b> 3:10 4:6, 9 8:25 17:19, 20 29:16 30:3, 4 50:3 76:14, 15 89:9			
<b>missiles</b> 9:1 60:7 90:9 92:3			

objectives 9:8 objects 50:19 62:9 observing 84:18 obstructed 56:20 obtaining 31:10, 12 obviously 50:3 62:10 70:6 occurred 85:16 occurring 13:15 October 12:18 Offensive 30:8 offer 16:18 21:23 52:17 56:6 67:20 68:19, 21 Office 1:13 11:23 officers 11:24 Oh 78:9 Okay 20:12 21:4 53:10 54:1 55:21 56:8 63:25 65:17 91:22 old 38:18 59:10 75:21 76:7 onboard 37:25 ones 80:13 83:18 85:1 ongoing 2:21 7:6 online 29:17 30:8 on-orbit 12:11, 12 op 28:13 open 96:18 OPENING 2:1 5:15 25:4 29:23 41:1 45:18 69:9 86:11 87:12 operate 2:12 58:21 59:25 operating 18:7, 10 59:2 85:25 Operation 82:4, 8 95:21 operational 8:9 11:12 20:8 44:7 46:13, 19 47:1 52:25 56:6 65:11, 14 66:2 77:25 82:16, 23 84:12 88:7 operationally 36:25 operations 4:21 5:10 14:18 26:14 28:5, 7, 12 33:25 46:15 53:4, 5 73:7 79:25 80:19 82:5, 21 91:9 opinion 16:25 52:6, 9 72:21 74:25 84:19 opinions 61:5 74:19 opponent 55:3, 10 68:5 95:13 opponents 68:22 75:17 opportunistic 40:7, 17 opportunities 54:4 76:8 opportunity 55:18 75:9 opposite 29:24 option 93:21 options 55:24 95:6 orbit 12:22 40:24 41:4 50:6, 16 63:14 85:15	order 2:3, 22 26:2 28:11, 22 37:24 53:16 59:6 60:13 61:7 68:8 70:22 84:13 86:11 94:23 ordered 5:16 organization 33:19 organizational 33:19 organizations 37:22 organized 18:17 OSD 89:17 OTAs 25:17 ought 85:20 outcome 30:5 outdated 39:13 outer 85:8 86:7 outline 24:23 outlined 24:2 82:3 outlining 24:14 out-of-cycle 3:1 outset 95:22 outside 57:1 85:3 95:21 outspoken 51:16 overall 7:13 15:14 19:23 21:1 37:5 76:14 91:13 overlap 35:15 overlapped 26:19 overlay 35:3 overlooked 67:8 overseen 70:25 Ovost 42:6  < P > pace 37:22, 25 58:22, 24 59:6, 15 93:21 Pacific 95:24 pacing 12:7 59:8 par 78:1 PARCS 75:21 76:6 Parker 43:12 part 2:16, 23 3:23 9:2 13:19 16:22 19:16 20:6, 15 38:11 42:12 44:9 53:21 54:20 55:7 67:9 69:12 77:16 79:23 80:17 84:18 90:20 participate 54:23 55:15 particular 4:3 8:12 23:23 27:15 31:12 33:21 41:2 55:7 59:21 73:13 76:12 89:18 particularly 15:9 16:15 32:4 36:21 47:11 48:14 73:4 75:6 parties 31:14 39:16 partnered 11:15 partnering 37:21 partners 8:16 11:22 13:8 14:7 24:16 38:5, 10 39:4 63:9 66:25 79:9, 21, 23 80:12 81:6	partnership 38:3 80:3 parts 4:25 pass 84:1 passed 73:24 path 26:21 30:25 Paul 34:1, 6 pay 75:5 peace 58:12 peer 28:18, 22 68:14 peers 7:22 Pentagon 56:20 86:21 people 12:3 21:9 31:21 32:1 33:4, 7, 23 59:25 60:18 68:17 74:16, 23 85:19 92:5 people's 75:15 percent 12:12 45:10, 16 64:14 perception 16:16 perform 17:14 86:5 performance 52:24 period 4:23 person 74:25 personal 84:19 personally 55:19 personnel 4:20 11:18 66:6, 8 perspective 17:20, 24 33:19 41:5 Peter 43:11 Peters 1:17 79:3, 4 80:14 81:3 82:2, 25 83:2 picture 3:20 18:7, 11 piece 18:10 26:15 34:4 35:22 41:9 55:9 59:21 72:22 82:15 pieces 37:11 50:15 83:20 pillars 80:11 pit 15:10 16:6 pits 15:20 PLA 12:7 95:19 place 40:14 52:12 65:2 77:11 places 81:18 plain 87:15, 17 plan 5:2 8:9, 13 12:4 21:21 27:11 86:7 93:15 planning 28:7 34:1 40:2 52:25 planning-only 28:4 plans 28:13 40:17 86:8 plants 48:7 plate 24:7 platform 30:23 platforms 35:10, 11 plausible 88:5 play 19:22 26:10 66:23 playing 23:18 plays 70:20 please 9:9 10:2 15:9 19:13 23:13 27:7 30:18	31:7 34:19 39:9 44:3 48:2 51:6 54:10 58:6, 16 61:17 66:15 70:14 71:23 74:8 79:3 83:3 87:10, 14 92:10 pleased 7:4 11:24 15:12 26:17 46:8 plenty 55:18 88:13 plutonium 5:6 point 15:8, 22 16:3, 5 24:6 26:12 27:18 30:18 42:3, 14, 20 44:13, 24 46:23 52:13 57:24, 25 65:18 68:6 69:17, 23 73:13 87:20 89:17 91:7 94:3, 8 points 5:8 15:19 21:23 49:1 57:25 policy 16:13, 17, 21 20:1 22:24, 25 23:24 54:14 55:22 56:4, 9 57:13 66:19 67:1 85:9 88:2, 11, 23 89:1 political 55:3 77:14 portfolio 89:11 portion 96:18, 21 portions 26:24 55:19 posed 58:10 position 17:7 23:1, 3 49:4 83:7 positive 41:13, 16 possible 16:20 21:22 55:4 56:4 65:11 77:15 94:6 possibly 65:10 postponement 75:3, 7 postponing 75:8 postulate 35:25 Posture 16:11, 22 22:16 23:5 28:19 29:5 34:11 40:16 44:9 47:17, 20 54:23 55:15, 17, 19, 23 56:1, 17 57:18 66:21 67:10, 11 73:13, 16 79:7, 14 81:4 83:24 88:1 89:12 90:1 91:10 93:2 95:8 postured 14:10 potential 12:22, 25 28:17 44:15 53:19 62:21 63:15 68:2 84:10 94:18 potentially 29:8 40:16 64:18 power 7:20, 24 12:9 13:4 14:4 81:10, 17 83:8 92:15, 17 93:12 95:24 powerful 39:2 powers 48:19 68:8 84:20 practical 53:19 77:10 PRC 12:11, 18, 21 44:9
