Stenographic Transcript Before the

COMMITTEE ON ARMED SERVICES

UNITED STATES SENATE

HEARING TO RECEIVE TESTIMONY ON THE POSTURE OF THE DEPARTMENT OF THE AIR FORCE IN REVIEW OF THE DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR 2023 AND THE FUTURE YEARS DEFENSE PROGRAM

Tuesday, May 3, 2022

Washington, D.C.

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6	Tuesday, May 3, 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-G50, Dirksen Senate Office Building, Hon. Jack Reed,								
14	chairman of the committee, presiding.								
15	Committee Members Present: Senators Reed [presiding],								
16	Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters,								
17	Manchin, Duckworth, Rosen, Kelly, Inhofe, Wicker, Fischer,								
18	Cotton, Rounds, Ernst, Tillis, Sullivan, Cramer, Scott,								
19	Blackburn, and Hawley.								
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OPENING STATEMENT OF HON. JACK REED, U.S. SENATOR FROM
 RHODE ISLAND

Chairman Reed: Good morning. The committee meets this morning to receive testimony on the plans and programs of the Department of the Air Force in review of the Fiscal Year 2023 President's defense budget request.

I would like to welcome our witnesses: Mr. Frank
Kendall, Secretary of the Air Force; General Charles Brown,
Chief of Staff of the Air Force; and General John Raymond,
Chief of Space Operations. We are grateful to the men and
women of the Air Force and Space Force for their service,
and to their families for their continued support.

13 President Biden's defense budget request for fiscal 14 year 2023 includes approximately \$234 billion in funding for 15 the Air Force, an increase of \$13.5 billion from the fiscal 16 year 2022 enacted budget. In preparing this budget request, the Air Force faced difficult decisions in balancing the 17 18 need to modernize and keep technological advantage over 19 near-peer competitors against the need to support ongoing 20 operations around the world. The budget before us aims to maintain that balance by increasing funding to address 21 22 readiness concerns while also funding technologies for the 23 future fight and modernizing our strategic deterrent 24 capability.

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The budget request for the Air Force would include

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1 additional investments in capabilities such as Next 2 Generation Air Dominance, the B-21, Long-Range Stand-Off Weapons, hypersonics, and Air and Ground Moving Target 3 4 These changes are part of continuing to Indication. 5 implement General Brown's strategic vision of "Accelerate 6 Change or Lose." During today's hearing I hope we will hear 7 more on the programs that have received increased emphasis 8 under the Chief's vision.

9 The budget request also proposes to retire or realign various elements of the Air Force, with a net reduction of 10 roughly 370 aircraft in fiscal year 2023. This would 11 12 include reducing or altering the force structure for A-10s, 13 F-16s, F-15s, F-22s, C-130s, KC-135s, KC-10s, JSTARS 14 aircraft, AWACS aircraft, and MQ-9 Reaper remotely piloted 15 aircraft. Any proposal of this sort deserves our careful 16 consideration. I hope the witnesses will provide the 17 Committee with reasoning for the proposed retirements and 18 realignments within this budget request and assure us that 19 any decisions are well thought out before disruptions to the 20 force structure begin.

We will have to evaluate these proposals against the backdrop of the conflict in Ukraine. First, this conflict causes many of us concern about retiring weapons systems that could actually be required in the very near term. Second, we need to be sure that we maintain or increase our

1 stocks of munitions, spare parts, and other elements of the 2 sustainment portfolio to ensure we are sufficiently prepared to deter any aggressors. And third, we need to evaluate our 3 4 domestic industrial base to avoid making short-sighted 5 decisions that could harm our nation's ability to provide б for our defense. I am interested to know your thoughts on 7 these matters, as well as your plans to improve shortfalls 8 within the pilot and maintenance personnel communities.

9 Turning to the Space Force, Congress established the 10 Space Force with the purpose of consolidating numerous space activities in the Department of Defense. General Raymond, I 11 12 would like to know how you are growing the service in terms 13 of personnel. I am also interested in an update on how you 14 are normalizing operations within the larger Department of 15 Defense, including progress on the merging of the Space 16 Development Agency into the Space Force by October 1, 2022.

17 With regard to space warfighting capabilities, Section 18 1602 of the Fiscal Year 2022 National Defense Authorization 19 Act required the Secretary of Defense to designate the Chief 20 of Space Operations as the force design architect for future 21 satellite constellations of the armed services. It is 22 critical for the Space Force to design its warfighting 23 objectives in the same way the Chief of Naval Operations 24 designs our Navy fleets and the Chief of the Air Force 25 designs our air posture. I will want to know your progress

1 toward that objective.

2	Finally, now that the Space Force is up and running, it							
3	is important to present a trained force with substantive							
4	capabilities to the combatant commands. One of the							
5	capabilities for the combatant commands now under discussion							
б	is tactical space intelligence, surveillance, and							
7	reconnaissance, ISR. This is a new operating domain for the							
8	Defense Department, and I would ask the witnesses to discuss							
9	what resources they believe are needed to ensure its							
10	success.							
11	Secretary Kendall, General Brown, and General Raymond,							
12	thank you again for appearing before our committee and I							
13	look forward to your testimony.							
14	With that let me recognize the ranking member, Senator							
15	Inhofe.							
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STATEMENT OF HON. JAMES INHOFE, U.S. SENATOR FROM
 OKLAHOMA

3 Senator Inhofe: Thank you, Mr. Chairman. I join you
4 in welcoming our three witnesses today.

5 I will get right to it. I have reviewed the new 2022 6 National Defense Strategy, and I have examined the budget. I 7 have attended multiple threat briefings -- Secretary 8 Kendall, I was sorry to miss one of yours but I made all the 9 rest of them -- and they did not paint a very optimistic 10 picture of what we are faced with.

11 So, I do not understand how this Air Force budget even 12 begins to resource the strategy. First, inflation is the 13 new sequestration. It is destroying your buying power, and 14 the salaries of your service members. That is definitely 15 true in 2022, and probably true in 2023.

Second, there is simply not enough in this budget to reverse the trends we hear about in classified sessions. That is particularly true over the next 5 to 7 years. This budget divests 1,500 aircraft and buys 500. You know, the math does not work out.

Let us take one example. The budget retires almost 31 -- well, there are 31 total of the AWACS of which 31 are in Oklahoma and I think some are forward deployed, maybe 5 or 6. And that is one example of where we are right now, and when the replacement will not come online until 2027. I

have always been in favor of divesting aircraft when it makes sense and we can mitigate the risk. But we are not mitigating the risk unless we move much, much faster than we are moving today.

5 I appreciate your decision to pursue a sole-source of 6 the E-7 Wedgetail. I look forward to working with you to 7 use existing authorities to get this critical capability as 8 soon as possible.

9 Another, this budget buys only 33 F-35As, the lowest 10 since sequestration. These Block 4 aircraft will be the 11 cornerstone of our fleet, new allies and partners are 12 joining the program, and our commanders and pilots tell us 13 they love the aircraft and they love to fly it.

We are still buying multiple air munitions at very low rates. We are buying tankers at very low rates, despite concerns about contested logistics. I could go on and on, but you get the idea.

Just to be clear, I am not blaming you. The three witnesses today, they are not to be blamed on this. I do not want that to be misunderstood. This is what is happening when you get an arbitrary topline, when the budget just does not match the strategy. It is not strategy- based budgeting.

There are bright spots in the Air Force budget.
Nuclear modernization is proceeding well. The B-21 and

Next-Generation Air Dominance are significant success
 stories. But most of the bright spots share one thing in
 common. That is they are 10 years away.

And I am proud of what the Space Force has been able to achieve with real budget growth since its standup. We are finally moving to meet the threat in space.

Now here is something that was significant because we could go today. We had a hearing here in this chamber and we had David Berteau. I am going to use this quote as often as I can to remind people, we can sit around and talk about what I just did in an opening statement, but when it gets down to it, though, we really should be talking about what China is doing.

14 And his quote, David Berteau, a week ago today, said, 15 "It takes today 3 years to do what China can do in 3 days in 16 terms of deciding, resourcing, and getting started on 17 something that needs to be done, particularly bringing new 18 technology into play." And that is a significant thing 19 here. You know, how far behind we are, we are getting further behind, and I think we discussed why this is 20 happening, and this is the thing that we need to be 21 22 addressing.

23 Thank you, Mr. Chairman.

24 Chairman Reed: Thank you very much, Senator Inhofe.25 Now let me recognize Secretary Kendall. Secretary

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2 SECRETARY OF THE AIR FORCE

Mr. Kendall: Thank you, Chairman Reed, Ranking Member Inhofe, and members of the committee. I am honored to have General Brown and General Raymond join me in representing the nearly 700,000 airmen and guardians that defend our nation. We are all thankful for your consistent support over the years.

9 Speaking in 1940, General Douglas MacArthur said the following: "The history of failure in war can almost be 10 11 summed up in two words: too late. Too late in 12 comprehending the deadly purpose of a potential enemy, too 13 late in realizing the moral danger, too late in 14 preparedness, too late in uniting all possible forces for 15 resistance, and too late in standing with one's friends." 16 I believe MacArthur made this comment after France fell

17 to Nazi Germany and their aggression but before the attack 18 on Pearl Harbor drew the United States into a war in Asia, a 19 time that, in some ways, may be analogous to our own.

What my colleagues and I are trying to do, and what we need your help with, is to ensure that America's Air and Space Forces are never too late in meeting our pacing challenge, which is China. We are also concerned about the now obvious and acute threat of Russian aggression.

25 Many of you have heard the China threat briefing that

we presented. It lays out China's efforts to develop and field forces that can defeat our ability to project power in the Western Pacific. China is also significantly increasing its nuclear weapon inventory and working to field long-range strike capabilities that can put our homeland at risk.

б Today we will say more about how the Department of the 7 Air Force is responding to that threat through our fiscal 8 year 2023 budget and through future budgets. Our budgetary 9 submission provides a balance between the capabilities we 10 need today and investment in transformation required to 11 address emerging threats. With the requested budget, the 12 Air and Space Forces will be able to support our combatant 13 commanders in the continuing campaigns that demonstrate our 14 resolve and support and encourage our allies and partners 15 around the world. Simultaneously, our fiscal year 2023 16 budget represents a significant early step in the 17 transformation of the Air and Space Forces to the 18 capabilities needed to provide enduring advantage.

An important feature of our budget request is a substantial increase in research and development funding. This investment is a down payment on production and sustainment investments and hard choices that are yet to come.

We are comfortable with the balance struck in this budget submission. We also want to ensure the committee

1 understands that hard choices do lie ahead at any budget 2 In this request we are asking for divestiture of level. equipment that is beyond its service life, too expensive to 3 4 sustain, and not effective against the pacing challenge. 5 These divestitures are necessary to provide the resources б required to transform the Department of the Air Force to support integrated deterrence. We appreciate the 7 8 committee's support for the divestitures requested last 9 year, and we ask for your support for these we are 10 requesting this year and those in the future.

11 Change is hard but losing is unacceptable, and we 12 cannot afford to be too late.

13 The work we have ongoing in the Department of the Air 14 Force to define the necessary transformation is focused on 15 seven operational imperatives, each of which is associated 16 with some aspect of our ability to project power. As of 17 today there should be no doubt that great power acts of 18 aggression do occur, and equally no doubt of how devastating 19 they can be to the victims of that aggression and for the 20 global community.

First, if the Space Force is to fulfill its mission of enabling and protecting the Joint Force we must pivot to transformational space architectures and systems. In fiscal year 2023, we are asking for funding to begin the transformation to resilient missile warning and tracking and

1 to resilient communications networks.

Second, we must integrate and officially employ Air and Space Forces as part of a highly lethal Joint Force to advance battle management system, or ABMS. This budget continues funding for the early increments of ABMS and the ongoing work that will define the additional investments the Department needs to cost-effectively modernize our command control of communications and battle management networks.

9 Third, to defeat aggression we must have the ability to 10 hold large numbers of air and surface targets at risk in a 11 time-compressed scenario. This budget funds the E-7 12 Wedgetail as an interim AWACS replacement, while supporting 13 work to define the transformation to a resilient combination 14 of air and space intelligence, surveillance, reconnaissance, 15 and targeting systems.

Fourth, our control of the air is being challenged and we must proceed to an affordable, next-generation air dominance family of systems. The budget increases funding for the NGAD family of systems to include a sixth-generation crewed platform, and an uncrewed, unmanned combat aircraft. Fifth, you must have resilient forward basing for our

tactical air forces. This budget continues funding for agile combat employment in both the Indo-Pacific and European regions, while we define the most cost-effective mix of hardening, active defense, deception, and dispersion.

1 Sixth, we must ensure the long-term viability and cost-2 effectiveness of our global strike capability. This budget 3 begins the transition of the B-21 from development to 4 production, and it continues the work to define a more 5 extensive global strike family of systems that also includes 6 uncrewed aircraft.

Finally, the Department of the Air Force must be fully ready to transition to a wartime posture against a peer competitor. In particular, we must strengthen our cybersecurity and our resilience against attack on the information systems and facilities that we depend upon to go to war.

Members of the committee, I look forward to your support as we work to ensure that America's Air and Space Forces are never too late. One team, one fight.

16 We look forward to your questions.

17 [The joint prepared statement of Mr. Kendall, General

18 Brown, and General Raymond follows:]

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STATEMENT OF GENERAL CHARLES BROWN, CHIEF OF STAFF OF
 THE AIR FORCE

General Brown: Good morning, Chairman Reed, Ranking
Member Inhofe, and distinguished members of this committee.
It is an honor to appear before you and represent the
689,000 total force airmen serving today. Thank you for
your continued support to our airmen and their families.

8 I appreciate the opportunity to be here today with 9 Secretary Kendall and General Raymond to testify on the 10 fiscal year 2023 budget submission, a budget that continues 11 to accelerate the Air Force's rate of change to address the 12 security challenges articulated in the National Defense 13 Strategy, a budget that continues to build on the successes 14 of fiscal year 2022.

15 The United States Air Force is a leading example. Our 16 airmen make air power look easy. It is anything but. A 17 world-class Air Force requires world-class airmen that are 18 organized, trained, and equipped to remain the world's most 19 respected Air Force. But if we do not continue to transform 20 this may no longer be the case. We must continue to 21 communicate and collaborate with this committee and key 22 stakeholders so we can accelerate change.

Last year's budget communicated the Air Force the nation needs for 2030 and beyond. Our message has not changed for fiscal year 2023, and it will not change in

1 future budget submissions. We must modernize to counter 2 strategic competitors. The PRC remains our pacing challenge and Russia remains our acute threat, so we must balance 3 4 between the demands of today and the requirements of 5 tomorrow. Failure to do so puts our ability to execute the б National Defense Strategy at risk. It puts soldiers, sailors, marines, guardians, and airmen, along with allies 7 8 and partners, at risk. It puts our ability to place air 9 power anytime, anywhere at risk.

10 The only way our Air Force and the nation will be 11 successful balancing risk between today and tomorrow is if 12 we collaborate. In fact, collaboration is the critical work 13 in "Accelerate Change or Lose." We are beginning to see the 14 success of our collaboration efforts towards transitioning 15 to the future.

