

Stenographic Transcript
Before the

COMMITTEE ON
ARMED SERVICES

UNITED STATES SENATE

TO RECEIVE TESTIMONY ON THE POSTURE OF THE
DEPARTMENT OF THE AIR FORCE IN REVIEW OF THE
DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR
2022 AND THE FUTURE YEARS DEFENSE PROGRAM

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

3 Chairman Reed: The committee meets today to receive
4 testimony on the plans and programs of the Department of the
5 Air Force in review of the fiscal year 2022 President's
6 defense budget request.

7 I would like to welcome our witnesses, Mr. John Roth,
8 Acting Secretary of the Air Force; General Charles Brown,
9 Chief of Staff of the Air Force; and General John Raymond,
10 Chief of Space Operations. We are grateful to you for your
11 service, and the service of all the men and women of the Air
12 Force and Space Force, and to their families for their
13 continued support.

14 I want to note that is the first appearance of both
15 General Brown and General Raymond at an Air Force posture
16 hearing. We all look forward to working with you as leaders
17 of the Air Force and the Space Force.

18 President Biden's defense budget request for fiscal
19 year 2022 includes approximately \$173.3 billion in funding
20 for the Department of the Air Force, a 3.26 percent increase
21 from the fiscal year 2021 enacted budget. In preparing this
22 budget request, the Air Force faced difficult decisions in
23 balancing the need to modernize and keep technological
24 advantage over near-peer competitors against the need to
25 support ongoing operations around the world. The budget

1 request before us tries to maintain that balance by
2 increasing funding to address readiness concerns while also
3 funding technologies for the future fight and modernizing
4 our strategic deterrent capability.

5 This year, the Air Force is again proposing to retire
6 and realign a number of aircraft systems to free up
7 resources for implementing General Brown's strategic vision
8 of "Accelerate Change or Lose." General Brown, I am
9 interested in hearing more this morning on the programs that
10 have received increased emphasis under your vision.

11 The budget request would also reduce or alter the force
12 structure for A-10's, F-16's, F-15's, C-130's, KC-135's, KC-
13 10's, JSTARS aircraft, and Global Hawk remotely piloted
14 aircraft. Any Air Force proposal of this sort deserves our
15 careful consideration. I hope the witnesses will provide
16 the Committee with the reasoning for the proposed
17 retirements and realignments within this budget request and
18 assure us that any decisions are well thought-out. I also
19 recognize that Congress has made divestment decisions
20 difficult at times.

21 I am also interested in hearing about your continued
22 efforts to improve shortfalls within the remotely piloted
23 aircraft operator community, and how the Air Force has
24 addressed shortfalls within the larger pilot community and
25 maintenance personnel.

1 One of the primary reasons Congress established the
2 Space Force was to consolidate the numerous space activities
3 in the Department of Defense. General Raymond, this is your
4 first posture hearing, but you are a familiar face to this
5 committee. I would like to know how you are growing the
6 Space Force and normalizing operations within the larger
7 Department of Defense, including progress on the merging of
8 the Space Development Agency into the Space Force by October
9 1, 2022. With regard to space warfighting capabilities, I
10 will also want to know how you are progressing in your role
11 as the lead force design architect for the Defense
12 Department's satellite constellations.

13 Finally, now that the Space Force is standing up, it is
14 important to present a trained force with material
15 capabilities to the combatant commands. One of the
16 capabilities for the combatant commands now under discussion
17 is tactical space intelligence, surveillance and
18 reconnaissance, ISR. This is a new operating domain for
19 DoD, and I would ask the witnesses to discuss what resources
20 they believe are needed to ensure its success.

21 Acting Secretary Roth, General Brown, and General
22 Raymond, thank you again for appearing before our committee
23 and I look forward to your testimony.

24 Now let me turn to the ranking member, Senator Inhofe.

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1 STATEMENT OF HON. JAMES INHOFE, U.S. SENATOR FROM
2 OKLAHOMA

3 Senator Inhofe: Thank you, Mr. Chairman. Secretary
4 Ross, General Brown, and General Raymond, thank you for
5 being here today and for all of your work.

6 The current National Defense Strategy directs our
7 nation's military to be prepared to deter and, if necessary,
8 defeat our peer adversaries, including Russia and China.
9 For the Air Force and the Space Force to meet that
10 requirement they have got to properly man and train and
11 equip to win both air and space. Given this budget, I fear
12 this is going to be a very difficult, if not an impossible
13 thing to do. I think we are going to have to improve upon
14 this budget.

15 At the end of the Obama administration, the Air Force
16 was at a historic low in readiness and size. Less than 10
17 percent of combat squadrons were ready to deploy, and even
18 fewer were prepared for a peer fight.

19 We began to improve readiness over the past 4 years and
20 started to really get after the modernization concern that
21 we all have, and I am concerned that with this year's budget
22 it does not look like we are going to have the resources to
23 get these things done.