---	---	---	--

69:10 PRC's 8:2 precisely 54:21 predates 9:3 predictable 3:5 96:8 pre-emptive 95:20 pre-emptively 96:1 prefer 85:5 prepared 5:17 9:12 12:3 14:21 45:1 66:25 95:21 preparing 44:17 95:20 prescheduled 52:15 presence 46:8 Present 1:15 43:5 67:1 presents 29:21 preserving 2:11 President 16:23 30:16, 18 49:4 55:22 66:20 84:7 presidential 9:8 presiding 1:14, 15 press 41:13 prestige 13:4 Pretty 28:14 30:17 prevent 84:4 preventing 32:1 previous 12:24 54:25 58:20 69:11 84:25 previously 8:5 15:20 principally 71:1 prior 2:25 priorities 25:5 prioritize 26:8 prioritizing 93:20 priority 9:9 13:23 25:5 29:11 private 41:21 75:11 91:20 prized 43:1 probably 20:23 37:10 48:9 52:8 58:19 65:4 75:18, 24 80:10 problem 16:4 29:22 33:1 37:13 50:12 69:13 81:25 84:16 problems 25:13 27:9 procedures 46:22 66:11 proceeding 15:16 process 20:21 37:24 54:23 55:14, 15, 17 56:19 57:24 62:15 63:24 64:5 65:23 processes 26:2 46:22 66:11 procurement 64:6 produce 60:16 61:1 89:20 produced 56:19 producing 30:5 78:2 product 58:1 production 15:10 16:6	60:15 productive 51:14 professional 12:9 52:9 professionals 11:8 professions 74:1 proficient 46:17 PROGRAM 1:4 56:25 57:2, 7 71:1, 24 72:4, 14 programmatic 78:1 82:23 programs 15:15 25:11 42:12 46:5 53:16 71:13 93:21 progress 4:18 5:1 17:17 18:8 79:8 86:20 Project 5:8 52:7 63:15 71:15 93:12 95:24 projected 93:21 projection 12:10 projects 25:11 71:6 proliferated 42:1 proliferation 61:23 promoted 17:11 promulgated 47:18 proper 55:24 properly 18:16, 17 proponent 82:16 proportionate 24:20 proposed 64:10 protect 3:17 13:7 14:10 68:19 protected 18:18 36:23 protection 42:16 protocol 30:16 protocols 30:19 proud 71:9 72:5 93:25 proves 64:22 provide 13:18 17:6 20:5 31:24 32:18 42:2 46:24 47:2 56:10 63:1 73:10, 20 76:14, 16 82:19, 22 83:12 96:12 provided 79:7 provides 13:20, 24 28:9 38:20 87:1 providing 41:14, 25 public 51:13, 17 67:9 published 57:18 publishing 67:11 pulls 18:12 pulse 42:10, 17 purpose 22:25 66:19 67:2 78:7 79:11 purposes 13:10 35:13 49:8 pursuant 1:12 purview 32:8 33:1, 2, 7, 8 pushed 56:20 put 30:8, 11 36:13 37:7 49:4 52:1 56:2 72:3 74:1 81:13 88:24	Putin 20:19 21:7 92:6, 21 Putin's 2:24 44:7 84:9, 12, 21 putting 19:10 27:23 45:13 puzzled 64:12  < Q > qualities 74:12 question 15:5 16:1, 7 20:13 21:13 22:19 23:22 31:23 32:10 33:5, 10 34:10, 14, 16, 24 36:5 41:11 42:5 44:12 45:15 47:19 52:9 55:13 62:4 77:23 79:15 80:23 81:9 83:23 84:15 86:22 92:14 96:2 questioning 69:24 questions 7:8, 9 9:11 14:20 15:3 22:3, 14 31:9 39:18 49:13 51:9 54:2 57:14 61:22 64:8 77:20 78:2 81:14 84:10, 11 quick 29:19 quickly 3:22 21:22 25:14, 24 45:20 47:10 62:14 65:11, 12 68:8, 9 78:10 quite 32:12 45:19 46:11, 14 50:16, 20 62:13 76:4 79:22 quorum 43:5 quote 12:19, 20 28:16 69:8, 10 78:16, 17 81:6, 8 quote/unquote 91:4  < R > race 23:17 radar 75:21, 22 radars 4:16 17:21 19:7 76:13 radiographic 71:7 raise 64:8, 10 raised 75:3 raising 75:15 Rand 81:23 range 4:16 56:7 66:22 rank 91:16 Ranking 5:13 21:12 22:20 ranks 11:9 rapid 37:19 ratification 4:23 Raymond 86:25 RD-180 80:16 reach 65:14 69:16 reached 94:3 readiness 44:8 53:6, 7 81:1 84:13 91:12
--	--	---

15 71:16, 20 74:7 78:6, 22 79:2 83:2 87:8, 9 92:9 96:17  
**reemphasize** 60:11  
**Re-engine** 42:23  
**re-engining** 42:21  
**reentering** 20:17  
**refer** 31:22  
**referenced** 76:4  
**references** 25:10  
**referred** 15:19 87:12  
**referring** 47:24  
**reflects** 11:14  
**refurbishments** 72:17  
**regain** 13:4  
**regard** 16:20 22:19, 24 24:12 34:24 35:3 36:6, 16 51:1 75:3  
**regarding** 7:8 15:3, 5  
**regards** 18:8 32:14  
**region** 3:16  
**regional** 28:10  
**regular** 26:25 36:1 60:13 61:7 63:17  
**regulation** 25:19  
**rehearsed** 46:21  
**reinvigorate** 81:7  
**reiterate** 58:16  
**related** 7:9  
**relates** 44:14  
**Relations** 39:19  
**relationship** 38:13 86:23, 24 87:5  
**relationships** 14:7  
**relative** 20:14  