16 This year's budget brought substantial increases to 17 research and development, focused on placing meaningful 18 military capability into the hands of airmen. Investments 19 in systems and concepts allow Air Force to penetrate and 20 dominate in any scenario. This is as important as our 21 investment efforts. We have been successful beginning to 22 divest systems that are increasingly irrelevant against 23 today and tomorrow's threats.

We did not do this alone. Support of Congress is much appreciated.

1 Accelerating change is the impetus behind the 2 Department of the Air Force's operational imperatives. This means moving with a sense of urgency and doing so in the 3 4 right direction. This year's National Defense Strategy 5 provides us the needed direction, and when you combine the 6 operational imperatives in the National Defense Strategy you 7 see this year's budget is an alignment with what our nation 8 demands of our Air Force.

9 The Air Force we are building is critical to integrate 10 deterrence, campaigning, and building enduring advantages. Because nuclear deterrence is the backstop of any 11 12 deterrence, this year's budget ensures our nuclear 13 portfolios are fully funded. Current events are emblematic 14 of how our Air Force is campaigning. We deployed Air Force 15 assets within days, shared vital information, and increased 16 interoperability with our allies and partners.

Finally, the Air Force is investing in enduring advantages that allow us to defend the homeland, project air power globally, and operate as joint allied and partner force. More than anyone, I want tomorrow's airmen to be ready to respond when our nation calls. This includes investing in programs that allow all of our airmen and their families to reach their full potential.

As the United States Air Force celebrates its 75th anniversary this year, we are committed to remaining the

1 world-class Air Force America can be proud of. Current 2 events demonstrate the world is growing more complex and 3 uncertain. I am certain we will need air power anytime, 4 anywhere, I am certain this year's budget is another step 5 towards transformation of our Air Force, and I am certain б there is still more work to be done. Therefore, we must 7 continue to communicate and collaborate so we can accelerate 8 change. 9 Thank you for the opportunity to be with you today, and I look forward to your questions. 10 11 Chairman Reed: Thank you, General Brown. 12 General Raymond, please. 13 14 15 16 17 18 19 20 21 22 23 24

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STATEMENT OF GENERAL JOHN RAYMOND, CHIEF OF SPACE

2 OPERATIONS

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General Raymond: Chairman Reed, Ranking Member Inhofe, 3 4 and distinguished members of the committee, it is an honor 5 to appear before you today with Secretary Kendall and б General Brown, and I am privileged to be part of this 7 leadership team. On behalf of the almost 14,000 guardians 8 stationed around the world, let me begin by thanking you for 9 your continued leadership and your strong support of our guardians and their families. 10

As we testify before you today, we find ourselves at a 11 12 strategic inflection point where we are faced with an acute 13 threat from Russia and a pacing challenge from China. The Russian invasion of Ukraine has showcased the importance of 14 15 space to all instruments of power. Information derived from 16 space, including commercial imagery, has been instrumental 17 in dominating the information environment, communicating 18 with forces, detecting missile threats, and sharing 19 intelligence amongst allies and partners.

It is clear that the character of war has changed and space is foundational to that change. However, Russia's recent direct-ascent, anti-satellite missile test in November is just the latest evidence of efforts to deny our nation the advantages that space provides.

Just as concerning, our pacing challenge, China, is

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1 integrating space into their military operations to detect, 2 track, target, and strike the Joint Force, putting our soldiers, sailors, airmen, marines, and guardians on the 3 4 ground, in the air, and on the sea at high risk. We cannot 5 allow potential adversaries to gain an unchallenged ability б to conduct space-enabled attacks. Our Joint Forces will 7 remain at risk until we can complete the transformation to a 8 resilient architecture and protect the Joint Force from space-enabled attacks. This is critical to supporting all 9 10 aspects of the National Defense Strategy, integrated deterrence campaigning, and building an enduring advantage. 11 12 To remain the world's leader in space this President's 13 budget request prioritizes space and invests \$24.5 billion to ensure our assured access to and freedom to maneuver in 14 15 space. The largest share is in research, development, 16 testing, and evaluation funding, almost \$16 billion, to 17 modernize our forces, a portion of which will begin the 18 pivot to a more resilient and mission-capable missile 19 warning and missile tracking force design.

Notably, this includes funding for the Space Development Agency, which is included in the Space Force budget for the first time this year, and sir, it is on track to transition into the Space Force on 1 October of this year.

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In contrast to legacy approaches, this architecture

will be built to survive and degrade gracefully under
attack, help manage escalation, and be rapidly
reconstituted. This transformation will allow us to
capitalize more fully on two of our national advantages:
our commercial industry and our allies and partners.

To increase readiness we are funding operational test and training infrastructure. This ensures that we can get the right capability on orbit and in the hands of operators trained and operating in a contested domain. Robust test and training capabilities are also critical to fielding our next generation of modernized systems.

12 Other key investments include increased funding for 13 weapon system sustainment, a more resilient global 14 positioning system, and the next generation of satellite 15 communications.

16 Finally, and most importantly, we invest in our 17 guardians and their families. Over the past two years we 18 have overhauled how we recruit, assess, train, develop, 19 promote, employ, and take care of our guardians. Resilient 20 space power is not just about satellites. It is also about 21 quardians. This is one of the reasons we are seeking the 22 integration of active-duty and reserve forces into a single, 23 hybrid component. This space component is central to our 24 human capital plan and will allow us to best align our full-25 time and part-time members. This is our number one

legislative proposal, and we look forward to working very
 closely with this committee to implement this bold and
 transformational approach.

As Secretary Kendall has mentioned, change is hard and losing is unacceptable. The transformation we are beginning now is essential to protecting the Joint Force and to the security of space.

8 Thank you again for your leadership and support for our 9 Space Force. It is an absolute honor to appear before you, 10 and I look forward to your questions.

Chairman Reed: Thank you very much, General Raymond, 11 12 and gentlemen, thank you for your excellent technology. 13 General Raymond, Section 1602(v) of the fiscal year 2022 National Defense Authorization Act, which was signed 14 15 into law December 27, 2021, requires the Secretary of 16 Defense, within 90 days of enactment, to designate the Chief 17 of Space Operations the Force Design Architect of the Armed 18 Forces and notify the Congressional Defense Committees of 19 that designation. Has this occurred, and if not, why not? 20 General Raymond: I know it is being worked by the new Assistant Secretary of Defense for Space in OSD. I will 21 22 tell you, though, that a Space Warfighting Analysis Center, 23 which we stood up, is doing all the force design work for 24 the Department. It is uniting the Department in that force 25 design, and the force design that we are funding in this

budget was again led by the Space Force, and that is going
 to continue.

Chairman Reed: Well, again, I would you to urge them and the Secretary to make the official designation and communicate it to the committee as directed by the legislation.

7 General Brown, the fiscal year 2023 budget request 8 would retire roughly of the E-3 airborne warning and control system, AWACS aircraft, 15 of 31. And the Air Force just 9 10 announced its intent to provide a sole-source contractor, Boeing, to buy an aircraft, the E-7 Wedgetail, to replace 11 12 some of the E-3 fleet. It will take several years to get 13 that aircraft in the air and on duty. Can we wait that 14 long, given the pacing threat of China, particularly?

15 General Brown: Chairman Reed, I appreciate the 16 question. You know, ideally we want to go as fast as 17 possible and we want to work very closely with this 18 committee but also with the contractor. But I would tell 19 you that I personally have flown on the aircraft a couple of 20 times and worked very closely with our allies and partners, particularly the Australians, to operate it today. Our goal 21 22 here is to learn as much as we can from them, and at the 23 same time to accelerate where we can to get the procurement. 24 But we want to put ourselves in the best place possible to 25 make sure we have the capability that is required.

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ce Force,
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1 Chairman Reed: And Secretary Kendall, typically you 2 fly the aircraft before you buy it, you test it, et cetera, 3 but as General Brown alluded to the Australians are already 4 flying the E-7. Great Britain is ahead of us in line in 5 terms of production. Are there any thoughts about making a 6 grand bargain and getting those aircraft faster?

Mr. Kendall: Chairman, we are exploring options to try
to do that. It is not clear that there are opportunities
but we are investigating them.

10 The timeline is driven by the fact that we are buying 11 new commercial airplanes and then modifying them to be the 12 surveillance platforms that we want. Getting the airplanes 13 is about a 2-year process, then then modifying them is 14 another 2-year process.

So there are things that we could do, however, to maybe get access to aircraft earlier, one way or another. There are things that we might be able to do to reduce risk and to make sure that we make that schedule. So I would be happy to work with the committee on ideas to move forward at a guicker pace. That is something we all want.

21 Chairman Reed: I concur and I look forward to working22 with you, Mr. Secretary.

Both the Air Force and the Space Force have set up a robust unfunded priority list, and let me underscore the word "priority." General Brown, does that list represent

1 your carefully evaluated priorities, what your needs are, so
2 that you we will not buy something that is nice to have but
3 not critical?

General Brown: Chairman, it does, and actually, the way it is laid out, it looks at some of our readiness aspects as well as procurements and weapons to go with the platforms we are pursuing. So it is a combination of not just the platforms but really all the capability we require to move forward.

10 Chairman Reed: And General Raymond, the same question. 11 General Raymond: Absolutely the same, sir. It 12 reflects my priorities focused on modernization and 13 readiness.

14 Chairman Reed: Thank you.

A final question, Secretary Kendall, is that we have to renew the Small Business Innovation Research and Transitions Programs. They are expiring September 30th. You have had extensive experience in many different capacities with these programs. How critical is it is for us to extend these programs?

21 Mr. Kendall: They are very important programs. They 22 have been used for a very long period of time to provide 23 money to encourage small businesses, particularly to develop 24 their products and to transition them to where they are at a 25 position where we could acquire them.

1 The Air Force, in particular, is using a new approach 2 to this to try to bring in more outside competitors. Ι think that has been fairly successful. It brings firms to 3 4 the Defense Department that normally would not be there, and 5 they try to transition those projects quickly. б General Brown and I are going to be reviewing a lot of 7 the ongoing projects to decide which ones we think 8 definitely need to get across the valley of death so that we 9 can do that more predictably than it has been done in the 10 past. 11 But the program itself is of very high value. We 12 strongly support it. 13 Chairman Reed: Thank you very much, Mr. Secretary. Thank you, gentlemen. 14 15 Senator Inhofe, please. 16 Senator Inhofe: Thank you, Mr. Chairman. I have a 17 couple of questions that are very similar to what the 18 chairman has asked, that gives you a chance to go in a 19 little deeper if you want to do so. I have referred to the 20 hearing that we had a week ago today with two other experts, 21 and actually gave a quote from one of them. We have heard, 22 at this end of the table, from contractors, from 23 servicemembers, everyone from aircraft production to 24 military construction, about its significant, harmful 25 effects.

1 Late last night we just received your response from a letter that Mr. Rogers, from the House, and I sent some time 2 ago. Now we only got a response late last night, but I 3 4 suspect, and I want to make sure that we get this in the 5 record, that you had your response completed prior to that б time but we had not received it yet. Is that accurate. 7 Mr. Kendall: Senator, we had worked on that response 8 over a period of time and it was reviewed multiple times as 9 it was finalized. I signed it out yesterday, just before it 10 was delivered to you, I believe. 11 Senator Inhofe: Yes. But on the other hand your part 12 was completed prior to that, I would suspect. 13 Mr. Kendall: I do not know that I can say that, 14 Senator. 15 Senator Inhofe: All right. That is fine. 16 I also talked about something very similar to what the 17 chairman was talking about here, talking about the AWACS, the A-7, in my opening statement. Now this is an issue that 18 19 is very close to us because AWACS, some 27 -- I think 27 are 20 in Oklahoma, but the other 6 are forward deployed, I 21 understand. But I think all of us agree that we need to get 22 the A-7 as fast as possible for the high-end fight. 23 Now that was asked by the chairman but I would like to 24 be a little more specific. What options are you looking at

25 to accelerate this program? Can we accelerate the

acquisition authorities and is there a way that you think we can put this together so that we could actually have the contract done in 2022, so we do not lose an extra year? That is the concern that I had in my opening statement. What do you think?

6 Mr. Kendall: Senator, we would really like to 7 accelerate the program if we could. It is not clear at this 8 time that there are opportunities to do that, and we talked 9 about this just yesterday with you. I am exploring some 10 options that might be possible but I cannot say with any certainty that they can be executed yet. And some of them, 11 12 quite frankly, are going to require some changes by people 13 who we do not necessarily have control of in terms of their 14 priorities. We have to get new airplanes and we have to 15 modify them, and the supply chain that supports all that is 16 a big part of what we have to do. That is what takes so 17 much time.

I would like to be able to get things that could reduce risk, to ensure we meet that schedule. There may be things we can do to accelerate planning. But access to the aircraft we would have to modify is going to be the thing that I think limits us more than anything else. But we are going to continue to look for options and we will cooperate with you on that.

25 Senator Inhofe: Well, Mr. Secretary, I appreciate

1 that. And yes, we talked about that yesterday with all 2 three of you, and I just wanted to give you an opportunity 3 to get on record with that, because I think that is 4 significant.

5 Thank you, Mr. Chairman.

6 Chairman Reed: Well, thank you very much, Senator7 Inhofe.

8 Let me now recognize Senator Gillibrand.

9 Senator Gillibrand: Thank you all for your testimony. 10 I recently read about Space Force's decision to forego your 11 annual fitness test and instead institute a program 12 promoting physical activity, mental health, and healthy 13 lifestyle activities. What impact do traditional fitness 14 requirements have on the ability of Space Force to recruit 15 and retain the technical talent needed for its mission?

General Raymond: Thank you for that question. One of the great advantages we have seen since establishing the Space Force is our ability to recruit talent. We have more people knocking on our door than we can take. The quality of our folks has gone significantly higher. And what we are trying to do with an innovative, science-based approach is to take a holistic look at health and fitness.

23 So we have put together a three-part program which is 24 incentivizing continuing fitness across the year round and 25 then episodic, one-time-a-year test, and using data to be

able to help support that. We also, focusing on physical
 fitness, mental health, and cognitive fitness as well.

We are also, as part of that, going to establish an advanced physical health assessment part which gives more access to mental health, and we have an education part of it as well, where throughout the entire lifespan of a guardian, from when he comes in to when he or she leaves the service, they have education on the importance of health.

9 Senator Gillibrand: Who are the types of recruits that 10 the Space Force is seeking to fill its uniformed ranks, and 11 do you need any additional flexibilities to recruit and 12 retain these individuals?

General Raymond: As I mentioned, the recruiting is going really, really well. We are looking for largely STEMfocused folks. Also space is a data domain. You do not experience the domain unless you are an astronaut. In person you experience that through data, so we are looking at software coders, we are looking at data scientists.

One interesting point is we have had 400 folks from industry apply to us to transfer in laterally from industry, and we have narrowed that down now, scaled it down, whittled it down to about 45 applicants, and we are going to bring 6 in this summer. So we are getting a lot of great talent, STEM, software, data.

25 Senator Gillibrand: And what is the difference between

your civilian complement and your uniformed complement?
 General Raymond: About 50-50, ma'am. We are just shy
 of 14,000, and it is roughly 50-50.

Senator Gillibrand: And is there an ability to recruit
one over the other, or are there differences between what
the requirements are for one over the other?