24 In previous administrations -- and I am talking about
25 Barrett, Wilson, Goldfein -- the Air Force leadership, they

1 had told us that the Department of the Air Force was too
2 small, too old to do what the nation asked to have done.
3 Almost half of our aircraft fleet is beyond its service
4 life. Our satellite programs were built for peacetime. Now
5 that was all from the previous administration.

6 China and Russia -- just this last week we had General
7 Milley, who said that China and Russia combined are already
8 spending more to modernize their force than we do, and it
9 shows. China will have more stealth fighters than we will
10 in the Western Pacific by 2025. So we are getting reports
11 now that do not look good at all.

12 All the independent studies show that the Air Force
13 needs to grow and modernize. This budget does not do either
14 one. Procurement actually decreases by almost 15 percent.
15 We keep divesting but we do not turn around and follow with
16 investments. Nearly all of these bad choices were caused by
17 a budget that cuts the defense instead of the achieved 3 to
18 5 percent we have been talking about now since 2018. It
19 just does not do that.

20 So our airmen, our space guardians deserve better than
21 that, and we look forward to getting our questions responded
22 to and to getting some ideas from the experts who are here
23 today as to how we are going to handle these shortfalls that
24 we believe we have.

25 Thank you, Mr. Chairman.

1 Chairman Reed: Thank you very much, Senator Inhofe.
2 And again, gentlemen, welcome to the committee. First let
3 me thank Secretary Roth for stepping into the breach and
4 continuing to move forward with the Department of the Air
5 Force. Thank you very much.

6 General Raymond, Congress created the Space Force in
7 fiscal year 2020 NDAA with the intent to consolidate space
8 activities within the Department of Defense. What role
9 should the combatant commands play in designing the elements
10 of Space Force capability? What contact or communication or
11 coordination do you envision?

12 General Raymond: Yes, sir. We have a very close, as
13 you would expect, a very close partnership with the
14 combatant command. The combatant command is the joint
15 requirement's -- you know, they come up with the joint
16 requirements. Our job then is to organize, train, and equip
17 them and provide capabilities to meet those joint
18 requirements. But the relationship that we enjoy today is
19 seamless.

20 Chairman Reed: Do you believe that the warfighter
21 should have the ability to set the force design or
22 architecture of DoD satellite constellations?

23 General Raymond: I think how we go about meeting those
24 requirements is a service function, and, in fact, that is
25 one of the reasons why I think we established the Space

1 Force. This committee and other committees have long said,
2 you know, that there were 65 different organizations that
3 had a role in space acquisition, and I think there are 30-
4 something different organizations that had a role in force
5 design.

6 My view is that is one of the main reasons why we
7 established the Space Force, to drive unity of effort across
8 the Department. We work very closely to meet those joint
9 requirements, but the force design work is Service business,
10 and we are already making great strides towards that end.

11 Chairman Reed: Well, thank you very much. And not
12 only is my time expired but my timing has been off
13 considerably.

14 Senator Inhofe: I did not say anything.

15 Chairman Reed: You gentlemen should have the privilege
16 of making your opening statements. So let me recognize the
17 Secretary for his opening statement, and then General Brown
18 and General Raymond. Apologies to all my colleagues.

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1 STATEMENT OF HONORABLE JOHN P. ROTH, ACTING SECRETARY
2 OF THE AIR FORCE

3 Mr. Roth: Thank you very much, Chairman Reed, Ranking
4 Member Inhofe, and the members of the committee. It is, in
5 fact, a pleasure to be here today.

6 I am also honored to have General Brown and General
7 Raymond join me in representing the nearly 700,000 airmen
8 and guardians that defend our nation. We are thankful for
9 your consistent and persistent support over the years, which
10 has enabled us build the world's greatest air and space
11 force.

12 As an integrated force, our airmen and guardians stand
13 ready, willing, and able to meet responsibilities to our
14 nation and continue defending the high ground. From 300
15 feet to 300 miles off the ground, we protect the homeland,
16 we project power, and we defend democracy.

17 The long-term strategic competition with China and
18 Russia demands we focus on the capabilities we need to
19 invest in today in order to win tomorrow. Our nation's
20 competitive strategic advantage relies on air and space
21 superiority, which is underpinned by rapid technological
22 advancement and the extension of space as a warfighting
23 domain.

24 In line with Secretary Austin's priorities to defend
25 the nation, take care of our people, and succeed through

1 teamwork, our fiscal year 2022 budget is the beginning of a
2 journey to the Air and Space Forces of 2030. It builds the
3 capabilities that allow the Department to modernize while
4 continuing to meet national security objectives and defend
5 the high ground.

6 Specifically, we are committed to investing in (1)
7 empowering airmen and guardians, (2) capability-focused
8 modernization, (3) connecting us to the Joint Force, and (4)
9 expanding partnerships.

10 First, our airmen and guardians remain the heart of our
11 ability to deter and, if necessary, defeat our competitors.
12 We are transforming our talent management systems to ensure
13 we develop and train leaders with the competence, character,
14 and skills required to win high-end fights. And we remain
15 devoted to recruiting and retaining a diverse corps of
16 multi-capable, innovative talent to outmaneuver our
17 adversaries, today and in the future.