**relatively** 45:11  
**released** 56:17 78:15 89:15  
**relevance** 18:20  
**reliability** 71:4 90:25  
**reliable** 48:15  
**relied** 3:7  
**relies** 37:19 76:7  
**relieved** 72:6  
**relocate** 65:1  
**relocation** 64:11  
**remain** 2:18 11:11 48:24 93:7  
**remainder** 51:4  
**remaining** 61:3 95:18  
**remains** 12:7 13:23 66:21  
**remanufacture** 94:6  
**remarks** 25:4 78:11  
**Remember** 60:1  
**reminded** 58:10 81:22  
**renewed** 79:11  
**renovations** 65:20  
**repeatedly** 22:20 56:20  
**repeating** 8:9

**replacement** 53:2  
**report** 15:13 43:19 57:23  
**reported** 8:1  
**reporting** 15:13 89:7  
**reports** 48:6 49:16 89:3  
**repostured** 28:24  
**represent** 11:6  
**representatives** 11:19  
**represented** 46:10  
**REQUEST** 1:3 78:8  
**requested** 56:25  
**require** 22:17  
**required** 8:20 15:21 19:5 42:23 53:18 94:16  
**requirement** 76:23  
**requirements** 15:17 19:9 26:9, 14 27:2 28:12 30:10 42:7, 11, 16, 18 96:9  
**requires** 59:24 94:7  
**rescheduled** 52:18 75:7 90:18 91:1  
**research** 81:7, 15  
**reserve** 15:3 43:14, 15  
**Reserves** 11:20 45:10  
**resilience** 13:19, 22 33:12, 13 96:4  
**resiliency** 35:19  
**resilient** 36:23 60:25 72:20  
**resolve** 55:3 68:12  
**resource** 14:14  
**resources** 47:7 72:22 83:13 86:3, 4  
**respect** 4:5 5:3 15:9 44:10 45:6 47:11 64:7 73:16  
**respected** 56:25  
**respects** 17:10  
**respond** 29:19 31:9 34:10 48:21 49:2, 5 52:11  
**Responding** 12:1  
**response** 24:21 82:1 88:7 95:16  
**responses** 26:7  
**responsibilities** 12:4 72:2  
**responsibility** 26:15 56:5  
**responsible** 4:11 24:3, 12, 15, 24 26:13 82:15  
**responsive** 72:20  
**rest** 49:13 55:9 94:10  
**restore** 60:22  
**rests** 8:10  
**result** 46:20 67:12 80:25  
**resulting** 44:7  
**results** 57:11 89:13  
**retaining** 4:20  
**rethink** 29:8 45:4 47:14  
**return** 5:14 15:8, 19

70:19  
**reverse** 78:1  
**reverse-engineer** 60:3  
**REVIEW** 1:3 16:11, 22 23:5 33:9 47:17 54:14, 21, 23 55:15, 17, 19, 23 56:2, 17, 22 57:18 66:21 67:10, 12 89:12 90:1 95:8  
**reviewed** 43:18  
**reviewing** 56:17  
**rewritten** 44:19  
**RHODE** 2:2 71:18  
**Richard** 2:5, 8 4:22 6:5 7:1, 3 9:12 15:2, 12 16:18 19:15, 18, 21 20:3, 25 21:17, 23 22:22 23:2 26:4, 12 28:23 29:20 30:20 34:7, 9, 13, 23 35:7 36:17 39:11 40:5, 22 42:5, 14 44:6, 11 45:6 47:10, 16 48:4, 5, 22 49:1 51:10 52:17 53:14, 25 54:12, 13, 24 55:16 56:1, 5, 10, 15 57:17 58:4, 16, 18 59:17 60:17 61:19 67:3, 7, 20 68:21 69:18 70:10, 17, 24 71:23 72:3 73:12, 14 74:11 77:18 81:3, 12 82:3, 10 83:7, 15 84:6, 8, 14, 24 85:5 87:11, 19 88:13, 24 89:10, 16 90:11, 15, 18, 22 91:6, 18, 20 92:16, 18, 24 93:9, 15 94:3 95:2, 11 96:7  
**right** 7:7, 15 8:20 15:15 17:3 18:14 24:4 25:20 26:1, 21 29:2 30:10 32:24 38:5, 10 40:13 44:15 45:12, 25 46:4, 11, 25 47:8, 9 49:12, 15 51:3 57:20 62:5 63:10 65:23 66:9 69:7, 21 70:9 73:18 74:14 77:3 80:5 82:20 84:3, 6 89:2 90:21 92:15 93:4, 6  
**rightly** 7:19  
**rigorous** 56:21  
**rigorously** 55:24  
**risk** 25:12 67:4, 17 77:25 78:1 89:23  
**risks** 68:11  
**Robert** 43:7  
**robust** 60:25 94:7  
**robustly** 47:4  
**rocket** 52:23 59:18  
**role** 19:22 23:18 24:10 25:20 26:10 41:14 42:11 55:24 57:10 66:23 70:19 88:14  
**Room** 1:13 20:21

**Rosen** 1:17 70:14, 15 71:21 72:25 73:21 74:7  
**ROTC** 73:23, 25  
**roughly** 96:20  
**Rounds** 1:17 34:19, 20 36:5 37:17 39:6, 8  
**routine** 52:15 90:13 91:9, 24 92:8  
**routinely** 63:23 90:8  
**run** 48:23 90:5  
**running** 54:2  
**Russia** 2:13, 25 3:3, 23 7:8 13:3 15:3 20:15, 18 21:15 31:11, 15 39:20, 22 40:3 41:16 44:9 48:8, 14 49:9, 20 64:3, 7, 9 68:25 73:6 80:15, 25 83:9, 14 84:4 85:10, 13 86:7 90:5, 10 91:5, 24 92:17  
**Russian** 13:1 34:11 48:6, 13 79:10 85:16  
**Russians** 41:5 50:14  
**Russia's** 2:21 49:21 58:9 70:5  
  
**<S >**  
**safe** 50:25  
**safety** 59:9, 11 62:22 70:20  
**sailors** 7:16 14:15  
**sanctuary** 13:3, 6  
**SATCOM** 39:2  
**satellite** 3:24 12:13, 19, 20, 21 33:10 38:6, 7, 14 41:15 49:17, 19 85:15  
**satellites** 4:17 12:13, 14, 23 33:14 50:6, 10 63:13  
**satisfied** 73:15  
**satisfy** 32:20  
**saw** 