General Raymond: We are having equal success in recruiting both civilians and military. There are physical requirements on the military side, obviously, that are different than the civilians. And, in fact, we have had some that have not been able to get into the service physically and we have given them civilian jobs.

13 Senator Gillibrand: I have been working to create a 14 cyber and digital services academy to help meet the 15 cybersecurity needs of the Federal Government. Given Space 16 Force's need for highly technical servicemembers and the 17 Space Force's openness to alternative approaches to 18 traditional military requirements, as demonstrated by your 19 move away from the annual fitness test, would it be 20 advantageous to the Space Force to send cadets to the civilian-oriented cyber, digital services, and space 21 22 academy?

General Raymond: Yeah, cybersecurity on the space side is really important to us. It is an area that we have put a lot of focus on. I would be really interested in exploring

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1 a relationship there once that materializes.

2 Senator Gillibrand: Thank you.

3 Secretary Kendall, the committee was briefed that the 4 services will be implementing the DoD's Independent Review 5 Commission recommendations on sexual assault. Can you 6 provide more detail on when you expect these recommendations 7 to be implemented in the Air Force, and how will you roll 8 these recommendations out to your force to ensure 9 servicemembers are sufficiently informed?

10 Mr. Kendall: Thank you, Senator. We are moving as 11 quickly as we can to implement the recommendations of the 12 Independent Review Commission. Regarding those dates as 13 guidance, I am trying to do everything I can to accelerate 14 the implementation of them. Frankly, I think that the 15 timelines associated with them are longer than we need for 16 many things. For example, we are going to be setting up the 17 Independent Special Prosecutor's Office a month earlier than 18 the current schedule requires.

So we are moving as quickly as we can. We use a variety of means to inform our people. We use social media, emails, various publications that we have to make sure that our airmen and guardians are well aware of the resources that are available to them so that they can get help if they need it.

25 Senator Gillibrand: Thank you. Your budget includes a

1 significant amount for financial bonuses for critical 2 skilled positions. Can you discuss what positions those bonuses are for and what non-financial incentives are 3 4 available to retain servicemembers given that they have a 5 number of employment opportunities in the civilian sector? б Mr. Kendall: We have recently increased bonuses across 7 a number of fields. I can give you a list for the record. 8 This covers both enlisted and officer occupational areas. 9 And it is essentially the things that you would think would 10 be in high demand. You know, right now the economy is doing well and there is a large demand for labor. So we are doing 11 12 what we need to do to be competitive in that market. 13 Senator Gillibrand: Thank you. Thank you, Mr. 14 Chairman. 15 Chairman Reed: Thank you, Senator Gillibrand. 16 Senator Fischer, please. 17 Senator Fischer: Thank you, Mr. Chairman. 18 Secretary Kendall and General Brown, first let me 19 express my appreciation for the support shown in this budget 20 for modernizing the Air Force's nuclear equities, including 21 nuclear command, control, and communications, or NC3. These 22 programs are absolutely vital and they must be delivered on 23 time, and I appreciate the commitment to doing so that is 24 shown in this budget.

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As you both also know, Offutt Air Force Base was

severely damaged by historic flooding in 2019, and is still
 in the process of rebuilding. I would like to thank the Air
 Force for its support in the rebuilt efforts.

General Brown, I was pleased to see an addition \$286
million for the Natural Disaster Recovery Fund in your
unfunded priority list for fiscal year 2023.

7 Secretary Kendall and General Brown, can I have your 8 commitments to continue to prioritize recovery efforts at 9 Offutt and to look for opportunities to complete these 10 projects as quickly as possible?

11 Mr. Kendall: Yes. Absolutely, Senator.

General Brown: You have my commitment as well.

Senator Fischer: Thank you. Secretary Kendall, I remain concerned about the toll of both inflation and supply chain issues on the Department of Defense. How do you expect the increased costs of building materials to impact ongoing MILCON projects?

Mr. Kendall: It is something we are concerned about, and we are concerned about inflation across the board. Our biggest immediate concern is fuel prices, which have gone up substantially, and we are going to have about a \$2 billion shortfall this year that we will have to address, through one mechanism or another.

In the letter that we responded to, to Senator Inhofe and Ranking Member Rogers, all of us talked about the steps

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that we need to take. We do not know what 2023 will be like yet, and we do not know how different aspects of the economy will be affected, so we are going to need to work with the Congress to make adjustments as we go forward. So we will appreciate your support as we address this.

6 Senator Fischer: General Raymond, nice to see you.
7 General Raymond: Thank you.

8 Senator Fischer: Can you discuss the change that are 9 being made to the Next-Gen OPIR program in the fiscal year 10 2023 budget and how the new Resilient Missile Warning 11 Missile Tracking program integrates with this effort?

12 General Raymond: Yes, ma'am. It is critical. It is 13 our number one mission, Missile Warning Missile Tracking, and it is critical that we make this transformation, as I 14 15 said, to get after two important realizations. The one is 16 that the missiles that the satellites need to detect are 17 changing, and it is getting after the hypersonic glide 18 vehicles and being able to detect and track that. It is 19 critical to make that transformation for that effort.

The other thing is that by diversifying the architecture, very similar to what we do with our financial portfolios in diversifying, you then reduce the threat in space to an attack that may occur. And so on both of those efforts, in this budget we pivot from handfuls of very exquisite, very expensive satellites to an architecture that

is more diversified, to get after both the emerging class of
 missiles and the threat that currently exists in space.

So the plan is really to keep the 3 Senator Fischer: 4 Block 0 polar and the geo-capabilities but supplement them 5 with the distributed architecture. Is that correct? б General Raymond: Yes, ma'am. The challenge that we 7 face as we make this transformation, this pivot to a new 8 architecture, is we do not have the luxury of taking down 9 what we have today and telling the nation we will come back 10 in a handful of years with a new architecture. So we had to 11 develop a bridging strategy, and we looked at it. It is a 12 risk-informed strategy to keep alive what we have for our 13 nation as we make this important transition.

14 Senator Fischer: Do you still expect to have the first 15 geo satellite in at 2025 then?

16 General Raymond: Yes, ma'am.

17 Senator Fischer: It is vital. It is vital.

18 General Raymond: Yes, ma'am.

19 Senator Fischer: Thank you.

Secretary Kendall and General Brown, what do you think the war in Ukraine teaches us about air power on the modern battlefield? I know we have heard some commentators argue that anti-air defenses have made sophisticated air power obsolete in the same way that others argue anti-tank munitions have made armor obsolete. What is your view? 1 Mr. Kendall: I would begin, Senator, by saying that 2 control of the air is critical to military success and the 3 failure of the Russian military to gain control of the air 4 is a major contributor to the difficulties that they are 5 having.

6 On the other side of the equation, the Ukrainians have 7 used the air defense systems that they had quite well. They 8 have been able to keep them survivable against the threat, 9 which I think says as much about the lack of capability of 10 the Russians as it does about the capability of the 11 Ukrainians.

So you need to be careful about trying to learn too many lessons from this until we really study it carefully. But they have reinforced my views about the importance of air power, first of all, but the successful air power must be sophisticated enough to deal with the threats that it faces, including ground-based air defense systems like the ones the Ukrainians are employing.

19 Senator Fischer: General Brown, would you like to add 20 anything?

General Brown: I would. Air superiority cannot be taken for granted, and airpower, anytime, anywhere, it is not only the airplanes that will be airborne to go against other airplanes but it is the ability to also take out the air defenses that are on the ground. It is a combination of capabilities, and that is what we, as the United States Air
 Force, are focused on, to make sure we have the capability
 to do both and train to that as well.

4 Senator Fischer: And be prepared for possible, more 5 sophisticated encounters than we are seeing in Ukraine?

6 General Brown: Most definitely.

Senator Fischer: Thank you, sir. Thank you both very
8 much. Thank you, Mr. Chairman.

9 Chairman Reed: Thank you, Senator Fischer.

10 Senator Kaine, please.

Senator Kaine: Thank you, Mr. Chair, and to our 11 12 witnesses I appreciate your service. This is a question for 13 Secretary Kendall and General Brown. We had a hearing last 14 week with Secretary Hicks, and she, frankly, talked about 15 the challenge -- it is an obvious challenge -- in 16 determining the best way to get from the force we have to the force we want to have in 2030. This kind of mid-period 17 18 transition is a challenge.

When I hear phrases like "divest and "reinvest" I am not skeptical about that. You have to do it. But I tend to think about them through the lens of workforce, being chair of the Readiness Subcommittee. And as you make this transition it can be particularly challenging on our specialized workforces -- shipbuilding, aircraft production, certain electronic components.

Do you think the fiscal year 2023 and the FYDP projections for procurement adequately address the sustainment of the few remaining manned aircraft production lines in the United States?

5 Mr. Kendall: I do, Senator. We are continuing 6 production on the F-35, not quite at the rate that we were 7 at before. We are trying to wrap up production of the F-8 15EX over the next two years. And so we actually increased 9 the rate there in order to do that more quickly. I cannot 10 think of any other example. KC-46, we are continuing with 11 that production line.

12 So generally speaking we are continuing at a rate which 13 we think will support the industrial base and allow them to 14 support us going into the future.

15 Senator Kaine: General Brown?

16 General Brown: Senator, I would agree. And the thing 17 I also think about is the fact that -- you know, I do not 18 want my staff to talk about divest and invest. It is how we 19 make the transition from where we are today to get to the 20 And so we have got to make sure we are still future. working on procurement and then still maintaining capability 21 22 to support today's operations at the same time we make sure 23 we are not taking undue risk that is going to impact us in the future. So it is a combination of those two that come 24 25 together.

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1 Senator Kaine: Thank you. Now for Secretary Kendall 2 and General Raymond, I want to ask about the space domain. It is getting crowded up there. You know, many nations have 3 4 assets in space that have a defense or military purpose. 5 The commercial platforms in space just proliferate б dramatically, and they can have an impact upon defense 7 missions. We have seen what Starlink has done in terms of 8 providing internet service in Ukraine. So these commercial 9 platforms have a security dimension to them as well.

10 And then the third thing we have got to worry about in 11 space is debris. One of my favorite government publications 12 is NASA's Orbital Debris Quarterly. And the debris can be 13 accidental debris or it can be debris that is actually 14 created to jeopardize other assets in place. It seems like 15 an area where we have to do a lot to keep our platforms 16 safe, but there is also probably need for more rules of the 17 road on an international level to try to protect these very expensive assets in space. 18

So talk a little bit about how, from the DoD
perspective, you are focusing on the protection of our
assets in space and whether there are international rules of
the road that we should be considering to try to make sure
that all these assets are protected.

Mr. Kendall: Well, Senator, one rule that we recently talked about is the one the Vice President discussed

1 recently on the norm prohibiting the type of destructive tests that the Russians conducted recently, which was very 2 irresponsible. They created large fields of debris. 3 4 General Raymond can talk about the numbers of objects we are 5 currently tracking up there as a result of that one test. б So we have got to get people to agree not to do that. That 7 puts everything we have in space and low-earth orbit, 8 particularly, at risk.

9 There are other norms that we have talked about with 10 regard to proximity operations and so on, and the National 11 Space Council I think has been working on some of these to 12 try to get wider appreciation of the need to have things 13 that allow us all to operate in space and to do so to the 14 benefit of every nation, frankly. And General Raymond I 15 think will have more to say about that.

16 General Raymond: You are absolutely right that space 17 is becoming more congested, more contested, more 18 competitive. If I were to testify in front of you 2 years I 19 would have said we were tracking about 22,000 objects. 20 Today we are probably tracking close to mid-40,000 objects. 21 If I had said 2 years ago the numbers of satellites that we 22 were tracking was about 1,500. Today that number is close 23 to 5,000, and the trends are going up. Everybody is 24 proliferating access to space, largely because commercial 25 space has reduced the cost to launch. It has enabled a lot

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1 more access.

2 That provides us opportunities and it provides us challenges. On the challenges side we are working really 3 4 hard to keep the domain safe for all. We act as the space traffic control for the world. We provide warning across 5 6 the world to keep satellites from colliding. We demonstrate 7 safe and responsible behavior by how we act, and we do so in 8 partnership with our allies and partners. We are committed 9 to keeping the domain safe for all.

Senator Kaine: Thank you very much. Thanks, Mr.Chair.

12 Chairman Reed: Thank you, Senator Kaine.

13 Senator Rounds, please.

14 Senator Rounds: Thank you, Mr. Chairman. First of 15 all, gentlemen, thank you very much for your service to our 16 country. I want to take this opportunity to thank you for 17 what you have been doing to make sure that the B-21 bomber 18 program stays on time, on target. Folks in western South 19 Dakota, Ellsworth Air Force Base, are truly looking forward 20 to getting their first look at it, hopefully later on this year, and they most certainly want to be a part of the 21 22 program, and they want to make sure that they are in a 23 position to welcome the new crews and the new teams on 24 board. And I appreciate your cooperation in working with 25 them to make sure that they know what to expect in terms of

schools and so forth, and I am sure we will be able to work
 through all of that, make sure there are no delays in that.

The B-21 seems to be an example of a platform plan which is working according to schedule. When I look back at some of the other challenges that we have it would seem that while we are going to be able to procure the B-21s in some reasonable fashion, we are probably going to need more than what we had originally estimated.

9 General Brown, would you talk a little bit about what 10 the expectations are for the B-21? I think originally we 11 talked about a plan in which we would buy perhaps 100 of 12 them. Would it be fair to say that in any of the new 13 estimates, with near-peer competition growing, that our 14 demand for that particular platform will be greater than 15 what we originally anticipated?

16 General Brown: Senator, part of that is the ongoing 17 analysis that we do to determine not only what we have 18 already decided on but where we might need to, in this case, 19 procure either more B-21s or other capabilities to 20 complement the B-21. And this one of the operational 21 imperatives that we are working through. In fact, if you 22 look at a crewed and an uncrewed collaborative platform that 23 can work very closely with the B-21. So it may not mean 24 necessarily an increased number of B-21s but it is 25 additional capability to go with the B-21 as well.

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1 Senator Rounds: I think it would be fair to say that 2 right now if we had -- the F-22 is a good example of a platform in which we started out with one number that we 3 4 Today I think there are very few of us that would wanted. 5 say that we have enough F-22s that are mission capable, 6 because even though you have a number of them a portion of 7 them are always either being repaired or being used for 8 training. So fair to say that even though we talk about 100 9 B-21s, what we are really talking about is some of them 10 would be in maintenance, some of them would be for training. 11 So we really would not have that many which would be on 12 mission. Would you agree with me on that?

General Brown: We will always have some that are in training or in some type of maintenance. The goal here as we look at this particular program is, as you described it, it is on track, and I think one of the key areas we want to take a look at is how we do a better job to make sure we are sustaining that aircraft and making it much easier for our airmen to maintain as well.

20 Senator Rounds: Thank you. Secretary Kendall, this 21 budget, this proposal this year plans for the elimination or 22 the divestment of about 250 aircraft, but it looks like we 23 are only going to be able to procure about 87 new aircraft. 24 Granted there is, at least from what I can see, first of 25 all some of the aircraft are flat out there Hangar Queens.