18 We owe it to our force to provide them with the
19 environment where all can thrive. That is why we are
20 directing critical resources to rid our ranks of any
21 corrosive elements and injustices that degrade our ability
22 to provide a lethal, ready force.

23 Second, to remain the world's greatest Air and Space
24 Force, we must look to the future through a lens of
25 capability-focused modernization. Evidenced by nuclear

1 modernization and the next-generation air dominance
2 platforms, our digital acquisition approach revolutionizes
3 how we design and field capabilities to the warfighters.
4 Moving forward, we will expand on these digital revolutions
5 while also investing in next-generation space systems that
6 are resilient and defensive. Space is no longer a benign
7 domain. Our U.S. Space Force is purpose-built to deter and
8 protect free access to space.

9 Third, combatant commanders require an agile military
10 that operates seamlessly across all domains at both speed
11 and scale. That is why we continue to invest in
12 capabilities like the Advanced Battle Management System, our
13 contribution to the joint, all-domain command and control,
14 which will connect every sensor to every shooter across all
15 domains.

16 Likewise, access to and freedom of action in space is
17 central to connecting us to the Joint Force. In its second
18 year, the U.S. Space Force is laser-focused on integration.
19 Investments in space capabilities increase the effectiveness
20 of all operations across all domains. The result is a U.S.
21 military that is better connected, better informed, faster,
22 and more precise.

23 And finally, the U.S. Air and Space Forces do not fight
24 alone. We benefit from the expertise and capabilities of
25 our sister services and coalition forces as well as from a

1 whole-of-government, commercial industry, and academia. We
2 will continue to invest in enduring relationships while
3 expanding new partnerships to transform how we fight future
4 wars.

5 Members of the committee, thank you for inviting us to
6 testify. I look forward to your support and am confident
7 that with your help the Air and Space Forces will be armed
8 with the capabilities necessary to protect our nation and
9 defend the high ground.

10 We welcome your questions, and I ask that this opening
11 statement be entered into the record.

12 Chairman Reed: Without objection, the opening
13 statement will be in the record.

14 [The joint prepared statement of Mr. Roth, General
15 Brown, and General Raymond follows:]

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1 Chairman Reed: General Brown, do you have a statement,
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1 STATEMENT OF GENERAL CHARLES Q. BROWN, USAF, CHIEF OF
2 STAFF OF THE AIR FORCE

3 General Brown: Good morning, Chairman Reed, Ranking
4 Member Inhofe, and distinguished members of this committee.
5 I am humbled to serve as the nation's 22nd Air Force Chief
6 of Staff and to represent 689,000 total force airmen serving
7 today. Your support for them and their families is greatly
8 appreciated. It is an honor to be up here before you to day
9 with Acting Secretary Roth and my fellow service chief and
10 long-time friend, General Jay Raymond.

11 As a general officer, I have spent the last decade-plus
12 in positions overseas and/or supporting operations in the
13 Middle East, Europe, Africa, and most recently the Indo-
14 Pacific. With this context, I have been able to look at the
15 Air Force from varied perspectives, and I personally have
16 seen the reemergence of the strategic competition and how
17 the character of war has changed. The strategic environment
18 has rapidly evolved. We have not changed fast enough to
19 keep pace.

20 The People's Republic of China has recognized
21 [inaudible] as a contest among systems, not individual units
22 or platforms. Accordingly, Secretary Austin has prioritized
23 China as our pacing threat. Meanwhile, Russia continues to
24 modernize its armed forces, increasing the capability of its
25 missiles, strike aircraft, warships, artillery systems, and

1 nuclear weapons.

2 Competition and future warfare will be conducted across
3 all domains simultaneously. It will be a transregional and
4 global undertaking with complex actions and actors
5 intertwined. To account for these changes, our nation, our
6 Air Force must change faster than we have been. If we
7 continue on a path of incremental change, our advantage
8 erodes, and losing becomes a distinct possibility.

9 The Air Force recently updated our mission statement,
10 to fly, fight, and win -- airpower anytime, anywhere. To
11 execute this mission, now and into the future, we must
12 transition our Air Force and operational concepts from today
13 to tomorrow, and we must do so much faster. That is why I
14 wrote "Accelerate Change or Lose," to call attention to the
15 changes in the strategic environment, because the mix of
16 capabilities that our Air Force has now, that were good
17 enough yesterday, that are good enough today, will likely
18 fail tomorrow. Our future Air Force must be agile,
19 resilient, and connected, with the ability to generate near-
20 instantaneous effects anytime, anywhere, not just sometime,
21 in some places, but anytime, anywhere.

22 Our Air Force is the only service that provides our
23 joint teammates, allies, and partners the assurance of air
24 superiority, the advantage of global strike, the agility and
25 rapid mobility through a range of capabilities most

1 requested by today's combatant commanders. Additionally, the
2 Air Force ISR and command and control capabilities provide
3 the ability to sense, make sense, and act.