12:25 50:13  
**saying** 34:21 77:22 88:22  
**scale** 13:2  
**scenario** 44:17  
**scenarios** 41:20 44:15  
**Schaefer** 43:14  
**schedule** 52:1 53:16 91:2  
**scheduled** 90:14 91:9  
**school** 73:25  
**scientists** 71:3  
**Scott** 1:18 83:3, 4 84:3, 8, 17 85:3, 7, 19 86:2, 6, 18 87:8, 9  
**screening** 61:24 63:5  
**SD-106** 1:13  
**SDA** 13:13, 14, 19, 22, 23  
**sea** 4:16 80:8 89:8  
**seamless** 3:22  
**seams** 2:18 29:23  
**seas** 17:13

<b>second</b> 14:6 33:10 38:16 43:22 49:8 55:6 72:18 84:17 88:6, 17 <b>seconds</b> 34:9 43:23 <b>secret</b> 57:9 <b>Secretary</b> 7:11 8:1 24:1 43:9, 10, 13, 15, 16 55:17, 18, 23 75:10 82:14 87:20 91:19 <b>Security</b> 5:5 8:18 15:7 21:9 36:20 55:25 70:21, 25 71:15, 17 79:14 82:7 87:18 93:24 <b>see</b> 18:3 23:4 32:15 34:7 38:22, 23 40:14, 23 42:18 53:23 57:19 73:4 79:12 82:7 85:3, 16 86:14 89:13 92:21 <b>seeing</b> 29:17 41:24 44:15 49:16 57:23 64:6 68:25 80:13 <b>seen</b> 3:9 8:23 22:5 32:13 44:8 62:10, 12 71:12 80:7 84:12 85:12 <b>segued</b> 41:10 <b>self</b> 44:22 <b>self-deterring</b> 90:4 95:16 <b>Semiconductors</b> 80:21 <b>Senate</b> 1:8, 13 11:4 43:20 <b>SENATOR</b> 2:1 5:17 16:18 19:13, 14, 21, 25 20:3, 12, 25 21:4, 23 22:18 23:2, 11, 12, 13, 14, 21 24:18, 22 25:9, 20 26:4, 12 27:3, 5, 7, 8, 14 28:14, 23 29:16 30:14, 20 31:5, 6, 7, 8, 9 32:7, 24 33:15 34:5, 13, 15, 18, 19, 20, 24 35:7 36:5, 17 37:17 39:6, 8, 9, 10 40:5, 19, 20, 21 41:10, 23 42:5, 14 43:2, 4, 18, 21 44:3, 4, 11 45:2, 6, 8, 16 47:5, 10, 16, 25 48:1, 2, 3 49:1, 15 50:11 51:3, 5, 6, 7 52:17 53:10, 23 54:1, 9, 10, 11, 24 55:12, 21 56:5, 8, 12, 16 57:17, 22 58:5, 6, 7, 18 59:8, 17 60:8, 17 61:3, 16, 17, 18 62:23 63:4, 16, 25 65:3, 17 66:3, 5, 8, 13, 14, 15, 16 67:7, 13, 20 68:6, 13, 21 69:8, 18 70:4, 12, 13, 14, 15 71:21 72:3, 25 73:3, 21 74:7, 8, 9 75:2, 9, 13 76:10 77:6, 18 78:4, 6, 7, 9 79:1, 2, 3, 4 80:14 81:3, 12 82:2, 10, 25 83:2, 3, 4, 15, 22 84:3, 8, 14, 17, 24 85:3, 5, 7, 19, 24 86:2,	<b>6, 10, 18, 22</b> 87:8, 9, 10, 11, 19 88:10, 13, 20, 24 89:2, 10, 15, 16 90:3, 11, 13, 16, 18, 19, 22 91:1, 6, 15, 18, 19, 22 92:9, 10, 11, 14, 17, 19, 24 93:5, 10, 12, 15, 18 94:3, 13 95:2, 5, 17 96:6, 13 <b>Senators</b> 1:15 <b>send</b> 52:5, 15 54:3 91:7 <b>sending</b> 92:3, 4 <b>sends</b> 77:10 <b>senior</b> 4:8 <b>sense</b> 31:14 65:19 79:11 <b>sensitive</b> 36:7 51:11 <b>sensor</b> 4:13 17:11 26:6 29:25 30:1, 2 76:12 <b>sensors</b> 4:12, 15, 16 17:12, 18, 23 18:11 19:3, 4 38:25 63:24 <b>separate</b> 35:20 36:2 <b>separation</b> 35:4, 8 <b>serial</b> 20:19 21:10 <b>series</b> 3:2 53:5 <b>serve</b> 26:25 <b>serves</b> 31:17 <b>service</b> 2:9 11:8 19:16 30:6, 9, 12 34:2, 22 39:11 44:5 51:8 52:20 58:13 60:4 70:18 74:10 79:6 86:25 92:12 96:15 <b>servicemembers</b> 11:19 <b>Services</b> 1:9 11:5, 18 15:13 26:7 46:9, 10 60:19 77:19 87:2, 7 96:12 <b>serving</b> 2:10 44:23 <b>session</b> 6:3 7:10 15:4 21:1, 25 28:25 34:14, 16 36:19 44:12 45:7 49:14 51:2 73:11, 20 84:15, 25 85:6 87:23 88:9 90:2 95:3 <b>set</b> 37:14 53:4 66:12 <b>sets</b> 4:21 13:25 68:11 <b>setting</b> 64:13 <b>settle</b> 65:20 <b>seven</b> 43:20 <b>Shaheen</b> 1:16 61:17, 18 62:23 63:4, 16, 25 65:17 66:3, 5, 13, 14 <b>shaken</b> 2:22 <b>shaping</b> 42:11 <b>share</b> 4:14 63:12 64:1 <b>shift</b> 87:24 <b>shifts</b> 7:20 <b>shipments</b> 31:24, 25 32:4 <b>ships</b> 17:22 19:4 <b>shooter</b> 26:6 <b>shot</b> 16:4	<b>show</b> 53:6 57:6 67:12 <b>showing</b> 42:1 94:21 <b>shown</b> 95:19 <b>Shugart</b> 95:19 <b>shuttle</b> 49:24 <b>side</b> 39:20 88:6 <b>signal</b> 19:10 32:21 42:19 53:20 77:9 92:8 <b>signaling</b> 42:25 <b>signals</b> 33:14 41:16 87:24 91:7 <b>signed</b> 80:1 82:15 <b>significant</b> 7:7 13:2 29:7 59:21 71:13 78:16, 18 79:8 87:24 <b>significantly</b> 80:19 88:3 <b>silence</b> 51:14 52:6 <b>silos</b> 3:10 <b>similar</b> 13:3 35:15 <b>Similarly</b> 3:19 <b>simple</b> 35:12 <b>simply</b> 21:5 57:5 94:11 <b>single</b> 5:8 32:2 <b>sir</b> 16:9 29:15 37:17 39:6 49:14 50:20 79:15 80:23 81:9 84:6 90:2, 15 92:18 <b>sit</b> 74:18 <b>Site</b> 70:21, 25 71:15, 17 <b>sites</b> 17:22 71:17 <b>situation</b> 7:25 32:13 92:1 <b>situational</b> 4:13 30:4 63:11 <b>situations</b> 41:22 