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1 They are there, they are on the inventory list, but they are 2 really not operational, and the cost to maintain them, even 3 to get them out, is such that it is really not worth the 4 taxpayer dollars to try to continue to make them 5 operational. But that also means then that we are going to 6 end up with a shortfall with regard to the number of 7 platforms we can put in the air.

8 Is it fair to say that we are trying to do as many new 9 platforms as we possibly can? Is the holdup the budget or 10 is the holdup the inability of our manufacturing team to be able to produce the number of new aircraft that we need? 11 12 Mr. Kendall: We are trying to get the balance right 13 and trying to sustain our support to combatant commanders, 14 give them what they need while we go through this 15 transition. So that is essentially what we try to do in the

16 budget.

17 What we are taking on includes a mix of systems. About 18 100 of them are MQ-9s, which are actually not coming out. 19 They are transferring to another government agency. We are taking out trainers, the T-1, which is our multi-engine 20 21 trainer, and what we are going to do is something that is 22 more like the commercial airlines, where pilots that are 23 going down the multi-engine path will go directly from their 24 primary trainer to the aircraft that they are going to 25 actually operate. So we will actually have some efficiency

1 in the pilot production line because of that.

2	In the case of the F-22, we are taking our oldest and
3	least-capable F-22s, about 33 of them. They are only used
4	for training right now. So we can work on that capability
5	of aircraft for training and have those aircraft available
6	for contingency if we needed them in an emergency. But to
7	have some efficiencies as well in terms of operation cost.
8	So it is a mix of things that we are trying to do.
9	Some of it is simply divesting to replace, as in the case of
10	the tankers, for example.
11	Senator Rounds: Thank you. Mr. Chairman, my time has
12	expired. Thank you.
13	Chairman Reed: Thank you very much, Senator Rounds.
14	Senator Ernst, please.
15	Senator Ernst: Thank you, Mr. Chairman, and gentlemen,
16	thank you so very much for your service and your willingness
17	to testify in front of the committee.
18	General Raymond, we will start with you. The
19	investment in Space Force in this year's proposed NDAA is
20	pretty significant. We have a top line of \$24.5 billion,
21	and over \$16 billion is marked for research and development.
22	We are briefed constantly in this body about the speed
23	of acquisitions, or lack thereof, and we know that the
24	Chinese's acquisition timelines are much faster, sometimes
25	three to five times faster in domains like space and cyber.

It is so much quicker than the way we move at the Pentagon.
And I think that justification for a Space Force distinct
from the Air Force requires a distinct 21st-century culture
that will move quickly to adapt and modernize with all of
these new technologies and really closes the gap on where we
are with our near-peer adversaries.

So we hear all the time in posture hearings, we are 7 8 bemoaning the fact that acquisition timelines are too long, 9 we have these risk-averse cultures, and they really trouble 10 the other services. You are a brand-new service. So how 11 will you build that culture in Space Force that will ensure 12 and encourage a fast-follower type model for private 13 industry and is willing to assume that prudent risk and fail 14 faster? So how can we do that? We want to make sure that 15 you are successful but we have to compete with our near-peer 16 adversaries.

17 General Raymond: I could not agree more with you. We 18 have to be bold and be innovative, and I think space 19 provides an opportunity to do that. The model, the business 20 model that we have used in the past in space are very large, 21 very exquisite satellites that are very expensive and not 22 very easily defendable. And this force design work that we 23 have done shifts us to less-exquisite, with higher numbers 24 that allows us to adopt more of a business model that you 25 might see commercial companies doing. And so that is on the

1 transformation of our capabilities. That is the path we are 2 headed down.

On the people part of this, we are investing in 3 4 developing and acquiring talent that has commercial 5 experience. In fact, last year, when the Air Force Academy б cadets graduated, 118 were coming to the Space Force. They 7 had a little bit of time before they were going to go into 8 training and we sent them to commercial companies and said, 9 "Go figure out how they do that." So everything that we are 10 doing is focusing on getting after a culture that can go 11 fast, be agile.

But I will tell you, it is not like Amazon Prime where you can order it overnight. It is going to take a little bit of time to build this, but that is exactly where we are headed.

16 Senator Ernst: So with that model -- and I am glad you 17 mentioned the personnel aspect of that because we have to 18 make sure that as new authorities are being pushed to the 19 service branches, in your case Space Force, that your 20 acquisition personnel are properly trained on those new authorities. Do you feel that they are receiving the 21 22 training necessary to move as quickly as possible and use 23 some of these new models?

General Raymond: I am satisfied that the training allows them to do that. We have got great folks. I think

just the capabilities that we had set us on a path that did not allow us to take risk, and what we are trying to shift towards is a model that does.

4 Senator Ernst: Yeah. Thank you. And Secretary 5 Kendall, just sticking on this theme as well, you had noted б last week in front of HASC that the Chinese are better than 7 us at, quote, "starting a lot of new things and then taking 8 them through to fielding, " end quote. Why is that? What is 9 it that we can do differently? We have heard General 10 Raymond talk about Space Force. How can we do this different in Air Force and our other service branches? 11

12 Mr. Kendall: Senator, I want to first take a little 13 bit of issue with what you said earlier about how long it 14 takes the Chinese to do things. They are actually not 15 faster at engineering than we are. But what they do is, 16 what I was talking about in the HASC was that they have made 17 decisions quickly. I think somebody earlier mentioned how 18 they can do a decision in 3 days and we take 3 years to do a 19 decision, and then to get money it takes us time to get 20 money and start because of the process that we go through 21 here.

But I looked recently at the J-20, their most modern fighter, for example, and the development time for that aircraft was comparable to the F-35. It was not remarkably faster.

1 But they do seem to be very creative and innovative. 2 They are studying how we fight, what we depend upon to project power, in particular, and designing systems that are 3 4 intended to defeat us. I have talked to people earlier 5 about how when the Soviets were in existence and they wanted 6 to do a new program, the question of leadership I always asked was, "Are the Americans doing it?" And if the 7 8 Americans were not doing it then the Soviets did not do it 9 either.

But with the Chinese they do not care about what we are doing. They are looking at how we fight, what we depend upon, and they are being very creative about the things that they are buying to come after us.

14 Senator Ernst: Good. Thank you. And I do hope that 15 we can continue with the model of efficiency and be less 16 risk-averse as we move forward. We want to make sure that 17 you have everything you need to succeed.

18 Thank you very much, Mr. Chair.

19 Chairman Reed: Thank you, Senator Ernst.

20 Senator Warren, please.

21 Senator Warren: Thank you, Mr. Chairman. Secretary 22 Kendall, I want to talk about this proposal to retire 33 F-23 22s that is part of the Air Force's budget submission. Now 24 I have got to say, my ears perk up any time the Pentagon 25 talks about wanting to cut costs, and I am inclined to 1 support you on this. But how we got here is a real problem.

The F-22 is fighter jet designed to establish air superiority over enemies like Russia. The Air Force started buying them from Lockheed Martin in 1999, and said we would be using them until the 2060s.

6 Secretary Kendall, you are Secretary of the Air Force 7 but you used to run the acquisitions program for the whole 8 Pentagon, so I know you know all of the issues behind this. 9 When the Air Force started buying F-22s in quantity, was the 10 testing and development for this aircraft compete or were we 11 still figuring out a number of its major capabilities?

12 Mr. Kendall: You raise a great question --

13 Senator Warren: Yeah.

Mr. Kendall: -- and I am afraid I do not know the answer. I was there for the F-22 Milestone B Decision. It was the decision to start development. I was not there for the production decision.

18 Senator Warren: Okay, but --

Mr. Kendall: But I understand where you are coming from, and I think it is really an interesting thing to pursue.

The ones we are retiring are less capable. They were the first ones we bought and they did not have the full combat capability. So it would be worthwhile to go back and do the case study to understand why that is the case.

We have a similar problem with F-35, where a lot of our earlier aircraft need a lot of modifications. And I know you are going to go to my acquisition malpractice comment.

4 Senator Warren: You bet I am. But let's unpack this a 5 little bit as we go forward, because it is my understanding, б and I think the record shows pretty clearly that we started 7 buying these planes before we had uncovered all the design 8 deficiencies and capability shortfalls that had to be fixed 9 in order to make them work the way they were supposed to 10 work. And these are very expensive planes. So we spent \$6 The GAO now estimates we are going to need 11 billion on them. 12 to make upgrades that will cost \$11.7 billion, nearly double 13 what we spent to buy them in the first place.

14 And I understand why the Air Force decided that was 15 just too much and you want to retire these planes, and 16 frankly, I applaud you for making the tough call. But the 17 F-22 is not the only program where we have seen this 18 problem. The GAO thinks we will have purchased a third of 19 the F-35 fleet before testing is complete. And I appreciate 20 the capabilities of the F-35 and the role that they are going to serve in the military, but the process gives me 21 22 pause here.

23 Secretary Kendall, you know where I am going with this.
24 You called the F-35 program, quote, "acquisition
25 malpractice." Can you just say a word more about what you

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1 mean by that?

2 Mr. Kendall: What I meant at the time that the decision to enter production was made before any flight 3 4 testing of the production prototype, and so we did not have 5 data to verify the design. It was not a stable design. My б rule of thumb for aircraft programs is you should have about 7 a year a flight testing under your belt, at least, before 8 you commit to production.

9 As good as our digital models are, and as more 10 sophisticated they get, we just push our designs to be as 11 close to the edge as possible. And we often push for more 12 performance than we have had before, so our models are not 13 as good.

And there is always this tension, Senator, between 14 15 people who are really, really anxious to get the new 16 product. You know, they want that new, wonderful airplane 17 that is coming out and they do not want to wait another 2 or 18 3 years to have you finish the design and then put on it the 19 upgrades that are coming.

20 The other factor that comes into it is that almost all 21 of our aircraft evolve over time to respond to the threat. 22 If you look at the F-16, for example, it has gone through a 23 number of different models. You look at the F-15, the same 24 thing. The F-35 is now going through, you know, it is 25 Technology Refresh 3 and it generally gets Block 4 level of

sophistication. And part of this is that the threat keeps
 changing, and part of it is that technology keeps changing.

Senator Warren: Look, Mr. Secretary, I understand 3 4 When the threat changes and we have to make that. adjustments I totally get that. But I would not buy a car 5 б from a car company that said, "We are not sure if we have 7 figured out all the details to keep this thing from bursting 8 into flames, but do not worry. We are going to go ahead and 9 sell it to you and later on you can buy the parts that will keep it from burning up." 10

11 You know, I think you have it right when you say we 12 need to fly before we buy. Otherwise, we just run the risk 13 of not only flushing money down the drain but time and 14 effort that we put in this direction.

15 So now we are replacing the F-22s, the ones that we are 16 scrapping after having spent \$6 billion on them, with the 17 Next Generation Air Dominance program. I just want to make 18 a point about this program. It is largely classified, and 19 that may be necessary, but it also means there is going to 20 be even less oversight over this program. No public reports, less public scrutiny from the GAO, from the DoD IGs 21 22 and from the press. And this lack of transparency means the 23 process that we have already seen fail us becomes an even 24 riskier process.

25

So I see that I am out of time. I would like to talk

to you more about how we estimate the costs around this.
But I would like to urge you to rethink this question about
making it more transparent, what we are doing in the
development of this new project.

The American people are willing to pay what it costs to keep us safe. We want cutting-edge technology. But they do not want to be in the position of flushing more money down the toilet because we were out purchasing something before we even knew if it would work.

10

So that is my request, Mr. Secretary.

11 Mr. Kendall: I think you are slightly overstating the 12 case with the F-22, because those earlier models were of use 13 to us operationally and have been up until this time. It is 14 not that they have no capability or that they have a 15 defective design. It is just not upgraded to the state that 16 we need to meet the current threat. And it would cost -- I 17 think my number is about \$2 billion to upgrade those 18 aircraft, \$50 million apiece, roughly, and it is not a high 19 enough priority for us to do relative to other investments. 20 Senator Warren: I know we are out of time but I just want to say, it was sold as a \$6 billion airplane that was 21 22 going to meet these specifications and accomplish these 23 ends, and now we are being told it will cost \$11 billion 24 extra to be able to meet those qualifications. That means 25 there is something wrong in the process.

1 Chairman Reed: Thank you, Senator Warren.

2 Senator Cramer, please.

3 Senator Cramer: Thank you, Mr. Chairman. Thanks to4 all three of you for being here and for your service.

5 First of all, I do want to join Senator Fischer in 6 thanking the Air Force for maintaining the nuclear 7 deterrent, keeping it on track, on target. All of that is 8 fantastic, and thank you all for doing that.

9 I want to talk a little bit, at first, about the radar 10 station, the PARCS radar station at Cavalier. I sort of 11 chuckle when I look at the three of you because all three of 12 you have visited North Dakota in your capacity in the 13 wintertime, and that is special. Particularly special, Mr. 14 Secretary, was your visit to Minot right before Christmas. 15 Thank you for that.

But I have to say General Raymond visited Cavalier on a day when it was 41 degrees below -- that would be zero, for those of you who do not know what below means -- below zero windchill, so he knows a little something about how remote and how difficult an environment that is.

But that radar is 50 years old, the PARCS radar, and I am concerned a little bit because this year's budget document say that the radar has, quote, "a high risk that equipment failures will cause unacceptable mission downtime." And I believe that the last year's budget had

1 some similar language to it.

So my staff took a briefing recently from the program office that said they are planning for digital upgrade that would, quote, "drastically decrease detection time, accuracy, and contributions to both missile warning and space domain awareness missions," unquote. And you have all talked about the importance of a lot of that, but I do not see the funding for it in this budget.

9 So I will maybe start with you, General Raymond. You 10 are obviously aware of the precarious situation at Cavalier. 11 I know you are going to visit there again. What do you 12 think? Do we need to upgrade?

13 General Raymond: Sir, first of all, missile warning, 14 missile tracking, and space domain awareness are critical 15 missions, and Cavalier and the radar at Cavalier, the PARCS 16 radar, is a very important radar. We have upgraded that 17 throughout the years. We have spent about \$22 million a 18 year sustaining that, operating and sustaining that 19 capability. The priority for this year's budget was the 20 space missile warning segment because we have to get after 21 being able to detect and track hypersonics.

As you mentioned, the program office right now is looking at an analog-to-digital modernization effort and we will address that in the coming budget years.

25 Senator Cramer: Great. Mr. Secretary, anything you

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1 would want to add to that?

2 Mr. Kendall: No. I think General Raymond covered it3 pretty well.

4 Senator Cramer: Beautiful. Thank you.

5 General Brown, you and I and others have had very frank б discussions, of course, about ISR and the IRS retirements 7 and the tradeoffs. There has been a lot of discussion 8 already today again about how to balance all of that, and I 9 appreciate that. Some of us, of course, had doubts about 10 the retirement of the RQ-4, the Global Hawk, because Air Force ISR capacity really was not keeping up, at least with 11 12 what many of the COCOMs would like, whether they need them 13 all or not, but it seems like they could always use more. 14 But we ultimately agreed, and I think based on your wisdom 15 and your counsel to trade some capacity for new 16 capabilities.

But this year's budget is cutting even more Air Force ISR, even though the COCOMs are relating, in their hearings, that they need more. And I am also hearing that you are looking at cutting some of the manpower, including up to maybe 30 percent at Grand Forks. Again, I have not confirmed that but we are hearing that.