4 While our past and current capabilities have sufficed
5 for the last three decades, they will not effectively
6 perform in tomorrow's highly contested environment. To
7 address these challenges that will endanger our national
8 security of tomorrow, the transition to the future Air Force
9 design must start today.

10 Finally, we have a foundational responsibility to our
11 airmen and their families. I remain focused on ensuring we
12 are ready and that we have the tools, infrastructure, and
13 talent management systems to provide the environment where
14 all can reach their full potential. The future Air Force
15 design advances our core missions and new approaches to
16 warfighting that will holistically support every combatant
17 commander and benefit every service chief. Investing in
18 your Air Force is an investment in the Joint Forces.

19 Ladies and gentlemen, the bottom line is simple. We
20 must modernize for the future and focus on capabilities that
21 maintain our advantage, both today and tomorrow. For
22 decades, we have collaborated with Congress and our industry
23 partners to modernize for the future. Now to fulfill our
24 responsibility to ensure our national security, we must be
25 willing to change, to make the tough choices required to

1 deliberately transform our Air Force to the future force we
2 need to compete, deter, and win. We have done it before,
3 and I am confident together we can do it again.

4 Thank you for the opportunity to be here today, and I
5 look forward to your questions.

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1 Chairman Reed: Thank you very much, General Brown.
2 General Raymond, please.

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1 STATEMENT OF GENERAL JOHN W. RAYMOND, USSF, CHIEF OF
2 SPACE OPERATIONS

3 General Raymond: Good morning, Chairman Reed, Ranking
4 Member Inhofe, and distinguished members of the committee.
5 It is an absolute honor to appear before you today with
6 Secretary Roth, the Acting Secretary of the Air Force, and
7 General C.Q. Brown, the Chief of Staff of the Air Force, and
8 a long-time friend and teammate. On behalf of the guardians
9 stationed worldwide, let me begin by thanking you for the
10 continued leadership and strong support that you have
11 provided to the United States Space Force.

12 The United States is a spacefaring nation. We have
13 long understood that our nation is strongest, economically,
14 diplomatically, and militarily, when we have access to and
15 freedom to maneuver in space. For the past three decades,
16 we have been able to take that access and freedom to
17 maneuver for granted.

18 Unfortunately, as the National Defense Strategy and the
19 newer Interim National Security Strategy identified, this is
20 no longer the case. Both China, our pacing threat, and
21 Russia are doing two things to eliminate the lead that the
22 U.S. currently enjoys. First, they are rapidly developing
23 their own space capabilities to provide them the advantages
24 that we currently enjoy. Second, they are building weapons
25 systems specifically designed to deny our access to space

1 and the advantages that that provides. These threats
2 include robust jamming of GPS and communications satellites;
3 directed energy systems that can blind, disrupt, or damage
4 our satellites; anti-satellite weapons, both in space and
5 launched from the ground, that are designed to destroy U.S.
6 satellites; and cyber capabilities that can deny our access
7 to the domain.

8 Thankfully, with the strong support of Congress,
9 especially this committee, the United States seized on the
10 opportunity to make needed changes to stay ahead of that
11 growing threat by establishing the United States Space
12 Force. This leadership is resonating globally and is
13 already delivering results for our nation.

14 We have slashed bureaucracy at every level in order to
15 empower our guardians to move at speed and to increase the
16 accountability necessary to operate in this domain. We have
17 put together a forward-leaning human capital strategy,
18 allowing us to build a more highly trained, educated, and
19 developed warfighting force, while taking care of our
20 guardians and their families throughout their careers. We
21 wrote our first doctrine to clearly articulate the
22 independent value of space power to joint and coalition
23 forces, and this importance is fully captured in the
24 Department's new joint warfighting construct that is being
25 developed.

1 Our international partnerships are stronger, with many
2 of our partner nations following our lead and elevating
3 space in their own militaries. We have created a new end-
4 to-end capability development process from force design and
5 requirements to acquisition and testing, enabled by a
6 digital thread to move at speed while driving unity of
7 effort across the Department. We have rejected stovepipes
8 by actively working with the Joint Force, other government
9 agencies, and industry to compete, deter, and win at an
10 affordable cost.

11 The Space Force cannot and will not tolerate business
12 as usual. Our demanding mission and lean force demand
13 nothing less than a new standard. This budget reflects the
14 shift of many Department of Defense space activities into
15 the Space Force, yet we remain only 2.5 percent of the
16 overall Department of Defense budget. We are committed to
17 stretching every dollar to its limit to buy as much
18 capability as possible for our nation. Our Joint Force does
19 not close on its warfighting requirements without space.
20 Space is the force multiplier we must continue to invest in
21 so that we can compete, deter, and win, and without it we
22 risk losing.

23 This fiscal year 2022 budget balances the need to
24 protect capabilities we have on orbit now while shifting and
25 modernizing to a more defensible architecture in the future.

1 It is an investment that provides assured space
2 capabilities to our sister services, our nation, and our
3 joint coalition partners. These demanding tasks could not
4 have been possible without sustained support from Congress,
5 and for that I thank you. We cannot afford to lose space.