80:12 <b>size</b> 28:21 62:5 67:14 71:18 96:8 <b>SJ-17</b> 12:25 <b>SJ-21</b> 12:18, 20, 23 41:1 <b>skill</b> 4:20 <b>SLCM</b> 89:9 <b>smaller</b> 89:6 <b>small-scale</b> 25:11 <b>smartest</b> 56:4 <b>so-called</b> 88:10 89:5 <b>socioeconomic</b> 78:16 <b>soldiers</b> 7:16 14:15 <b>sole</b> 22:24 66:19 67:2 <b>solutions</b> 25:19 <b>somebody</b> 63:18 <b>soon</b> 65:10 71:7 <b>sorely</b> 79:13 <b>sort</b> 34:10 41:12 <b>sought</b> 48:15 <b>sounds</b> 30:2 54:19 <b>Soviet</b> 88:25 <b>SPACE</b> 1:2 2:7, 12, 16 3:20, 22, 24 4:2, 4, 12 11:2, 7 12:2, 10, 15, 19 13:2, 4, 6, 7, 9, 10, 12, 13, 15, 19, 21, 22, 23, 24 14:1, 3, 9, 10, 11, 13, 18 17:11,	<b>13, 19 18:4</b> 19:6, 9 23:16, 17, 18, 20 24:19, 24 25:2, 6, 8, 15, 21, 25 27:10, 19, 21, 24 28:10, 11 29:23 30:4 31:23 32:21 33:13 34:3 37:19, 22 38:7, 9, 12, 16, 19, 21, 23 39:1 40:22 41:18, 20 43:17 46:12 49:24 50:7, 10, 13, 22, 24 54:6, 16 61:23 62:9, 16, 21, 24 63:11, 22 65:1 67:15 73:1, 6, 8, 16, 19 75:22 76:2, 7, 15, 16, 20 77:3 78:13 79:18, 25 80:6 82:13 85:8, 11, 22, 25 86:7, 14, 15, 18, 23 87:4, 6 96:1, 5, 11 <b>space-based</b> 18:5 <b>SPACECOM</b> 2:7, 15, 17 4:4, 11, 21 23:18, 22 40:4 41:20 64:11, 16, 21 79:9 <b>SPACECOM's</b> 96:3 <b>space-specific</b> 80:24 <b>spacetrack.org</b> 63:21 <b>speak</b> 59:13 71:23 73:7 <b>speaking</b> 52:13 68:22 72:25 75:17 <b>specialized</b> 4:20 <b>specific</b> 19:11 63:5 91:20 <b>specifically</b> 34:25 70:21 <b>specifies</b> 59:24 60:18 77:19 <b>spectrum</b> 82:5, 6, 12, 20 <b>speed</b> 18:19 26:6 69:23 <b>spend</b> 49:25 64:15 65:1 <b>spending</b> 57:7, 11 74:23 88:21 <b>sphere</b> 51:23 <b>spoken</b> 60:9 <b>spread</b> 48:15 <b>Springs</b> 38:18 <b>stability</b> 2:23 3:16 22:8 36:16 37:9, 10 58:11 70:9 <b>stable</b> 3:4 60:9, 10 <b>staff</b> 11:24 69:19 <b>staffing</b> 64:15 <b>staggering</b> 57:11 <b>stake</b> 68:10 <b>standard</b> 26:25 35:24 <b>standards</b> 82:17 <b>standing</b> 17:6 <b>standpoint</b> 85:17 <b>stands</b> 2:17 13:7 <b>stand-up</b> 4:19 <b>Starlink</b> 41:15, 25 <b>START</b> 4:24 20:7 24:8, 10 92:13 94:6, 8 <b>started</b> 27:23, 25 <b>starting</b> 22:7
--	---	---	--

<b>State</b> 20:4 24:9 71:18 93:23 <b>stated</b> 7:19 80:15 88:2 <b>STATEMENT</b> 2:1 5:15, 17 7:1 9:12 11:1 14:19, 21 45:18 69:9 79:7 80:1 81:4 86:11 87:12 <b>statements</b> 3:2 41:1 84:9 <b>STATES</b> 1:2 3:4 7:2 11:2, 7 13:8 14:4 19:18 20:16 21:8, 16 22:23 25:21 49:9 66:21, 24, 25 94:17 <b>static</b> 47:21 <b>station</b> 41:6, 7 50:22, 25 62:21, 24 75:22, 23 76:7 <b>stations</b> 41:14 <b>statistic</b> 62:7 <b>statutorily</b> 15:21 <b>stay</b> 53:16 65:19 <b>steadily</b> 11:13 <b>steady-state</b> 22:12 <b>stealing</b> 33:14 <b>STEM</b> 46:6 73:24 74:1 <b>steps</b> 37:23 60:22 <b>Stewardship</b> 71:1, 24 72:4, 14 <b>stockpile</b> 69:25 71:1, 4, 10, 24, 25 72:4, 11, 14, 15 <b>stood</b> 27:19, 22 33:15 62:8 80:5 <b>stop</b> 69:16 <b>Storch</b> 43:7 <b>story</b> 15:18 <b>STRATCOM</b> 2:6, 15 4:5 37:8 40:4 44:17 48:24 51:12, 16 52:1 54:25 55:16 81:4, 13 <b>STRATCOM's</b> 9:9 42:11 71:25 <b>STRATEGIC</b> 1:2 2:6, 13, 16 4:8 7:2, 12, 13, 17, 18 8:2, 11, 12, 18, 21 22:17 28:17 29:7 30:22 34:10 35:10 37:2, 9 46:24 49:8 54:22 55:14 56:24 61:6 66:20 69:9 70:9 81:11 83:19 92:21 93:7, 9, 17, 22 <b>strategically</b> 30:24 <b>strategies</b> 45:13 47:18 <b>strategists</b> 94:21 <b>strategy</b> 8:20 13:12, 24, 25 14:5 16:14 19:17 29:3 45:19 46:25 47:12, 19 53:18 55:25 57:10 80:11 82:14 87:25 88:4, 5, 15 <b>stream</b> 96:10 <b>streamline</b> 26:2	<b>strength</b> 45:9, 12, 17, 20, 23 47:6 52:7 54:19 <b>strengthening</b> 14:6 <b>stress</b> 8:22 <b>strike</b> 88:12 95:20 96:1 <b>strikes</b> 94:17 <b>strong</b> 51:15 <b>stronger</b> 36:23 <b>strongest</b> 74:12 <b>strongly</b> 55:4 <b>structural</b> 34:4 <b>structure</b> 31:4 34:6 <b>study</b> 57:6 78:15, 18, 21 <b>stuff</b> 60:19 <b>stunted</b> 25:12 <b>subcritical</b> 71:3 <b>submarines</b> 8:24 <b>submit</b> 14:19 21:14 74:3 78:20 <b>submitted</b> 5:15 <b>subsequently</b> 24:8 <b>subset</b> 26:17 <b>substantial</b> 12:6 <b>substituted</b> 67:16 <b>sufficient</b> 31:23 47:5 82:19 86:20 <b>suggest</b> 57:17 <b>suggested</b> 21:13 89:3 <b>suggesting</b> 