And I just want to get a sense of your vision and goal in this transition.

25 General Brown: Sure. Well, first of all I support

your support. I know we got a chance to engage on this particular topic a number of times. There is no intent to cut any manpower at Grand Forks. Hopefully that will put you a bit at ease.

5 Senator Cramer: It does.

б General Brown: One of the areas I would highlight, 7 though, as we look at the ISR we have today versus the ISR 8 that we need for the future, the ISR in the future needs to 9 be connected, persistent, and survivable. Persistent we do have. Connected and survivable, not so much. And I look 10 11 forward to maybe talking a bit more. When we go to our 12 closed session I can get into a bit more detail on the 13 capabilities that we are pursuing, and this is something 14 that I think will help us along the way.

15 I would also offer the fact that how we get information 16 today, not from our classified systems but also from our 17 open source, plays a key role in how we bring all the 18 information together. And this our advanced [inaudible] 19 management system and some of the other tools that help us 20 with the decision superiority will actually add to, to cover 21 some of the ISR from a different perspective as we look at 22 how the character of war has changed.

23 Senator Cramer: I appreciate that. I appreciate all24 of you. Thank you, Mr. Chairman.

25 Chairman Reed: Thank you, Senator Cramer.

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1 Senator Rosen, please.

2 Senator Rosen: Thank you, Chairman Reed. It is really 3 an important hearing that we are having here today on the 4 Air Force. Secretary Kendall, I really appreciate you being 5 here today, for taking the time to speak with me last week 6 ahead of today's hearing. Of course, thank you to all the 7 witnesses.

8 And I understand the Air Force has an updated 9 legislative proposal to modernize the Nevada Test and 10 Training Range. While I agree that modernization is critical for our national security and our overall 11 12 readiness, I am disappointed that the Air Force once again 13 did not work with me or the rest of the Federal delegation 14 on its proposal, even after every Air Force senior leader 15 promised that they would do so. Since learning of its 16 existence, my staff and I have been asking for details on 17 the proposal, but the Air Force has been reluctant to provide many. 18

Our delegation, we have really enjoyed open lines of communication with the Navy as we work through its proposal to modernize Naval Air Station Fallon, and we just want to have the same relationship with the Air Force regarding your proposal to modernize the Nevada Test and Training Range. So Secretary Kendall, recognizing where we are in the calendar year, it seems likely that your proposal would be

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under consideration for the fiscal year 2024 NDAA. Can you recommit to me now that you will work with me and Senator Cortez Masto and the rest of the Federal delegation on this proposal which will be submitted to Congress for our consideration?

б I would be happy to work with you, Mr. Kendall: 7 I have looked into this since we talked and there Senator. 8 is some discussion within the Executive branch between 9 agencies that has to take place to finalize the proposals. 10 I think you are aware. The Intergovernmental Executive Committee that is involved is meeting in about 2 weeks, so 11 12 hopefully that will free things up so we can move forward. 13 I have asked my staff to share with you in general what our 14 intentions are. We cannot share the specific proposal 15 because it is going through the legislative proposal 16 process. But we would be happy to work with you to try to 17 make sure there is communication about what we are trying to 18 do.

Senator Rosen: I understand. At least talkinggenerally about it is a good start.

I also want to talk to you a little bit about housing for junior enlisted. It is an issue that I have been working on. Our junior enlisted servicemen, including airmen stationed at Nevada's Nellis Air Force Base, are averaging only 12 months in on-base housing. They are being

1 forced to move off the base due to shortages. You know 2 this. The troops are forced to cover their rental deposits and moving costs before they are eligible to begin receiving 3 4 their basic allowance for housing, or BAH. It is why I have 5 worked to include a provision in last year's NDAA directing 6 DoD to brief Congress by March 1st of this year on the 7 Pentagon's plan to provide partial dislocation allowance for 8 these troops. We still have not received this briefing, and 9 I recently heard from Nellis that none of their junior 10 airmen who were forced to move out of the dorms received a 11 dislocation allowance.

12 So Secretary Kendall, why is not the Air Force 13 supporting and providing our junior enlisted airmen with the 14 dislocation allowance you are authorized to provide them? 15 Senator Rosen, I have looked into that as Mr. Kendall: 16 well and there is some relief available for the airmen who 17 have to move off the base. They can apply for advanced base 18 allowance for housing and accelerate payments for that. They 19 are not currently getting dislocation allowance because of 20 some limitations in the joint travel regulation, but we are working to change that and correct it. It is a DoD issue, 21 22 not just an Air Force.

23 Senator Rosen: We need to change that because the most 24 junior enlisted airmen -- and I know this is happening at 25 other places -- they are the least likely to be able to

afford this. It is really putting a strain on them. We have authorized it. Let's have a discussion, because this is really hurting our service men and women, particularly the young ones. So thank you.

5 I want to move on, in the time I have left, to talk 6 about C-130J recapitalization, because Nevada's Air National 7 Guard's 152nd Airlift Wing in Reno, it flies its legacy C-8 130s in some of the hottest temperatures, highest 9 elevations, and in the most challenging and mountainous environments of any C-130 unit. Integral to their mission 10 is flying the Modular Airborne FireFighting System. We call 11 12 it MAFFS.

Upgrading the Nevada Air National Guard's C-130 fleet with C-130Js would have a substantial impact on their readiness and the firefighting capabilities, not just in Nevada but the entire Western United States. I know you have seen the wildfires. They are just burning out of control. We are just plagued, and I cannot imagine it is going to get any better.

20 So I am really discouraged that the Air Force is still 21 not considering MAFFS when evaluating base candidates for C-22 130J. During last year posture hearing General Brown and 23 then Acting Secretary Roth both committed to considering 24 making MAFFS' mission part of the Air Force basing criteria 25 for C-130Js.

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1 So, Secretary Kendall, again I am putting you in the 2 hotseat. Can you update the committee where you are on the process? Can we get a commitment that the 152nd Airlift 3 4 Wing in Reno will be seriously considered, given its 5 critical mission to saving lives in the West? б Senator, we will be looking at the Mr. Kendall: 7 special missions, for various special missions that C-130s 8 MAFFS is an important one, obviously. We will be do. 9 taking those special mission capabilities into consideration 10 as we go through the basing decisions for the 130Js. 11 Senator Rosen: Thank you. I appreciate it. Thank 12 you, Mr. Chairman. 13 Chairman Reed: Thank you, Senator Rosen. 14 Senator Cotton, please. 15 Senator Cotton: Secretary Kendall, General Brown, I 16 want to commend you again for your clear-headed and even 17 single-minded focus on regaining our technological edge 18 against China. I have supported those efforts in the past 19 and I continue to support them now. 20 General Brown, I want to talk to you a little bit about 21 some of those efforts and something of a challenge you face. 22 For a few years now the Air Force has talked to us about 23 divesting certain assets. Those things are known there, 24 apparent to the eye. Local communities depend on them, 25 whether it is Little Rock or C. Moore Johnson or Nellis.

But you are investing in a lot of things that we cannot necessarily see. Either they are in development or they are highly classified programs. These are capabilities, though, that we need to continue to outpace and deter China.

5 I know we are going to have a closed setting later 6 where we can touch on some of those as a committee, but can 7 you just confirm you are going to provide in that closed 8 session the classified details that we need on the following 9 programs, the first would be the F-35 along with other 10 future fighter force investments?

General Brown: Senator, we will. And if I could also 11 12 add, one of the areas that I am focused on with my staff is 13 to get as many briefings as possible, at the same time 14 providing some unclassified talking points like we did for 15 Grand Forks on the ISR being consistent, persistent, and 16 survivable, so they have an idea of things they can talk 17 about with their constituents as well as the other members 18 of the Congress.

Senator Cotton: Okay. A second one is the future of air-to-ground weapons and air-to-air weapons and that especially includes hypersonics.

General Brown: I will be very happy to talk about that in the closed session.

24 Senator Cotton: The future of ISR, you have already 25 touched. Some key space capabilities I cannot even name here. I will ask you first and then turn it to General
 Raymond.

3 General Brown: I really depend on General Raymond. I
4 am a beneficiary of his capabilities.

5 Senator Cotton: Okay.

General Raymond: Sir, I look forward to talking to you7 in the closed hearing.

8 Senator Cotton: Okay. And General Brown, we have 9 touched on this with a few other Senators, the B-21. We 10 will get a classified update on that as well?

11 General Brown: You will.

12 Senator Cotton: Okay. I just want to say that I 13 understand some Senators' desire to have some of these programs at a lower classification level, and I do believe 14 15 there are certain cases where the government overclassifies 16 matters. But some of these are extremely sensitive 17 programs, and if the Chinese or the Russians were to 18 understand these capabilities it would put all of our troops 19 and our nation at graver risk in the future.

Senator Warren said that we need to have more ability for oversight and transparency and she cited inspector generals and NGOs and the press. That is what we are here for, though. NGOs' job is not to oversee the government. The press's job is not to oversee the government. They are not elected by the people and they are not vested with that

authority under our Constitution. It is this institution,
 and in particular this committee, to oversee these programs.
 That is exactly what we do, even if they are highly
 classified.

5 General Brown, I want to touch on another issue with 6 I am concerned about the threat of China acquiring vou. 7 land and property in the vicinity of some sensitive bases. 8 It is not just an Air Force problem. It happens across our 9 military and our intelligence community as well. I just 10 want to bring to your attention one specific project. This is at the Grand Forks Air Force Base in North Dakota. 11 12 Fufeng, a Chinese company, is investing millions in a local 13 corn mill there. Maybe it is just a corn mill, but it would 14 also provide the potential, at least, for Chinese 15 intelligence to engage in intelligence collection of various 16 kinds, both signals collection and human collection.

What is the Air Force's plans to be sure that that is not happening, not just at this one site in Grand Forks but at any of its bases around the country, if you can discuss that in an open setting?

General Brown: I really cannot discuss that, the details, in an open session like this. I recently just became aware of this one in particular, but it is something we do pay attention to across the board.

25 Senator Cotton: Good. I am glad to hear that. Again,

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1 it is a concern about all our military and intelligence
2 installations around the country. It is not just Grand
3 Forks. But Senator Cramer and I have discussed this at
4 length. I would feel exactly the same if some giant Chinese
5 conglomerate started building a facility outside of Little
6 Rock Air Force Base as well. But I look forward to
7 exploring that with you in a closed setting.

8 Thank you, gentlemen.

9 Chairman Reed: Thank you, Senator Cotton.

10 Senator Tillis, please.

Senator Tillis: Thank you, Mr. Chair. Secretary 11 12 Kendall, I had not expected to ask this question but based 13 on the exchange with Senator Warren I think it may be 14 helpful and it may be necessary to do in a classified 15 briefing, but it would be helpful with the F-22 and the F-35 16 to talk about some of the kinks that we are working out, 17 technical kinks, and separate those from modifications that 18 we are making specifically because we have identified new 19 threats. We got a briefing a week or so ago, but I think 20 that would be helpful.

I, for one, think one of the reasons why the acquisition process is so difficult is we have a nearperfection requirement for specifications before we move forward. And if we do not understand with some of these platforms, some of the more technically challenging ones, I

1 can understand where you want to do a lot of homework, but 2 in some respects we have got to be able to accept failure if 3 we are going to actually learn from failure. And I use 4 SpaceX as a classic example of that. One of the reasons why 5 they have got such a successful program now is they were 6 prepared to go on TV and have what I think Elon Musk 7 referred to as a "rapid, unplanned disassembly."

8 So we cannot, on the one hand, say you have got to 9 compress the time to value and then on the other hand say in 10 every case it has to be perfect. I think maybe for a future 11 hearing we should talk about that.

12 You know, I have got a little bit of a history of 13 bringing up the KC-10, and the KC-46 we are going to be happy to host down at C. Moore Johnson. But I was curious 14 15 with the current conflict in Ukraine, the increase in 16 refueling needs, and then gaming out how this conflict could 17 go, if there is any thought process in the Air Force behind 18 whether or not we are retiring KC-10s a little bit faster 19 than we should, based on threats that we did not know about 20 before February the 24th, or did not necessarily anticipate? 21 Mr. Kendall: Yeah, Senator, I am not aware of any 22 impact coming out of the Ukraine lessons learned that would 23 affect that. General Brown, do you want to comment? 24 Senator Tillis: And if you could also just give me an 25 update on KC-46 and some of the technical challenges that we

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1 are working through. General Brown?

2 Sure. Nothing in a threat that General Brown: actually would change where we are with the KC-46. And what 3 4 I will also tell you, we did send KC-46 to Europe for about 5 5 weeks and have a chance to work and support some of those 6 operations, and even air refuel some of our NATO partners. 7 The airplane performed very well. I think our airmen 8 learned a lot while we were there about how to work in a 9 deployed environment.

10 As far as the KC-46, one of the key areas that we have 11 been working on was the remote visual system. We have come 12 to an agreement with Boeing on that and we will start that 13 process here in about a year or so to start the conversion.

But I have personally flown the airplane and flown on the airplane, and had a chance to talk to the airmen that operate it. They are very pleased with the airplane, and what we are finding is as we go through and certify different airplanes, we are about eight airplanes away from all of the fleets that we would actually be able to air refuel.

So again, the airplane is going well. It does have some issues we are working through, but by and large it is meeting some of the requirements, and we will continue to work that with the other platforms we have, with the KC-10 and the KC-135.
1 Senator Tillis: Okay. General Brown, maybe sticking 2 with you. I know that you are cutting the active-duty end 3 strength. To my understand some of that is primarily due to 4 budget constraints. So if you did not have the budget 5 constraint would you be able to use those personnel?

6 General Brown: Well, all the personnel that were taken 7 out of the active-duty strength, and the Guard and Reserve -8 - we are coming down in the active, a little bit up in the 9 Guard, and down a little bit in the Reserve -- all of that 10 is tied to force structure. So it is not arbitrary, just 11 taking airmen out. It is tied to actual capability.

Senator Tillis: Okay. So then it really was not budgetary driver for the force reduction?

14 General Brown: No, it was not.

15 Senator Tillis: Okay. General Raymond, Senator Cotton 16 mentioned some of the classification and de-classification. 17 I believe we were supposed to get a report due out at the 18 end of March. We have not gotten that. Do we have any idea 19 when we should expect to see that report?

General Raymond: I know OSD policy, specifically the new ASD, is working that, and he is doing the work. I do not have an estimate on when it will get to you.

23 Senator Tillis: Okay. If you could report back and 24 give us an expected due that I would be interested in 25 hearing that.

I guess a final question, I got a briefing before the Personnel Subcommittee. All of our service lines had some headwinds on recruiting. Air Force and Space Force seems to be maybe not as challenged as the Army. How are we doing on recruiting? What more do we need to do, as a matter of authorities or resources, to make sure you can hit your recruiting goals?

8 Mr. Kendall: We do have issues on recruiting but we 9 think we will be close to our meet our goals this year. 10 Look forward we are using up some of our delayed entrants in 11 order to make that goal.

12 So there are some headwinds, the economy and demand for 13 labor, a few other things, that are impacting recruiting. 14 We are addressing this at the Department level, the 15 Department of Defense as well as the Department of the Air 16 Force. We have a number of things, such as bonuses, that we 17 are offering now, increased advertising, and so on, outreach 18 to places we have not been able to go. Under COVID our 19 recruiters could not get into schools for a long time so 20 that has been a big setback and that is corrected now, in 21 general.