6 I am absolutely honored and humbled to serve as the
7 first Chief of Space Operations and to have the opportunity
8 to serve side-by-side with the incredible guardians that am
9 privileged to lead. It is because of them that our nation
10 enjoys the benefits of space today, and it is because of
11 them, America's sons and daughters, that we will compete,
12 deter, and win in the future.

13 I look forward to your questions.

14 Chairman Reed: Thank you very much, General Raymond,
15 and thank you all, gentlemen, for your testimony and
16 service.

17 Since I had a chance to unleash a few questions out of
18 order, let me ask one question to General Brown and then to
19 yield and recognize Senator Inhofe.

20 General Brown, Section 139 of the National Defense
21 Authorization Act requires the Secretary of Defense to
22 certify that the retirement of the U-2 or Global Hawks will
23 not denigrate the capability of combatant commanders to
24 carry out their missions. Has the Secretary of Defense made
25 such a determination that would allow you to retire 20

1 Global Hawks aircraft in this fiscal year 2022 budget?

2 General Brown: Chairman, we are actually in the
3 process of working through that waiver. I personally have
4 sat down with the Deputy Secretary of Defense to discuss the
5 waiver package. And I do not know exactly what the status
6 is with the Secretary of Defense is, but we are on the path
7 to get that waiver approved.

8 Chairman Reed: Thank you very much. And since I have
9 had my question time, let me recognize Senator Inhofe.

10 Senator Inhofe: No, feel free to go ahead and take
11 more.

12 All right. General Brown, first of all thank you for
13 the discussion that we had in my office. I appreciate that
14 very much, and I really learned a lot as to what we are
15 really trying to get to. As I mentioned, China will have
16 more stealth fighters in the Western Pacific than us in
17 2025. That is just one of the consequences of our very low
18 number of aircraft procurements since 1990. And we can get
19 into the discussion. I hate to keep comparing. My fear for
20 what might be happening to that F-35, with what has happened
21 and did happen back in about 2004 with the F-22. And the
22 only reason I keep bringing that up, I am about the only one
23 around here old enough to remember that. So we want to make
24 sure that we profit from the mistakes we made back at that
25 time.

1 We need the total capability that we have, for the
2 stress on the airmen, and to that point Mr. Kendall
3 testified at his confirmation hearing to be Secretary of the
4 Air Force, that the way to bring down sustainment costs is
5 to procure more F-35's.

6 So, General Brown, I was surprised that no F-35's were
7 on your unfunded priority list. And quite often I think we
8 had 48, I believe it was, in the budget, and at time we used
9 that same number before, 48 new F-35's. But we have also
10 been having F-35's on our commitment, our unfunded priority
11 list, and they were not.

12 So I would kind of like to know, first of all, I am
13 sure there is some reason that we did not have more on our
14 unfunded list this time as we have in the past, and then
15 some kind of a statement as to your commitment as to the F-
16 35 being the cornerstone of the Air Force. Now that is not
17 just for us on this committee. That is for our allies that
18 are out there, because they are depending on that, because
19 there is not another game in town.

20 Do you have any response as to why we did not have
21 unfunded F-35's in this last budget?

22 General Brown: Chairman Inhofe, I appreciate the
23 conversation as well and I appreciate the opportunity to
24 share with you, and with the committee as well, as I have
25 said publicly.

1 The F-35 is the cornerstone of our fighter fleet.
2 Right now it is the second-largest of our fighter fleets
3 inside the United States Air Force. At the same time, it is
4 a very capable platform, and in watching the mission capable
5 rates, the mission capable rates for the F-35 are on par
6 with the rest of our fighter fleet. So not only for the
7 United States Air Force but also for our allies and
8 partners, and I personally engage with many of our allies
9 and partners that are flying the F-35, and I know they feel
10 the same way about the F-35.

11 Senator Inhofe: Yeah, but I am just saying that you
12 can't say it enough, because they have a big investment, a
13 lot to rely on, on that vehicle. And so I think it serves a
14 good purpose to remind them that yes, that is our
15 cornerstone and will remain that way, and we are going to
16 increase that fleet.

17 General Raymond, we discussed this also in our meeting.
18 One of the main reasons we created the Space Force was to
19 focus the Department efforts in space. It seems to me, and
20 I suspect I am not the only member up here on this dais that
21 is a little confused in terms of what are we trying to --
22 what is our goal right now? I know there are some things
23 that we have done that we are going to be leaving with the
24 services, some will be transferred over to Space Force. I
25 am not exactly sure.

1 First of all, what is going to be transferred over, and
2 then, secondly, what would be our timing on this, and what
3 would it look like at the end? In the remainder of my time,
4 just another 40 seconds, any comments about that? What is
5 this supposed to look like, and when would we anticipate the
6 signs are, therefore, to end that transformation that is
7 taking place now?

8 General Raymond: Yeah, thanks for the question,
9 Senator Inhofe. I appreciated the opportunity to meet with
10 you yesterday.