33:8 <b>suggestion</b> 34:8 74:18 <b>superiority</b> 13:13 76:3, 9 82:14 <b>supplemental</b> 95:7 <b>supplied</b> 80:24 <b>supply</b> 60:15 80:20 <b>support</b> 7:12 11:10 14:9, 17 42:8 55:5 56:22 73:13 82:19 96:3 <b>supporting</b> 5:9 9:7 <b>supports</b> 93:24 <b>sure</b> 4:4 18:17 24:25 26:21 27:1, 13 30:15 33:17 36:12 45:14 49:5 50:23, 24 56:3 60:12 62:20 65:4, 16 66:10 82:17 87:15 95:13 <b>surrender</b> 94:18 <b>sustain</b> 13:21 53:1 93:22 <b>Sustainment</b> 43:11 60:1 <b>SVC-217</b> 6:3 96:19 <b>switch</b> 63:25 95:17 <b>switching</b> 94:14 <b>synchronize</b> 27:11 <b>synthesized</b> 18:17 <b>system</b> 53:2 59:2, 19, 20 60:4 70:7 71:7 75:25 80:17 88:16 <b>systems</b> 21:20 23:18 26:11, 14, 18 35:1, 2, 6, 20 36:8 49:17, 19 53:20	<b>58:21, 25 59:5 60:24</b> 73:19 85:9 89:4 <b>&lt;T&gt;</b> <b>table</b> 31:14 39:21 79:23 <b>tactical</b> 30:23 34:12 <b>Taiwan</b> 94:18 95:22 <b>take</b> 17:14 26:21 40:2 46:18 53:10 58:12 60:22 64:17, 21 65:20, 22 68:10 77:21 82:12 86:17 88:6 89:23 <b>taken</b> 37:24 73:17 <b>takes</b> 30:16 49:7 <b>talent</b> 45:25 46:21 <b>talk</b> 24:7 31:20 36:11 42:11 45:9 62:5 73:1, 8, 22 74:2 75:19 85:20 87:22 <b>talked</b> 30:25 39:12 42:7 64:2 76:3, 4 77:7 <b>talking</b> 24:8 52:23 68:7 72:19 76:9 87:20 90:23 93:14 <b>talks</b> 20:15 <b>tangible</b> 44:6 84:12 <b>tanker</b> 42:7, 12, 15, 23 <b>tankers</b> 42:8 <b>target</b> 50:10 <b>targeting</b> 48:8 <b>targets</b> 67:17 <b>Task</b> 38:19 <b>tasking</b> 4:12 <b>tasks</b> 17:12 <b>team</b> 11:8, 25 20:7 34:6 86:25 <b>teams</b> 27:24 <b>teamwork</b> 12:2 <b>technical</b> 20:5 46:6 56:9, 11, 13 57:1 78:1 88:15 <b>Technically</b> 30:1 <b>techniques</b> 46:22 <b>technologies</b> 80:24 <b>technology</b> 25:14 59:15 76:7 <b>tell</b> 19:20 30:18 35:13 39:21 40:1, 6 55:18 67:9 69:18 86:14 <b>telling</b> 38:23 <b>tend</b> 37:8, 11 50:2 <b>tenets</b> 24:2, 6, 12, 23 25:7 <b>term</b> 87:13 <b>terms</b> 16:13, 25 18:3 19:22 23:24 24:14, 15 25:24 26:2 27:21 29:18 32:12 33:12, 13 36:12 37:7, 8 38:13 42:2, 18 45:21 46:5 53:19 62:19 63:1 64:14 73:12, 14 76:18 79:22 82:7 86:1,	<b>14, 25</b> <b>terrestrial</b> 17:24 18:2 <b>terrestrial-based</b> 77:2 <b>territory</b> 45:4 <b>test</b> 12:17 13:5 50:15, 19, 20 51:24 52:15, 18, 19, 20 62:12 90:7 91:4, 17 <b>tested</b> 49:10 <b>testified</b> 16:19 22:22 23:2 54:13 69:23 71:12 93:5 94:19 <b>testify</b> 2:15 7:4 <b>testifying</b> 70:17 92:14 <b>testimonies</b> 5:12 <b>TESTIMONY</b> 1:1 2:5 8:4 57:21 58:20 61:20 71:14 79:6 92:20 93:19 96:14 <b>testing</b> 72:7 85:18 91:2 92:8 <b>tests</b> 12:16 40:25 49:23 52:1 90:9, 10, 19, 23, 24 91:24 <b>thank</b> 2:8 5:11 7:11 9:11 10:1 11:4 14:16 15:1 16:10 17:9, 16 19:12, 14, 15 23:11, 12, 14, 21 26:4 27:3, 5, 8, 14 28:14 30:14 31:5, 6, 8 34:16, 17, 18, 20, 21 37:17 39:6, 8, 10 43:2, 4 44:1, 4, 5 45:2, 8, 15 47:25 48:1, 3, 4 49:15 50:11 51:3, 5, 7, 8, 20 54:8, 9, 11 57:16, 20 58:5, 7, 12 61:15, 16, 18, 19 62:4 66:13, 14, 16 67:13 70:12, 13, 15, 16, 18 71:20 72:25 73:10, 21 74:6, 7, 9 76:10 78:4, 5, 6, 9 79:1, 2, 4, 5, 6, 19 82:25 83:2, 4, 5 85:7 87:8, 9 90:3 92:9, 11, 12 94:13 96:6, 14, 16, 17 <b>thanks</b> 2:9 27:8 74:9 <b>theater</b> 29:7 30:23 94:21 95:1 <b>theirs</b> 36:14 <b>theory</b> 44:20 <b>thing</b> 20:10 25:1 86:1 <b>things</b> 13:17 27:22 32:12, 23 53:15 55:8 62:10 66:7 72:4, 13 73:14 75:5 85:3 96:3 <b>think</b> 8:8 17:3 21:6 22:14 24:13, 23, 24 25:1, 23 27:17 30:20 31:3 32:11, 19 35:5 36:17 37:5, 12, 15 39:15, 23 41:24 44:14, 23 45:9 47:22 48:10 51:18 52:3, 12 56:8, 12 61:11 68:16,
---	---	--	--