I am not aware of anything that we need from the committee or from the Congress at this time, though. Senator Tillis: Thank you, Mr. Chair.

25 Chairman Reed: Thank you, Senator Tillis.

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1 Senator Wicker, please.

2 Senator Wicker: Thank you very much, Mr. Chairman. General Brown, I think the chairman of this committee is 3 4 correct to worry aloud in his opening statement that the 5 budget proposal comes against a backdrop of a very dangerous б environment, including a very heated shooting war in Eastern 7 Europe. And yet we have a list of \$4.6 billion that are not 8 funded, including hypersonic testing, F-35 procurement, and 9 weapon system sustainments, among other things.

10 Why are these not in the budget request? And I think I 11 know the answer. You know, General Washington established a 12 provision over two centuries ago that the military is 13 answerable to the elected leadership of this country, and 14 that is one of the crowning jewels of our system. I support 15 that. And when the President tells you what to do, you 16 salute.

But am I to understand that hypersonic testing, F-35 procurement, and this \$4.6 billion worth of unfunded priority list would help us in this dangerous environment? General Brown: Senator, they would, and this is in addition to what we have in the budget, but these are the capabilities for the Air Force to be able to do what the nation is asking it to do.

24 Senator Wicker: So if we do not get them, what will 25 the result of that be, General Brown?

General Brown: Well, anything we do not have is going to drive some level of risk, and this is something that we talk internal to the Department of the Air Force and with the Department of Defense of how best to balance against the current threat and then also posture ourselves against a future threat.

Senator Wicker: I hope it is going to be the position
of Republicans and Democrats in this committee that these
are risks we do not need to take in this current
environment.

General Brown, we know that you cannot predict the 11 12 future. That is why the fiscal year 2022 budget planned for 13 2.2 percent inflation, and yet here we are, over 8 percent. 14 What do you think the inflation will be for the things you 15 need? I think it certainly will be more than 2.2 percent, 16 and actually is it 5 percent plus difference in predicted 17 inflation and actual inflation. That is having a negative 18 impact on the Air Force's fiscal posture, is it not? Is it 19 more expensive for you now to procure the needed items and 20 train airmen than it was for you last year? And, therefore, would you support more funding through a defense 21 22 supplemental in order to account for the difference in what 23 we thought inflation as going to be and what it actually is? 24 General Brown: As you might imagine, with inflation, 25 as you said, I cannot predict the future. But as we see

what is happening today and what the trend lines might be, the aspect for us really to come back and work with the Congress and the Congress on how best to approach this and how both internal but also with the committee on how best to approach where inflation is taking us, not only right now but what might happen here in the future, as well.

Senator Wicker: So I am asking your advice on whether
this committee and this Congress should come back and
account for higher inflation in a defense supplemental.

General Brown: Well, whether it is a supplemental or whatever other approaches you might take, what I am tell you is we do want to work with the committee and the Congress on how best to address inflation.

Senator Wicker: Well, a defense supplemental would do it quicker, would it not, General?

16 General Brown: It probably would.

17 Senator Wicker: Okay. Now let me also ask General 18 Brown about undergraduate pilot training. The budget 19 process proposes retiring 50 T-1 training aircraft, 20 including many in my state of Mississippi. These 21 requirements are part of the Air Force's shift to 22 Undergraduate Pilot Training 2.5, which incorporates 23 simulators to a larger extent. Do you expect to produce the 24 quantity and quality of pilots needed in the Air Force by 25 shifting to these virtual simulators in the Undergraduate

1 Pilot Training 2.5 model?

2 General Brown: I do, and I think one of the areas that -- I go back to when I went to pilot training, you know, 3 4 nearly 37 years ago. The technology we have today in our 5 simulator capabilities is much different from when I went to б pilot training. So we are really taking a different 7 approach and also understanding how our young people, our 8 lieutenants that come to pilot training, how they learn and learn differently from the way I did. So I do see that we 9 will still be able to make the numbers and provide the 10 11 quality. 12 Senator Wicker: How long has that been in the works? 13 General Brown: We have been working on this process 14 for probably about 3 to 4 years. 15 Senator Wicker: And it is not budget driven. 16 General Brown: It is not budget driven. 17 Senator Wicker: Thank you, sir, and thank you all for 18 your service. 19 Thank you, Mr. Chairman. 20 Chairman Reed: Thank you, Senator Wicker. Senator Hawley, please. 21 22 Senator Hawley: Thank you, Mr. Chairman. Thanks to 23 all the witnesses for being here. 24 Mr. Secretary, if we could start with you. Can you 25 tell me, just give me a sense with regard to the budget,

1 what specifically does this budget request do to increase 2 the Air Force's ability to deter a Chinese fait accompli 3 situation in Taiwan in the next several years?

Mr. Kendall: Generally I think it provides a number of capabilities that will effectively do that. It sustains the current force to a level which supports combatant commanders. It is acquiring systems like the F-35, though not quite at the numbers we would have originally intended, as well as transforming some other elements of the force structure with increased capabilities.

Some of the capabilities I mentioned in my opening statement, however, will be longer. It will take longer to get them than the next few years, so there is a period of risk there.

15 Senator Hawley: Well, you are hinting at what my 16 concern is here, which is that you appear to be cutting 17 capabilities that we could use to deter China in the near 18 term in favor of making investments, which I support for the 19 long term, but of course that sets us up with a scenario 20 where when we are in this potential danger zone between now and, say, 2030, as Chinese capability ramps up, we want to 21 22 be sure that we can deter and deny in that window as well. 23 I am concerned that this budget may not have us on track to 24 do that.

25

Do you want to just respond to that, allay my concerns?

1 Mr. Kendall: I do not think any potential adversary 2 should underestimate the United States' military capability. We have the most powerful military in the world, by a wide 3 4 margin, and anyone who wants to challenge us should 5 recognize that and realize that we are prepared. It is a 6 very ready military as well. It has global 7 responsibilities, and because of that it is fairly large, 8 but it can swing those capabilities from one theater to 9 another fairly quickly.

10 So any potential adversary I think should be given great pause when it looks at possibly taking on the United 11 12 States, at any point in time. The risk is increasing over 13 time because our adversaries, potential adversaries --14 China, who I am concerned about the most -- is fielding 15 increased capability over time. So we have to respond to 16 that. And we are making marginal changes in the near term 17 in order to have better capability in the longer term.

18 Senator Hawley: Let me ask you specifically about the 19 Pacific Air Force's PACAF. This would be the point of the 20 spear for the Air Force, is the point of the spear for the 21 Air Force and the Pacific. Were all of the posture 22 requirements identified by PACAF or this fiscal year, fiscal 23 year 2023, this budget cycle, were they funded in the budget 24 request?

25 Mr. Kendall: We do not fund posture requirements per

se. We fund organizations that then are used to provide forces to combatant commanders. There is a constant dialogue, and General Brown was very involved in this, about what portions of our force are forward and how, as we modernize, we take forces out and replace them.

6 So there have been discussions about what forces to 7 keep forward and as we retire certain aircraft, what should 8 be changed in terms of forward posture. That is a 9 continuing dialogue that really happens in the context of 10 the Joint Staff and under the Secretary of Defense's 11 direction.

12 General Brown, do you want to comment about that a 13 little bit more?

General Brown: Sure. So part of that dialogue is not only with PACAF but also, in this case, with INDOPACOM, with Admiral Aquilino, on his requirements, and balance that between all of our global commitments to be able to not only support INDOPACOM but also the other combatant commands, and EUCOM is one of those today that you see.

20 So there is a constant dialogue about how we base, how 21 we posture, and how we actually train our airmen as well to 22 handle really all the threats that we think we might face. 23 Senator Hawley: So are you telling me, Mr. Secretary, 24 that there are no unfunded requests from PACAF? They got

25 everything they wanted?

1 Mr. Kendall: I am not aware of their requests, the 2 unfunded requests from PACAF. They may have them but I am 3 just not aware of them.

Senator Hawley: Okay, great. Could you take that for
the record for me? If there are unfunded requests would you
provide those to me?

7 Mr. Kendall: Certainly.

8 Senator Hawley: Thank you. Let's talk about long-9 range anti-ship missiles if we could. If we were to be in a 10 kinetic situation with China, a fight with China, we would 11 burn through LRASMs pretty quickly, would we not?

Mr. Kendall: That would be speculating. We are acquiring some LRASM for the Air Force in our budget, and we probably will be doing more as we go forward.

15 Senator Hawley: Here is my concern. Last year you 16 requested zero LRASMs. This year it is 28. Combined with 17 the 60 LRASMs requests by the Navy for fiscal year 2023 that 18 means we are only buying 88 total LRASMs in this budget 19 year. I mean, can our industrial base not produce more than 20 88?

21 Mr. Kendall: I am not sure what the limitations is 22 there, but LRASM is not our only anti-ship capability. 23 There are other weapons that can be effective in that 24 mission as well.

25 Senator Hawley: So why are we not buying more then?

Let me just put it to you that way. They are not the best
 bang for the buck? They are not efficient? I mean, help me
 get some clarity here.

4 Mr. Kendall: We basically try to balance our munitions 5 acquisition across all the different demands, and that is 6 This is a new acquisition, I think, for one of several. 7 the Air Force. So we are going to be integrating them into 8 the force and learning how to use them. And I would tell 9 you there will definitely be more anti-ship capability going 10 forward. Whether it is the LRASM or not, I am not certain 11 at this point.

12 Senator Hawley: Great. My time has expired. I will 13 have a few additional questions for each of you for the 14 record. Thanks again for being here.

15 Thank you, Mr. Chairman.

16 Chairman Reed: Thank you, Senator Hawley.

17 Senator Peters, please.

18 Senator Peters: Thank you, Mr. Chairman.

Secretary Kendall, good to have you here. Thank you for your testimony. As we have discussed many times together, and you are well aware, Michigan's national defense footprint, including Selfridge Air National Guard Base and its A-10 and KC-135 missions that they have are critical for our national defense. And it was an honor to host Deputy Secretary Hicks last year at Selfridge, so she 1 could see the capabilities of that airfield firsthand, and 2 for former Acting Secretary Roth to affirm the Air Force's 3 commitment to Selfridge, writing in a letter to me as well 4 as to Senator Stabenow, and I will quote, "As we adapt our 5 Air Force to meet current and future national security 6 challenges, Selfridge will continue to play an essential 7 role," end of quote.

8 So, Mr. Secretary, my question for you is do I have 9 your commitment that Selfridge will continue to play an 10 important role in the Air Force's long-term plans as those 11 are developed?

Mr. Kendall: Senator I have no reason to believeotherwise.

14 Senator Peters: I appreciate that.

15 General Brown, when speaking with Air Force Magazine on 16 April 13th of this year, General Nahom stated that the Air 17 Force needs to buy 72 new fighters a year in order to 18 recapitalize a fighter force that can fight and win against 19 a near-peer threat such as China. Yet the fiscal year 2023 20 Air Force budget only calls for 33 F-35s and 24 F-15EXs to be purchased this year. It also calls for overall cuts in 21 22 terms of the F-15EX, about a 50 percent reduction, from 144 23 aircraft to only 80.

By your own admission and statements that you have made, the F-15EX has several unique capabilities and for

certain missions in particular, such as homeland defense, it
 is a superior platform to fifth-generation aircraft.

3 So my question for you, sir, is why is the Air Force 4 planning on reducing the procurement of a proven, capable 5 platform that can help us recapitalize the National Guard's 6 fighter fleet, and more importantly, free up fifth-7 generation aircraft for more relevant missions?

8 General Brown: Senator, we, as an Air Force, we are 9 committed to 72 a year. That actually helps us to bring 10 down our average age, and there is some analysis that has 11 been done to work through that.

12 One of the things, as we went into this budget, was to 13 balance the capability, not just from the fighter itself but 14 it is also the weapons, it is the support and infrastructure 15 that goes with it, which has put us in a position this year 16 not to actually go after 72. So it is a balance of all the 17 capabilities that need to come together to support the 18 fighter force, we have a full capability, not just a partial 19 capability, as we go forward.

And so this will be a continuing dialogue and continuing analysis that we will do as an Air Force to make sure we have the full capability for each one of the

23 platforms we do procure.

24 Senator Peters: Given that, the last question, would 25 you purchase more F-15EXs if you were appropriate funds to

1 do so by Congress?

General Brown: We would definitely consider that, but I would also, as we do that, I would also look at the weapons that go with the platform so we actually have not only the capability but the capacity to go with those particular fighters.

7 Senator Peters: Very good.

8 Secretary Kendall, I have sent a letter to Secretary 9 Austin regarding my concern's with the Department missing 10 some critical PFAS reporting deadlines, including both a 11 deadline that requires the Department to explain a delay in 12 reaching agreement with the state on proposed CIRCLA 13 cooperative agreement cleanup plan as well as a March 1, 14 2022, deadline for reporting to Congress on status of PFAS 15 remediation at 50 priority military installations.

16 Two of those installations are located in Michigan. 17 PFAS remediation remains a high priority for all 18 Michiganders, including myself. And my question for you, 19 Mr. Secretary, is what are your PFAS-related priorities, and 20 just given the sheer scale of the contamination challenge 21 that we face right now, how will you use your limited 22 budgetary resources in the most effective way to deal with 23 this problem?

24 Mr. Kendall: PFAS is a well-recognized and national 25 problem, of course, in the Air Force because of its use of

it in firefighting and training over the years. That is
 obviously been a big source of that getting into the
 environment.

We are working through the CIRCLA process, and I think we are doing assessments, generally, now. We are well into that and finishing that. What we are all waiting for, of course, is for an EPA standard that will help us understand what the remediation requirements are going to be, and then we will be able to move forward on remediation as well.

Senator Peters: Thank you, and I appreciate your focus on this very important issue.

12 Thank you, Mr. Chairman.

13 Chairman Reed: Thank you, Senator Peters.

I am going to recognize Senator Sullivan. We have a confidential session, closed session, afterwards, so if we can restrict our questions to 5 minutes I would appreciate it. Thank you.

18 Senator Sullivan: Thank you, Mr. Chairman, and 19 gentlemen, good to see you. I want to begin by thanking you 20 for your service to our country, which has been exceptional from all three of you. I also want to compliment the Air 21 22 Force in a big way. You know, General Brown, Mr. Secretary, 23 the F-35 bed-down at Eielson started on April 20th. A 24 pretty difficult time if we remember April -- I am sorry, 25 April 2020. And I am sure you have heard the last F-35 of

the two squadrons has arrived. So on time, on budget during the biggest pandemic in 100 years. It is remarkable -remarkable work by the Air Force. I do not even know how you did that, so thank you.

5 As you know, that now provides Alaska with over 100 б fifth-gen fighters. No place on the Planet Earth has 100 7 combat-coded fifth-gen fighters. And I think the Russians 8 and the Chinese certainly are noticing, so I appreciate that exceptional work by your team, and please pass that on to 9 all the members in Alaska and everybody else who made that 10 happen. It was a really incredible feat, so thank you very 11 12 much for that.