11 We are deriving unit of effort across the Department.
12 As you said in your question, I think that is one of the
13 reasons why we stood up the Space Force. We have come to
14 agreement with the Army, the Navy, and the Air Force on what
15 missions should transfer over, and I appreciate the close
16 partnerships that we have enjoyed with all three of those
17 services.

18 We are going to begin bringing those capabilities over
19 this year, and it is largely capabilities that the other
20 services operated in space, and we will bring those over.
21 What we wanted to be careful, though, is that we did not
22 break the other services that we stood up at Space Force.
23 We did that work initially with the Air Force over the last
24 year. We have brought all the mission sets from the Air
25 Force now into the Space Force, and beginning in this fiscal

1 year we will begin the transfer of Army and Navy
2 capabilities into the force as well, to unit those efforts
3 under one service.

4 Senator Inhofe: When would you anticipate that those
5 expectations would be met?

6 General Raymond: Sir, that begins this year, and will
7 bleed over into next year to finalize it. But over the next
8 two fiscal years we will complete that shifting of
9 capabilities from those other services.

10 Senator Inhofe: Thank you very much, General. Thank
11 you.

12 Chairman Reed: Thank you, Senator Inhofe. Senator
13 Shaheen, please.

14 Senator Shaheen: Thank you, and Acting Secretary Roth,
15 General Brown, and General Raymond, thank you all for being
16 here this morning.

17 General Brown, I would like to begin with you, and I am
18 sure you will not be surprised to know that I want to talk
19 about the KC-46, because we had the opportunity, back in
20 February, to fly with airmen from the Pease Air National
21 Guard Base. And it was really impressive to see how
22 proficient they were getting with the new aircraft, and I
23 understand that is happening across the country.

24 What I understand the Air Mobility Command has said is
25 that units like the 157th Air Refueling Wing will begin

1 taking on operational taskings from TRANSCOM this summer.

2 When do you expect that to begin? Do you have a date?

3 General Brown: Thank you for the question, and I also
4 appreciate the opportunity to go with you on the KC-46 and
5 meet with our guardsmen from New Hampshire.

6 It will be this summer. I do not have a specific date
7 but I can get back to you on that. But actually, the KC-46
8 capability release, to be able to refuel, to be able to use
9 those that KC-46's that are already mission capable, the New
10 Hampshire Air National Guard will be at the top of the list
11 of one of the units that will be asked to help support.

12 Senator Shaheen: I am really pleased to hear that.
13 Thank you. Can you talk about how investments in this 2022
14 budget are going to help to meet the goal of full
15 operational status for the KC-46's, and how will it, or will
16 it address the remote vision system, and what is the update
17 on making that operational, what the status is of that.

18 General Brown: So in this particular budget, you know,
19 as we continue to pursue and procure KC-46's, the 46 has
20 been delivered here just this past week and we will continue
21 on that path.

22 On the remote visual system, we are making great
23 progress there with the Air Force engineers and with the
24 Boeing engineers, to bring that capability, and it is
25 staying on track to deliver fiscal year 2023 time frame.

1 And the other aspect of this is, as we discussed, is the
2 ability to retire some of our KC-10's and KC-135's frees up
3 the airmen that we are going to train to fly the KC-46's
4 that are coming off the line.

5 And so working all those in concert will be important
6 to ensure we have the capability from the KC-46.

7 Senator Shaheen: Well, great. I am really pleased to
8 hear that, and we are looking forward to having those folks
9 who have been transferred out of New Hampshire back, to be
10 able to fly all those missions.

11 General Raymond, this week NASA Administrator Bill
12 Nelson testified before the Commerce Justice and Science
13 Appropriations Subcommittee, which I chair, and he talked
14 about the need for the United States to continue to lead the
15 world in outer space, and as we saw, China sending two
16 astronauts into space this week, it really resonates that we
17 have competition. He also talked about the importance of
18 landing the next humans on the moon, and that being done by
19 the United States, not by China or Russia.

20 So can you talk about how leadership in the civilian
21 space -- no pun intended -- factors into your decision-
22 making as you are looking at the decisions you are making
23 for the Space Force, and how do you coordinate, or do you
24 coordinate your investments with NASA, since many of those
25 overlap as we are looking at what we are doing in space?

1 General Raymond: Yes, ma'am. It is a great question.
2 I have had the opportunity now, on two occasions over the
3 last week, to talk to new Administrator Nelson, former
4 Senator Nelson, a great man, and we are lucky to have him as
5 the Administrator.

6 We work very closely with NASA. We send people to NASA
7 to be astronauts. We partner with them on launch. We
8 partner with them on developing norms of behavior. We
9 partner with them on developing training capabilities. In
10 fact, NASA had some capabilities that they developed back in
11 the Apollo days, and we said rather than having us build our
12 own thing, why don't we just take that and modify it? So we
13 have done it.