<p>23 69:4, 12 70:1, 2, 11      72:8 74:23 75:11, 23      76:4, 11 77:6, 19 79:11,      14, 20 80:19 81:18, 21, 23,      25 83:25 84:3 85:24      88:20 91:9, 11 92:7 93:6,      14 95:14  <b>thinking</b> 40:10 69:3      84:16 93:6  <b>third</b> 4:24 14:7  <b>Thomas</b> 95:18  <b>thought</b> 28:3 34:15      44:25 69:4  <b>thoughts</b> 29:18  <b>thousands</b> 33:6  <b>threat</b> 3:20 29:6, 18, 21      48:21 52:11 58:10, 11, 21,      23 59:6, 8 66:19 88:8      89:20, 21 93:3 94:12  <b>threaten</b> 94:16  <b>threatened</b> 21:16  <b>threatening</b> 37:3 50:21  <b>threatens</b> 23:17  <b>threats</b> 4:1 12:1 21:2      22:4 28:20, 22 29:7      35:25 47:13, 14, 23 49:2      67:3 68:13, 15, 18 70:6      73:5 92:22 93:22  <b>three</b> 3:9 14:5 21:23      39:16 46:16 66:1 72:22      80:4  <b>three-party</b> 8:18 22:8, 9      37:13 39:15 81:15  <b>threshold</b> 93:13 95:14  <b>Tillis</b> 1:18 44:3, 4 45:2,      8 47:5, 10, 25 48:1  <b>time</b> 7:24 8:6 15:17      16:5 21:18 22:11 27:12      28:16, 18 29:10, 12, 18      40:10 48:16, 21 49:6, 25      51:4, 19 52:4, 12 54:2      61:3 65:1, 17 67:1 69:5,      19 70:8 73:22 90:12      92:22 95:18 96:13  <b>timeline</b> 26:3 45:12  <b>times</b> 8:23 29:14 51:13      71:8  <b>today</b> 2:4 5:11, 13 7:4,      21 9:10 11:5, 10 12:14      14:13 20:14 22:21 27:9      29:3 36:24 40:12 49:25      50:19 51:9, 22 58:8      61:12 62:9, 15 65:25      66:17 70:17 73:16 76:18      79:5 80:13 86:5 87:12      92:25  <b>today's</b> 3:25 8:19  <b>told</b> 20:14 44:22 57:3      69:18 94:14  <b>tools</b> 13:21   </p> <p><b>top</b> 13:23 22:10 25:5      59:1  <b>topic</b> 64:1  <b>total</b> 12:13  <b>totally</b> 65:2  <b>touched</b> 96:7  <b>tough</b> 57:14  <b>tour</b> 83:16  <b>TPY-2s</b> 17:21 19:4  <b>track</b> 15:14 50:17, 19      62:11 73:25  <b>tracked</b> 62:8  <b>tracking</b> 50:16  <b>trade</b> 31:22  <b>traditionally</b> 17:18 18:1      19:5  <b>trained</b> 66:10 69:3  <b>training</b> 91:12  <b>transaction</b> 25:16  <b>TRANSCOM</b> 42:6  <b>transition</b> 2:19 25:10  <b>treat</b> 84:20  <b>treated</b> 67:4  <b> treaties</b> 20:4  <b>treating</b> 85:8  <b>Treaty</b> 4:24 19:23 20:7  <b>tremendous</b> 62:10  <b>triad</b> 3:12 4:25 5:2 9:6      15:6, 14 22:1 42:9  <b>tried</b> 16:6 35:21  <b>trillions</b> 74:23  <b>trip</b> 76:11  <b>troubles</b> 58:3  <b>troubling</b> 21:6  <b>true</b> 57:5 88:14  <b>try</b> 35:5, 7 36:7  <b>trying</b> 7:14 37:6 41:16      45:24 63:16 64:16 70:7      85:20 91:6  <b>Tuberville</b> 1:19 27:7, 8      28:14 29:16 30:14 31:5,      6 78:7, 9 79:1, 2  <b>Tuesday</b> 1:6  <b>turn</b> 31:19 90:7  <b>TV</b> 32:15  <b>two</b> 7:21 8:6 11:23      21:13 22:3, 6, 14 26:18      28:17, 20, 22 29:20 31:22      34:2 35:3, 4, 17, 20 36:12      38:4, 17 39:1, 16 42:18      46:10 48:19 52:12 65:3,      7 68:14 72:13 75:24      83:8, 20 87:21 89:4 92:5  <b>two-party</b> 37:11 39:14  <b>type</b> 32:22 46:6 77:2  <b>types</b> 23:25 73:18</p> <p>&lt; U &gt;</p> <p><b>U.S.</b> 1:8 2:1, 5, 7 7:17      8:16 12:1 13:6, 9, 12, 23,      24 14:9, 10, 13 19:9</p>	<p>21:21 27:19 28:21 32:21      48:12, 23 50:6, 7, 10      66:22 73:6 80:6, 16 85:8      89:19  <b>U1a</b> 71:2, 6, 24  <b>UARCs</b> 81:18  <b>UEWRs</b> 17:25  <b>Ukraine</b> 2:21 7:7 15:3      21:17 31:21 32:13 34:12      41:15 58:9 64:9 73:4, 9      79:10 92:3, 6  <b>Ukrainian</b> 3:25 48:6  <b>Ukrainians</b> 49:18  <b>ultimate</b> 18:10  <b>ultimately</b> 16:23 49:20      76:21 95:16  <b>unanimous</b> 78:8  <b>unarmed</b> 90:9  <b>unchanged</b> 23:3  <b>unclassified</b> 51:23  <b>unclear</b> 44:16  <b>undergoing</b> 4:22 71:6  <b>underground</b> 71:2  <b>undermine</b> 70:8  <b>underpin</b> 8:15  <b>underpins</b> 72:12  <b>underscores</b> 80:20  <b>understand</b> 3:14 5:9      14:1 15:24 16:9 25:1, 2,      7 37:15 40:18 48:12, 22      51:11, 12 52:24 55:6, 13      58:15 64:17, 24 68:24      69:4 72:8 75:13 87:16  <b>understanding</b> 13:17      18:3 28:19 42:8 61:24      64:20 68:18 77:25 82:11  <b>understands</b> 49:6  <b>understood</b> 37:4  <b>undertaking</b> 3:15  <b>underway</b> 15:23 62:1  <b>Unfortunately</b> 58:9 71:16  <b>unified</b> 12:4  <b>unilaterally</b> 7:22  <b>uninterrupted</b> 18:22  <b>Union's</b> 88:25  <b>Unit</b> 62:17 63:22  <b>UNITED</b> 1:2 3:4 7:2      11:2, 7 13:8 14:4 19:18      20:16 21:8, 16 22:23      25:21 49:9 66:24, 25      94:17  <b>universal</b> 67:1  <b>unjust</b> 79:10  <b>unlimited</b> 15:22  <b>unprovoked</b> 2:21 58:9  <b>update</b> 62:1  <b>updated</b> 63:17  <b>updates</b> 63:22  <b>upgrade</b> 59:15  <b>upgraded</b> 62:18   </p>	<p><b>upgrades</b> 70:22 71:24      76:21  <b>uphold</b> 3:18  <b>uranium</b> 5:6  <b>urge</b> 34:5  <b>urgency</b> 64:1, 12, 24  <b>use</b> 13:9 16:13 17:19      23:19 25:16 30:11, 24      31:1, 3 32:22 34:11      