13 Secretary Kendall, and for both generals, I have been disappointed, to be honest, by the budget submitted by the 14 15 President. Last year he put forward a budget that was real 16 defense cuts. Secretary Austin and Chairman Milley 17 testified a couple of weeks ago, saying this was the biggest 18 threat situation globally they have seen in 50 years and yet the budget is a 4 percent cut -- 4 percent increase, 8 19 percent inflation is an inflation-adjusted 4 percent cut --20 to the Department. Are you supportive of that kind of cut, 21 22 Mr. Secretary?

Mr. Kendall: I do not believe we made a cut. I think we had a significant increase, at least in the Air Force and the Space Force.

Senator Sullivan: Overall, I am talking about.

2 Mr. Kendall: Overall we are 11 percent above the 2022 3 request. We are 6 percent, I believe, above the 2022 4 enactment.

5 Senator Sullivan: No, I asked for the overall DoD
6 budget. It is a 4 percent cut by any measure.

7 Mr. Kendall: I am not sure how you are doing your
8 math, Senator.

9 Senator Sullivan: Well, I will do my math right now. 10 Four percent increase from last year, which we boosted because the President put forward a weak defense budget. We 11 12 increased it here in the Armed Services Committee. Eight 13 percent inflation, which is actually 8.5 percent. That is 14 pretty simple math, Mr. Secretary. That is a 4.5 percent 15 real inflation-adjusted cut to the Department of Defense. 16 Maybe you can just wave off and say you are in charge of the 17 Air Force, but do you support that? That is a cut.

Mr. Kendall: We are prepared to work with the Congress on inflation. We know that inflation is uncertain right now for 2023.

21 Senator Sullivan: Well, look. I know that a number of 22 our uniformed members do not support this but have to 23 because the President is the commander in chief, and I 24 understand that and I actually respect that. But we do not 25 have to support the President's budget. We did not last

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year, and I doubt we will do it this year, in this
 committee.

Let me ask, Mr. Secretary, with regard to the Joint 3 4 Pacific Alaska Range Complex, JPARC, I have been briefed on 5 the Joint Range Operation Center, the JROC, as a necessary 6 item to integrate highly classified systems on fourth-, 7 fifth-, and sixth-gen aircraft, simulating combating and 8 superior adversaries. A number of folks have seen that as 9 very important. Should we expect to see this as a priority 10 in the Air Force's budget, both the JPARC upgrades and the JROC, that will enable us to not only operationalize the 11 12 training there but to make it have implications for real-13 world contingencies?

When I went to Northern Edge last year with Admiral Aquilino this was a topic that was on everybody's mind. I know you and I have talked about it. General Brown, I would welcome your view on this as well.

Mr. Kendall: JPARC is obviously of great importance to us. It is one of our premier ranges. It is critical for us to be able to train the way we need to train.

I do not have information for your now, and I will have to take it for the record, on the specific facility that you asked about.

24 Senator Sullivan: The JROC? General, do you have a 25 view on that?

1 General Brown: JPARC is one of our key ranges. The 2 other one is the Nellis Test and Training Range and JPARC is 3 the second. And as we look at our range complex across the 4 Air Force, those are the two primary ones that we want to 5 upgrade. I will have to look into the details on the JROC, 6 but knowing you have got to have that capability in order to 7 actually be able to operate and train like we need to for an 8 increasing threat.

9 Senator Sullivan: Great. Thank you.

10 Thank you, Mr. Chairman.

11 Chairman Reed: Thank you, Senator Sullivan.

12 Senator King, please.

Senator King: I will have several questions in the classified session, but a couple of questions. First, Mr. Secretary, it is good to see you again. Thank you.

16 Congratulations.

How are we doing on the sustainment costs of the F-35? Are we making progress? Is that a black hole or is that something that we have an opportunity to fix?

Mr. Kendall: Senator, I think there is still opportunity there. We have worked that hard over the years. The costs of the F-35 are roughly comparable to, say, the F-15. They are not dramatically out of line but that does not mean we cannot work harder to get them down. We are modernizing the Alice [phonetic] system, for a number of reasons, part of it operational and partly to reduce cost.
 There are problems with the engine that need to be addressed
 to try to reduce the cost there.

Part of this is about readiness and about having the
operational availability that we need as well as about
reducing costs. It is going to be an ongoing, continuous
effort.

8 As we modernize the system and go through Block 4 9 hopefully we will get the systems that are more reliable as 10 well and reduce sustainment costs there.

Senator King: You mentioned availability. How does the Air Force stand up against Delta Airlines, for example, in terms of readiness and availability of its aircraft?

Mr. Kendall: I think the short answer would be not well, but we have a very different operating model. I have been to Delta and looked at how they do their maintenance, for example. It is built around keeping their aircraft constantly in the air to provide revenue, essentially. We try to provide combat readiness, so it is a very different model.

But nevertheless, there is a lot we can learn from airlines like Delta in terms of how to keep the fleet current and manage the resources that you have much more effectively.

25 Senator King: I hope so, because that is one of the

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answers to the financial problem is to have more planes
 ready to fly.

On that note, where are we with the KC-46? Are the problems behind us? Are we ready to deploy those or is it still being worked out with Boeing?

б Mr. Kendall: We are using the KC-46 operationally. We 7 just signed an agreement with Boeing to do the redesign of 8 the remote vision system that is used for refueling by the 9 operator controls and refueling. We have some other 10 technical issues that they are working on to resolve. Riqht 11 now we are able to service about 85 percent of our types of 12 aircraft we have to refuel, and that is up pretty 13 dramatically from where we were a year ago.

14 So the trends are very much in the right direction. We 15 still have a little way to go to get the product that we 16 absolutely have to have. And I never project how an 17 acquisition program is going to go. I think that is folly 18 because they always have problems. But I think given the 19 progress that has been made we can be reasonably hopeful 20 about where we are going to be in terms of where we will end up with the aircraft. 21

I make the analogy to the C-17, which was plagued with horrendous difficulties for years and ended up being a product that we are all very happy to have now.

25 Senator King: With regard to personnel rather than

equipment, we have had a lot of discussion here about a
shortage of fighter pilots and also a shortage of
maintainers. Are we making progress on those two fronts?
At one point, I cannot remember, I think we were short 1,500
or over 1,000 fighter pilots. How are we doing in that,
both in recruitment and retention?

7 Mr. Kendall: We have brought the backlog or the gap in 8 fighter pilots down by about 300. It was on the order of 9 1,800, and we brought it down to about 1,500.

10 The shortage we have is not actually in units that have 11 people flying. It is in rated officers who serve in staff 12 jobs, where we want that kind of expertise available to help 13 us with staffing functions. So we are managing our way 14 through this, but it is something we are addressing.

15 We are particularly interested in trying to increase 16 the diversity of our pilots, our members in that operational 17 career field, and C.Q. Brown can talk about that a little 18 bit. We have not made the progress we would like to have 19 made in that area, so we are doing a lot to reach out to 20 communities that we would like to be able to draw from, and we are trying a number of initiatives to open up the 21 22 opportunities to serve in aviation, to become a pilot, to be 23 in the Air Force to groups that might not have that 24 expectation. And that is starting to bear some fruit, I 25 hope.

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1 On the maintenance side, I am not aware of any critical 2 shortfalls there, but let me ask General Brown to comment on 3 that.

4 General Brown: The only thing I would add to that, 5 Senator, on the maintenance piece, is that there are 6 maintainers that are actually operating the systems we have 7 today that are the same maintainers that we are going to 8 actually have to transition to the capabilities we are going 9 to procure. And so as we maintain some capability, if we 10 maintain it too long then we cannot actually man and maintain the aircraft that are coming off the production 11 12 line and coming into our units. So there is balance of how 13 we make that transition.

14 Senator King: Thank you.

I have got just a few second left. General Raymond, you are doing well on recruitment, I trust. This year's Air Force Academy graduates, do they want to join the Space Force?

19 General Raymond: Sir, we are going to commission 101 20 here in another few weeks into the Space Force. Recruiting 21 is going very well.

22 Senator King: Thank you.

Final point, congratulations, Mr. Secretary, on the emphasis on R&D. Wars are generally won on new technology, and I think you are putting money exactly where it needs to be. I want to commend you on that budget priority. Thank
 you.

3 Thank you, gentlemen. Thank you, Mr. Chairman.

4 Chairman Reed: Thank you, Senator King.

5 Senator Blackburn, please.

6 Senator Blackburn: Thank you, Mr. Chairman, and thank 7 you all so much for your service to our nation and for your 8 time. General Brown, thank you for your time last week on 9 the phone. I appreciated the conversation about hypersonics 10 and AEDC and that importance to us in Tennessee.

11 We talked some about ARRW, and so, Secretary Kendall, I 12 want to come to you on that, because the reports indicate, 13 recent reports indicate that you are looking to move that 14 funding away from ARRW and the hypersonics, and you are 15 looking to pivot to R&D. So if you would, talk about the 16 implications of this decision and moving away from ARRW, 17 what that is going to mean to how you use those funds, where 18 they are going to go, critical infrastructure, and how can 19 Congress support the R&D that is necessary for ARRW and 20 hypersonics?

21 Mr. Kendall: Senator, we fully funded ARRW for 22 research and development for the development of the program 23 in the 2023 budget. We have not funded procurement yet, and 24 ARRW, as I think you know, has had a series of test 25 failures. As much as we are encouraged to have failures we

have to have success before we can move forward to production. There are, I think, two tests that are planned over the next several months that will give us a better indication of where we are in the program, and then we will look at it again as we --

б Senator Blackburn: Okay. Let's talk about that, 7 because General Brown and I talked a little bit about how we 8 become less risk averse. Because there has got to be a way 9 to do this, especially when you look at the Communist 10 Chinese and the amount of emphasis that they are putting on 11 hypersonics, what you see happening in North Korea with 12 hypersonics. And there has to be a way that the Air Force 13 says we are accepting failures because we learn from 14 failures, and maybe even looking at this as there is no such 15 thing as a failed test because we have to be learning and 16 become competitive.

Mr. Kendall: Yeah, it is well understood in engineering that tests are ways to learn about your product and find problems and fix them. Eventually, though, you do have to get to successful performance in order to go ahead and field.

The best place to have failures and to tolerate them is in the early states of technology maturation, when you are doing experimental prototyping to demonstrate whether or not something can actually be done at all. Once you are

committed to a product that you want to take to production,
 you have a different --

3 Senator Blackburn: We understand that. We understand 4 that. But what we are concerned about is falling behind. 5 Mr. Kendall: I agree.

б Senator Blackburn: And there has to be a balance 7 brought to this, where you are doing the appropriate R&D. 8 AEDC is the place for doing much of this R&D, and testing, 9 which we have to be committed to that testing phase so we 10 can get to procurement and deployment, and those necessary components. But it also means that we have to invest in 11 12 infrastructure and maintenance so that we have the ability 13 to do that. And I hope you will commit to visiting AEDC 14 with me.

Mr. Kendall: I think I have made that commitmentbefore, and I will do so, Senator.

17 Senator Blackburn: Well, that sounds good.

18 General Raymond, I want to move to Space National 19 Guard. There is quite a bit of interest in this. Some of 20 us have legislation that would move forward with establishing a Space National Guard. And, of course, we 21 22 have wanted to do this -- we have asked several times for 23 reports, is the best way to say it, on the value and the 24 feasibility of establishing a Space National Guard but we 25 have not received reports.

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So what can you tell me about where that is in the process?

General Raymond: When the law established to establish the Space Force, or passed to establish the Space Force, Congress directed us to do a study, and we have done those studies. The number one legislative proposal that we have this year is to take the reserve forces and active and push them together in one. It is a legislative lift, but we want to work with the committee to do that.

10 On the Guard side, today we have been operating with 11 the Guard for 25 years.

12 Senator Blackburn: Okay. In my time left, then, what 13 is the most effective and efficient way to make certain we 14 have a Space Force National Guard?

15 General Raymond: There are several ways you can do it.
16 There are three ways. You can have a separate --

17 Senator Blackburn: Best way.

General Raymond: Best way is one of two. Either have a separate Space National Guard or take the capabilities from the Guard and move them into this one component.

Senator Blackburn: Thank you. Thank you, Mr.
 Chairman.

23 Chairman Reed: Thank you, Senator Blackburn.24 Senator Kelly, please.

25 Senator Kelly: Thank you, Mr. Chairman.

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1 Mr. Secretary, as you know, any modern-air combat 2 requires substantial jamming capability and suppression of 3 enemy air defenses. I personally benefitted from that in 4 the first Gulf War, often, flying with prowlers right behind 5 me, shooting anti-radiation missiles.

б As you know, currently the Air Force is transitioning 7 from EC-130H aircraft to EC-37B for the Compass Call 8 mission. The last of the 14 remaining EC-130s are supposed 9 to retire in early 2026, and currently the Air Force has only funded 6 of the 10 replacement aircraft. So while I 10 was really pleased to see an additional 4 Compass Call EC-11 12 37Bs listed as the Air Force's number two unfunded priority, 13 I am also concerned with the fiscal year 2023 budget 14 treatment of this capability, which requires Congress to 15 find the funds to make this request a reality.

So, Mr. Secretary, how important is the EC-37B Compass Call's role in maintaining our decisive advantage in the battle space, and how does the platform fit within the Department's operational imperatives?

20 Mr. Kendall: Senator, it is important, but like any 21 similar aircraft against the most advanced threats it is 22 going to have some issues with survivability. The judgment 23 was made in the course of doing the budget that the 24 inventory of six would be adequate to meet our needs. I 25 know that General Brown has suggested that we should have

1 more than that, but I will let him address that.

Senator Kelly: So if you do receive additional funding, what is the plan? Do you want to still rapidly field a minimum of 10 airplanes?

5 Mr. Kendall: If the Congress provided additional 6 resources we would use them as directed.

Senator Kelly: Okay. And maybe in the closed session we can discuss some of those vulnerabilities and the plan to get around those.

10 General Raymond, I want to ask you briefly about anti-11 satellite testing and capabilities. So the Administration 12 recently announced an intent to ban anti-satellite, or ASAT, 13 tests. As someone who has flown in space and had to 14 maneuver around these debris clouds, particularly the one in 15 2007, created by the Chinese, I have witnessed the 16 devastating effects that this irresponsible testing can 17 have, ASAT testing, and what it can do to low-earth orbit 18 and our ability to operate there.

You know, I do believe we need to lead from the front on this issue and I applaud the Administration's steps here. However, it is clear that our adversaries do not share this goal, and this policy should not impede our military readiness, much like the Nuclear Test Ban Treaty did not impede our ability to field a nuclear triad. And it is imperative that we continue to develop our nation's space

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1 capabilities.

2	So how will the U.S. Space Force continue to develop
3	the capabilities needed to maintain a competitive advantage
4	in space, in a responsible manner, despite the
5	Administration's call for an end to ASAT testing?
6	General Raymond: I could not agree more with you and
7	your words, and I look forward, in the closed hearing, to go
8	into a lot more details. We do not need to test
9	capabilities in a destructive way, and I think to do so is
10	irresponsible and not a behavior that we appreciate. So
11	there are plenty of opportunities for us, and I really
12	looking forward to talking to you more about that in the
13	classified hearing.
14	Senator Kelly: All right. Thank you, General, and Mr.
15	Chairman, I yield back the remaining minute.
16	Chairman Reed: Thank you very much, Senator Kelly.
17	Senator Scott, please.
18	Senator Scott: Can you hear me?
19	Chairman Reed: Yes.
20	Senator Scott: Secretary Kendall and General Brown,
21	can you tell me how you will anticipate using A-10s over the
22	next 5 years?
23	Mr. Kendall: A-10s still have some utility in certain
24	situations counter-insurgency, counterterrorism, in
25	particular.