14 So I am very pleased with the partnership that we
15 enjoy. We both rely on the same defense industrial base.
16 We also have strong partnerships with commercial. We also
17 partner with partners, and NASA has a very broad set of
18 partner. We are in the partnership-building business, and
19 that relationship really allows us to help develop our
20 partners as well.

21 So I am very grateful for the partnership in NASA and
22 look forward to working very closely with Senator Nelson,
23 now Administrator Nelson, in the future.

24 Senator Shaheen: And do you agree with his analysis
25 that it is going to be really important for the United

1 States to lead in the next lunar landing?

2 General Raymond: I absolutely agree that it is
3 important that the United States lead in all aspects of
4 space. It is critical. It underpins every instrument in
5 national power.

6 Senator Shaheen: Thank you very much. Thank you, Mr.
7 Chairman.

8 Chairman Reed: Thank you, Senator Shaheen. Let me
9 call upon Senator Fischer, via Webex.

10 Senator Fischer: Welcome to all the members of the
11 panel today.

12 Secretary Roth and General Brown, I appreciate the
13 strong support this budget shows toward nuclear
14 modernization, including critical programs like GBSD and
15 LRSO. I am also happy to see the Air Force moving forward
16 with the Survivable Airborne Operations Center as a
17 replacement to the E-4B. This was something that the Air
18 Force studied for a long time, and it is gratifying to see
19 action begin to happen here.

20 General Brown, let me say again how much I appreciate
21 you traveling with me and a number of other Senators to
22 Minot, North Dakota, and also to STRATCOM earlier this year.
23 Very briefly, sir, do you continue to believe that the GBSD
24 program is essential?

25 General Brown: Senator, I appreciate the question, and

1 most definitely. The program has been on track. It is
2 essential to our strategic deterrence. It supports every
3 one of our old plans. [Inaudible] the foundation of our old
4 plans to provide our nuclear deterrent. So it is very
5 important to our security, and I appreciated the opportunity
6 to engage with you on that topic when we had a chance to
7 visit both STRATCOM and Minot.

8 Senator Fischer: Thank you. Another vital component
9 to our modernization effort involves extending the life of
10 the B-52 through 2050, and equipping the plane's new engines
11 is central to this effort. This budget requests significant
12 additional resources in fiscal year 2023 for re-engineering,
13 and I am concerned that some people have portrayed this as
14 an increase, as reflecting a 50 percent cost growth in this
15 program.

16 Secretary Roth, that is not an accurate statement by
17 those people, is it?

18 Mr. Roth: No, it is not. We just recently approved
19 the program, total program costs about \$11 billion. That was
20 a 9 percent increase over the previous estimate. And all
21 that was an update to the estimate, based on some of the
22 virtual prototyping that had taken place in the program, a
23 reassessment of the requirement, a look at the complexity of
24 the integration of a commercial engine into the aging
25 platform that the B-52 is, and a look at the current price

1 of the industrial base on the realities of buying from the
2 current industrial base.

3 So again, back to your question, it was a 9 percent
4 increase in the total acquisition cost.

5 Chairman Reed: Senator Fischer, there seems to be an
6 interruption in your signal.

7 We will restore communication with Senator Fischer, but
8 at this time I would like to ask Senator King if he would
9 prepare his questions.

10 Senator King: Thank you. It is always daunting to
11 substitute for Senator Fischer.

12 General Brown, I am concerned about readiness and
13 aircraft availability. There was a GAO report in the winter
14 of 2020 that indicated various numbers for various
15 airplanes, ranging from 70 percent down to 52 percent,
16 sometimes even the 40 percent range. How do we improve
17 that? That just strikes me as unacceptable. I do not know
18 the comparable figures for the private sector, but my sense
19 is if Delta Airlines had a 70 percent availability for their
20 aircraft they would be out of business. Is it parts? Is it
21 maintenance personnel? Is it intellectual property so that
22 we can make our own parts? What are the bottlenecks on
23 availability?

24 General Brown: Senator, I appreciate the question,
25 and, you know, like you I am concerned to make sure that we

1 have the readiness that is required to support the combatant
2 commanders but also to ensure that our airmen are fully
3 trained and capable to support our national security
4 requirements.

5 One of the key facts that impacts our readiness is our
6 weapons system sustainment, but I also look at the age, the
7 average age of our fleet, which is about 28 years, in
8 addition to about 40 percent or more of our fleet's passive
9 design and service life. So our focus on not only
10 sustaining the current capability with our weapons systems
11 sustainment investment but at the same time being able to
12 modernize. And what we are finding is that our aircraft
13 now, over the past two decades, are breaking (?) about a
14 third more, taking about 10 percent longer to fix. And we
15 have the right manpower as far as from a maintenance
16 perspective, but they are young. And what I mean by that is
17 we plussed that manpower there just several years ago. A
18 lot of them are what we call at our entry level, and we are
19 building that experience at the same time we are operating
20 some older platforms.