35:17 37:8 44:16 49:12      55:1 61:2 62:15, 18 68:4      69:1, 5 84:10 86:7 87:3      88:11 89:1 94:17 95:10,      11, 15  <b>usually</b> 39:20  <b>utilize</b> 38:24  <b>utilizing</b> 46:14  <b>utmost</b> 4:9</p> <p>&lt; V &gt;</p> <p><b>valid</b> 36:20  <b>valley</b> 25:9  <b>value</b> 11:8 94:23  <b>Vandenberg</b> 38:9, 12      62:16 63:22 78:13, 17  <b>variables</b> 74:19  <b>variety</b> 56:3, 13  <b>varying</b> 42:9 74:19  <b>vast</b> 71:21  <b>vehicle</b> 12:17  <b>venture</b> 52:8  <b>venue</b> 51:17  <b>verify</b> 71:3  <b>versa</b> 37:4  <b>versatile</b> 12:8  <b>version</b> 80:5  <b>versus</b> 35:1, 6 65:21  <b>viable</b> 90:21  <b>vice</b> 37:4  <b>view</b> 24:19 25:16 26:8      34:9 48:16 57:9, 25 58:1  <b>viewed</b> 48:10  <b>viewing</b> 50:8  <b>views</b> 5:4 56:3, 7, 13      67:19  <b>violence</b> 7:23 55:4  <b>visibility</b> 63:3  <b>vision</b> 4:15 80:1  <b>visited</b> 71:8 75:21  <b>vital</b> 11:21 19:16 73:19      82:7  <b>vivid</b> 17:3 95:3  <b>Vladimir</b> 2:24 20:19      21:7 92:6, 21  <b>Von</b> 42:6</p> <p>&lt; W &gt;</p> <p><b>waiting</b> 65:13  <b>walk</b> 40:14  <b>want</b> 2:8 7:11, 15 16:3      17:5 20:23 31:3, 20 37:7</p>
---	--	---

45:8 49:5, 25 51:10 52:19 54:3, 24 56:22 57:6 59:4 61:21 63:25 64:8 65:18 70:19 73:22 75:2, 19 83:5 89:17 90:7, 24 91:4 <b>wanted</b> 31:9 60:11 89:4 <b>wanting</b> 79:23 <b>wants</b> 95:9 <b>war</b> 20:20 21:11 31:20, 21 32:1 37:11 41:20 48:10 49:10 73:8 81:24 94:5, 18 <b>warfighter</b> 25:14 <b>warfighting</b> 85:8 <b>warheads</b> 69:11 <b>warn</b> 4:7 75:25 <b>warning</b> 4:6 17:19 18:2 29:22 30:4 75:25 76:13, 15 77:4 <b>warranted</b> 93:2 <b>Warren</b> 1:16 54:10, 11 55:12, 21 56:8, 12, 16 57:22 58:5 <b>Washington</b> 1:10 <b>waste</b> 25:13 <b>watch</b> 32:3 70:1 75:4 96:20 <b>watching</b> 32:10, 14 84:8 87:16 <b>way</b> 15:16 18:23, 24 22:4, 5 23:8 27:19 30:3 41:12 44:23 49:12 53:10 56:2 61:7 70:10 77:24 78:1, 3 89:24 95:12 <b>ways</b> 29:20 39:17 59:10 81:9 <b>weaken</b> 92:22 <b>weapon</b> 19:24 29:1 31:11, 12 34:12 35:1, 2, 6 59:19 60:4 68:2 90:22 <b>weapons</b> 9:4, 7 15:18, 24 22:2 23:16, 19 36:8 52:20 54:18 55:25 57:3, 10, 13 59:4 60:23 66:23 67:2, 16 71:7 72:7, 10 84:10, 22 87:13 89:5 90:5 94:23 95:10 <b>website</b> 63:21 <b>week</b> 5:14 42:6 90:17 <b>weekend's</b> 51:23 <b>weeks</b> 13:1 32:14 74:24 80:2 92:5 <b>weight</b> 31:16 <b>well</b> 7:13 17:11, 22 20:12 23:2 24:22 25:2 37:4, 5 41:9 46:1 48:20 52:25 57:23 59:9, 15 61:11 63:9, 16 68:12 73:10, 16 74:4 75:1, 16,	20 76:2, 9 82:2, 9 85:24 86:10 87:4 90:14 96:1 <b>well-designed</b> 59:2 <b>Western</b> 95:24 <b>Whiskey</b> 89:8 <b>Wicker</b> 1:17 19:13, 14, 25 20:12 21:4 22:18 23:11, 12 31:10 43:21 <b>wide</b> 54:15 56:3, 7 <b>widespread</b> 57:25 <b>wild</b> 90:5 <b>willing</b> 68:10 84:22 85:22 <b>willingness</b> 45:3 50:9 80:7 <b>winds</b> 95:16 <b>wins</b> 68:9 <b>wise</b> 69:15 <b>withheld</b> 81:1 <b>withstand</b> 35:25 <b>witness</b> 3:7 <b>witnessed</b> 7:21 13:1 <b>witnessing</b> 7:19 <b>women</b> 2:10 11:6 <b>wonder</b> 41:17 <b>wonderful</b> 51:17 <b>wondering</b> 76:6 <b>word</b> 32:24 <b>words</b> 32:19, 25 54:16 65:9 68:23 84:21 <b>work</b> 8:14 11:12 15:23 18:7, 12 20:1 22:8 23:22 26:9 30:10 36:24 37:15 38:5 42:3 50:22 55:10 60:12 62:20 63:8 72:14 74:16 76:20 79:21 80:7 82:17 93:16 <b>worked</b> 26:5 27:13 29:24 45:20 <b>workforce</b> 59:12, 23 61:10 73:2, 22 74:3 <b>working</b> 13:3 16:9, 11 18:9 23:25 24:4 28:1 46:3 61:13 76:24 79:24 80:9 82:8 87:2 <b>works</b> 22:9, 11 37:16 38:19 <b>world</b> 7:20 17:21 18:1 35:21 38:22 46:22 71:8 74:21 79:10, 16, 24 <b>worldwide</b> 7:23 <b>worried</b> 40:8 <b>worry</b> 39:21 <b>worst</b> 35:25 <b>worth</b> 8:8 <b>wrote</b> 93:19  < Y > <b>Yeah</b> 45:15 <b>YEAR</b> 1:4 3:5, 9, 19 15:21 28:16 38:17 51:25	54:13 55:21 56:20 64:17 75:24 76:11 87:21 89:3 96:3 <b>YEARS</b> 1:4 4:2 12:13 17:17 18:9 21:20 22:5 26:5 27:17 38:2, 9, 18 44:17, 20 45:22, 23 46:16 47:14 49:23 50:17 59:10 60:5 64:16 66:1 72:17 74:20 76:5, 12 79:17, 21 84:16 85:13 94:8 96:5 <b>yield</b> 51:3 61:15 <b>yields</b> 89:6 <b>young</b> 46:6 <b>youngest</b> 73:24
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