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1 Senator Scott: Are you using them --

2 Mr. Kendall: They are less useful against more3 advanced threats.

4 Senator Scott: All right. But there is no place where5 you are using them today. Is that right?

General Brown: We do not have them deployed right now,today.

8 Senator Scott: So in your budget you are continuing to maintain these aging A-10s, and then it seems to me that 9 10 what we are doing is that you have got -- you are only requesting 33 F-35As, which is the fewest since 2015. Does 11 12 that make any sense? I mean, why do we keep these 13 maintainers on the A-10s which we are not going to use and 14 we do not anticipate using, and then we do fewer F-35s? 15 General Brown: Our goal, Senator, is to transition 16 away from the A-10, and what I want to have, from a nuclear 17 fighter fleet, multi-capable, multi-role platforms. And so 18 the intent here is, as we retire the A-10, just to take 19 those maintainers and those operators and put them into the 20 other capabilities like the F-35 and the F-15EX.

21 Senator Scott: But in your budget you are still 22 maintaining A-10s. I mean, we do not have unlimited 23 dollars, right? So it just does not seem logical that we 24 are continuing to maintain A-10s and then you have less 25 money to get F-35s. I mean if it is just politics I get it.

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I mean, you can tell me it is just politics. But that does
 not seem to make much sense.

General Brown: Part of it, Senator, is the transition and our ability to transition and maintain some level of capability, not only for today's combatant commanders but as we make the transition what our future commanders will require.

8 It is something that we have talked about, as you might 9 imagine, over the years, of how we make that transition, and 10 it is something we will continue to work with this Congress 11 and this committee on how best to do that.

12 Senator Scott: General Raymond, it was previously 13 understood that the Air Force, Space Force, and the National 14 Guard Bureau all agreed that it was prudent to establish a 15 Space National Guard. Now OMB is fighting this, and claims 16 the establishment of Space National Guard will cost hundreds 17 of millions of dollars -- I do not think that is true. 18 There is no need to establish a Space National Guard in 19 every state, and I do not think that OMB should be saying 20 that otherwise. It seems to me that we only need about 17 units across 7 states. So do you think that makes sense? 21 22 General Raymond: We have been operating with the Guard 23 for 25 years. They are in eight states and one territory. 24 We have 839 guardsmen that perform space missions, and those 25 are critical folks today operating critical capabilities for

1 us today.

Senator Scott: Okay. So in your opinion it would be
more cost-effective and operationally efficient if we
established a Space National Guard.

5 General Raymond: There are several ways you can do б this. There are several courses of action. You can 7 establish a Space National Guard, you can have the Air Force 8 National Guard continue to support us, like they do today, 9 or you can take the capabilities out of the Guard and move 10 them into this one component. There are several different 11 options. The NDAA of last year directed us to do a study, 12 and we will do that and come back to you with more thoughts 13 on that.

14 Senator Scott: Okay. Secretary Kendall and General 15 Brown, let's go back to the A-10s. I mean, it is just pure 16 politics? Does it not bother you? I mean, you have 17 unbelievable expectations. You watch what is going on in 18 Europe. You watch what is going on in Communist China. You 19 do not have an unlimited budget. I just do not get this 20 idea that we have to maintain something that we are not anticipating using any time again, and we are not spending 21 22 enough money on F-35s.

23 So in your opinion what would you do? I mean, forget 24 what you have to do based on your jobs. What is your 25 opinion of what we should do with A-10 versus more F-35s?

Mr. Kendall: Senator, we are divesting, I think, 21 A 10s in this budget, in Indiana, replacing them with F-16s.
 And we would expect to divest additional A-10s in the
 future.

5 General Raymond: We are continuing on the path of the 6 transition away from the A-10 to the F-35 and F-15EX.

7 Senator Scott: But is your money -- would you keep 8 maintaining the A-10s?

9 General Brown: Part of this again, Senator, it is a 10 transition away from the A-10 to where we are today. And as 11 you might imagine, I cannot predict the future, but my sense 12 is we are not going to be in many environments where the A-13 10 will survive, which is why we have got to make the 14 transition away.

Senator Scott: But what you are doing, I do not think your jobs are easy, and good luck.

17 Chairman Reed: Thank you, Senator Scott.

18 Senator Manchin, please.

19 Senator Manchin: Thank you, Mr. Chairman.

This will be to all three and I will start with General Brown. Just you all's evaluation from a professional level what you can share with us today in the whole Ukraine-Russia, or let us say Putin war on Ukraine in the air, the air war that is going on there, and the perception of a lack of defense or lack of a force coming from Ukraine, or the support of NATO or us. People have criticized why did we
 not do this, why did we not get more involved, air cover,
 why did we not do a complete support of air retaliation.

Can you speak on that, General Brown, just in
generalities? I know from detail you cannot get into it,
but if you evaluate the Ukraine, what Russia has done, how
we have been able to defend, why Ukraine is not flying the
planes they already have, but they are asking for more, and
they want air cover or basically they want a no-fly zone?

General Brown: I cannot speak to exactly why the Ukrainians are not flying. I know they are doing some flying. But what I would tell you, Senator --

Senator Manchin: They do have aircraft. I mean, they are not utilizing all their aircraft that they already have access to. Is that correct?

16 General Brown: That is somewhat correct.

17 But here what I will tell you, Senator. Air 18 superiority cannot be assumed, and one of the things that 19 the Ukrainians have been able to do, based on their air 20 defense capability, is actually threaten the Russian air power. And from that aspect it is a combination of not only 21 22 what you are able to do with the airplanes in the air but 23 what you are able to do with your other defenses. And that 24 is something, I think, as you look at the -- I would say the 25 Ukrainians have been fairly successful in using their air

1 defenses.

2 Senator Manchin: Are you talking about the missile3 defense, things of that sort?

General Brown: Some of the missile defense. Some of
the capabilities they already had indigenous into the
Ukrainian Armed Forces. They have had some capability and
they made it more challenging for the Russians from an air
power perspective.

9 Senator Manchin: I am just saying I have not heard any 10 attacks coming from their air, from the Ukraine Air Force, 11 if you will, and the planes they already had. I heard it is 12 coming mostly from basically air and missiles or that were 13 drones and things of that sort.

Secretary, if you had any information you could share in an open meeting like this?

Mr. Kendall: I do not think I have any we can share in an open forum. We might have some information we can give you in a classified setting.

19 Senator Manchin: We are going to that next.

20 General Raymond, did you have any observation you want 21 to share?

22 General Raymond: I would just --

23 Senator Manchin: People are interested. They ask me
24 all the time, and I want to let them know that we are
25 supporting every way possible, Ukraine.

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1 General Raymond: I think it is clear that the 2 character of war has changed, as I said in my opening statement, and I think this war shows the value of space 3 4 being able to provide information. And I think one of the 5 things is that it also showed the value of commercial 6 capabilities, and commercial space specifically, and being 7 able to share intelligence more broadly, being able to shape 8 the gray zone operations. So it has been really important. 9 Senator Manchin: General Raymond, this will be for you

10 all. You know you have one of the smallest uniformed 11 services within the Department of Defense, and I know you 12 are actively getting the best of the best. I would just 13 ask, where do you stand on the Space National Guard? If 14 that is a way, there are a lot of talented people all over 15 this country. I know in West Virginia National Guard they 16 are ready to go. How are you looking at that?

17 General Raymond: yes, sir. Today we operate with 839 18 guardsmen. We have been operating with them for 25 years. They are really important to us. They are limited in states 19 20 on where they are located. They are located in eight states and a new unit that is standing up in Guam. And so those 21 22 capabilities that are there and the people that are there 23 are very important to us and we cannot do our job without 24 them.

25 Senator Manchin: Are they integrated into the space

1 part?

General Raymond: Currently they are in the Air
National Guard and they support us in the Space Force, like
they did when we were in the Air Force. That has continued.
Senator Manchin: And you all are actively involved in
evaluating their capabilities of where you might have the
strongest support?

8 General Raymond: Absolutely. Yes, sir.

9 Senator Manchin: Secretary Kendall.

Mr. Kendall: I will just add that those people are important to the Space Force and we want to keep them. The exact mechanism by which we do that and how they are titled and structured, I think we are open to discuss.

14 The concern the Administration had, I think, was that 15 we would create a lot of overhead costs associated with a 16 new organization. There were concerns that CBO had, I 17 think, about establishing a headquarters and so on. I do 18 not think that is necessary. I think we can find a way to 19 keep those people doing what they are doing. They are a 20 very valuable part. They are significant fraction of the 21 Space Force. They are about 10 percent of the force right 22 now.

23 So we want to keep them around. They are important to 24 us. They are valuable. Obviously we need to find the right 25 mechanism to do it.

Senator Manchin: We are very proud of the West
 Virginia National Guard, and they do an unbelievable job,
 and so much talent is coming from different arenas that I
 think can be very, very supportive.
 Thank you all for your service. Thank you.

6 Chairman Reed: Thank you, Senator Manchin.

7 Senator Duckworth, please.

8 Senator Duckworth: Thank you, Mr. Chairman, and thank 9 you, gentlemen, for joining us today.

10 I have advocated consistently in this committee for 11 combat-credible air mobility and aerial refueling 12 capabilities that need to reside not just in our active 13 component but that maximizes the incredible combat power of 14 our Guard and Reserve components. And I applaud your use of 15 total force integration, or TFI, in your concept of 16 operation for the KC-46. Formally associating active-duty 17 units with Guard and Reserve units truly acts as a combat 18 multiplier for our crewed airlift squadrons.

Yet I am deeply aware of the challenges classically associated that units face as they star to employ TFI operations. It can take years to build the administrative processes, and most importantly, the trust between active and reserve components working shoulder to shoulder.

General Brown, could you comment on the value of total force integration for units that provide vital capabilities

like aerial refueling, and how does this concept of
 integrating active and reserve component servicemembers
 impact the total Air Force's readiness operations and
 budget?

5 General Brown: There is great value in our total 6 force, and when I think about our airmen both that are 7 active-duty but also that are Guard and Reserve, and the 8 experience that they have had, it is tremendous. I will 9 just tell you that I have watched this over a number of 10 years. When I was a lieutenant colonel in the Pentagon I 11 ran the Total Force Initiative program operational planning 12 team to actually get us on a path. Hill and Langley were a 13 couple of examples. Vermont was another example.

And what we have learned here, you kind of talked about the culture and the trust. We have come a long way in the past -- I would say it has probably been about 17 years when that occurred.

18 So great value in the ability to work very closely with 19 our Guard and Reserve. And it gets to a point where you 20 almost cannot tell the difference, when we all go out and 21 deploy and operate together. And that is the real benefit 22 of the total force.

23 Senator Duckworth: Thank you, General. I am proud of 24 the excellent track record of successful total force 25 integration operations at the 126th Air Refueling Wing out

of Scott Air Force Base in Illinois. The recently won their tenth Air Force Outstanding Unit Award, which is their third in a row. I am very proud of them.

4 Looking past the final fueling of the KC-46, though, 5 the future of aerial refueling is somewhat ambiguous. We б agree that the future concept of aerial refueling may look 7 vastly different from today, and I appreciate that 8 developing this concept of operations and the technology to 9 enable it will take time and investment from both government 10 and industry. And it is imperative that we are transparent 11 in our industrial base and suppliers as to our plans. This 12 transparency builds the trust needed to achieve our future 13 combat capabilities and ensure that we are not left with a 14 critical capability gap.

15 Secretary Kendall, how are you working with our defense 16 industrial base to provide transparency on the KC-Y 17 commercial derivative tanker plans and when do you intend to 18 start identifying requirements for the future KC-Z tanker to 19 ensure that the Air Force stays on track to replace our 20 aging KC-135 fleet by the mid-2050s with the fully capability tankers required to meet the needs of USTRANSCOM 21 22 and the other combatant commanders?

Mr. Kendall: That is a great question, Senator Duckworth. Our plan for the tanker fleet is evolving over time, and we are having to react to what the threat is

1 doing. At one time we had a plan that the KC-46 would be 2 followed by the KC-Y, as what we called a "bridge tanker" to 3 a future KC-Z, which had not really been defined.

4 As we look at the requirements -- and I am trying to be 5 very direct about this -- it does not look at necessary or б as cost-effective as it once did to introduce another 7 aircraft that is KC-Y. So we are not sure what we are going 8 to do about that yet. We have not finished analyzing the 9 requirements, but if the needle was over here at competition it has moved back towards not necessarily having 10 11 competition, part of the way anyway.

12 As far as KC-Z is concerned, what we do really for a 13 next generation, I think that is going to be threat driven. 14 And what I am seeing happening with the threats is that they 15 are trying to find creative ways to reach out further and 16 engage our tankers at ranges at which they would want to 17 have been secure, and that is going to be a very big problem 18 for us. We have to rethink how we support our forward 19 tactical aircraft, in particular, and what the tanker of the 20 future looks like, in a much broader sense. So that work is really just getting underway. 21

As we aggressively modernize our forces we expect the services to achieve a delicate balance between funding new acquisition programs and the maintenance programs necessary

Senator Duckworth: Thank you, Mr. Secretary.

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1 to maintain today's fleet. And across the DoD, some program 2 offices are using FAA-certified used and refurbished parts and engines, known as used serviceable materials, into their 3 4 supply chains. When implemented, this practice has 5 demonstrated significant cost savings, potential and 6 increased availability of parts, yet used serviceable 7 materials are not consistently incorporated into the supply 8 chain for all commercial derivative platforms. And I know I 9 have brought this up with both of you before.

10 General Brown, what benefit do you see used serviceable 11 materials playing in the maintenance of our commercial 12 derivative platforms and how can Congress help the Air Force 13 to expand the use of this innovative approach, allowing you 14 to realize the potential cost savings and greater repair 15 parts availability of used serviceable materials, and the 16 advantages that they offer?

17 General Brown: The advantages they offer, as you 18 actually highlight, is cost. It also makes a broader pool 19 of parts availability to us. I think one of the things we 20 will have to continue to work with, with the Congress but also internal to the Air Force, is laying out a bit of the 21 22 process and culture to do that. It is not something we have 23 done as much, typically, but it something I think we could 24 take advantage of here, more so in the future.

25 Senator Duckworth: Well, count on me to help you in

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1	whatever way you can to help change that culture. The
2	commercial airlines use them. There is no reason why we
3	cannot use them in the Air Force as well.
4	Thank you.
5	Chairman Reed: Thank you, Senator Duckworth, and
6	gentlemen, thank you for your excellent testimony. We will
7	reconvene immediately in SVC-217 for the classified portion
8	of this hearing. And with that I will adjourn the open
9	portion of the hearing.
10	[Whereupon, at 11:52 a.m., the hearing was adjourned.]
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