21 Senator King: But my understanding is part of the
22 problem is parts availability, it can take ages to get parts
23 from the manufacturer. Are we developing programs where we
24 can build our own parts? I foresee a day where every depot
25 has a 3D printer and we have the intellectual property as

1 part of the purchase of the airframe in order to be able to
2 make our own parts, so that we do not have to be at the
3 mercy of the OEM.

4 General Brown: Senator, we are doing that, and the
5 intent is to do as much as we can with some of the 3D
6 printing, particularly as we look at some of our older
7 platforms, where we have diminishing supply from our
8 vendors, because some of those vendors do not exist anymore.
9 So taking opportunities to advance in our technology with
10 the 3D printing is exactly one of the things we are working
11 on.

12 Senator King: Well, I hope that in future acquisitions
13 part of the deal is always to purchase the intellectual
14 property, so that we can make our own parts and not be
15 dependent upon the supply chain.

16 General Brown: That is exactly our approach, is we do
17 our digital acquisition approach and be able to have not
18 only access to the intellectual property but also using
19 open-mission system and agile software to be able to
20 redesign very quickly, or adjust quickly, and print like you
21 described.

22 Senator King: Let me ask a question that Senator
23 Fischer might have wanted to ask. Have you done a cost
24 analysis of the new GBSD versus life extension for
25 Minuteman-III over a long period of time? What is the

1 difference in cost?

2 General Brown: Well, to date the difference in cost is
3 \$38 billion. It is \$38 billion cheaper to do GBSD than to
4 life-extend the Minuteman-III.

5 Senator King: And in addition to a cost savings, you
6 are gaining a new generation of technology. Is that
7 correct?

8 General Brown: Exactly. For our nuclear portfolio, it
9 needs to be safe, secure, reliable, and deter the threat,
10 and with the GBSD it will be more safe, more secure, more
11 reliable, and better deterrence against a threat, with a
12 very capable system.

13 Senator King: General Raymond, you mentioned unity of
14 effort in your testimony. You are trying to coordinate the
15 work within the development of the Space Force. Can you
16 expand on that for a few minutes -- actually, for 39
17 seconds?

18 General Raymond: For 39 seconds? Yes, sir. I will be
19 happy to. It is good to see you, and thanks for traveling
20 with me to Colorado. As we showed you out there --

21 Senator King: Did you get your driver's license, John?

22 General Raymond: I did. Thank you. As I showed you
23 out there, sir, we have made great progress in developing a
24 strategy and then architecting and designing the force to
25 meet that strategy. That is driving unity of effort across

1 MDA, NRO, Space Development Agency, Missile Defense Agency,
2 the Space and Missile Systems Center. And for the first
3 time in my career we have got all five working towards a
4 common vision now and a common architecture. That is the
5 value of standing up this service, and that is going well.

6 On the requirements side, the JROC just signed a memo
7 that says the Space Force is going to be the lead integrator
8 for requirements for this space across the Department, and
9 so that is another big steps that is in close partnership
10 with that force design work.

11 And then, finally, and I know I have got the red light,
12 on the acquisition side, and driving unity of effort as we
13 have designed our space systems command to bring disruptive
14 innovators and align them with our more traditional
15 partners, having competition, and go fast.

16 Senator King: Well, I appreciate that, and I am out of
17 time but I do -- and perhaps I will submit a question for
18 the record on the issue of joint capability acquisition,
19 software, for example. We have Goldwater-Nichols for joint
20 operation. I am concerned that we have got software being
21 purchased all over the Defense Department that may be
22 duplicative and may even be incompatible. So I will be
23 submitting that question to you and the Secretary.

24 Thank you all very much for your service.

25 Chairman Reed: Thank you, Senator King. Let me now

1 recognize, via Webex, Senator Wicker, please.

2 Senator Wicker: Okay. Well, thank you very much, and
3 I would have been happy to defer to Senator Fischer to
4 finish her questions, but here we go.

5 I understand Senator Shaheen has already asked about
6 the KC-46. But let me just say I appreciate the progress
7 that is being made. But KC-135's continue to perform a
8 majority of refueling missions. Last year's NDAA prohibited
9 the Air Force from retiring the KC-135's until after fiscal
10 year 2023. The budget submission includes plans to retire
11 18 KC-135's, and, of course, the Legislative branch will
12 eventually make the decisions there.

13 But I am concerned that the Air Force wants to move KC-
14 135's to a backup inventory. I remain concerned about this,
15 and it seems to me that your decision is budget driven
16 rather than needs driven. If you had a higher top line,
17 General, would you be forced to make this decision to retire
18 18 KC-135's, in a reversal of the clear language of the
19 NDAA?

20 General Brown: Senator, I appreciate the question. I
21 really do believe that I would actually probably continue on
22 the same path we are today, to transition from our aging KC-
23 135 to the newer KC-46. And that is to balance where are
24 headed as an Air Force, to transition to the future. In
25 addition to that, the manpower in our airmen that operate

1 and maintain those KC-135's are the same airmen that operate
2 and maintain our KC-46's. And so I have got to have the
3 ability to, as we bring KC-46's online, to send them to
4 training, because it is not applicable to switch, and have
5 them transition to this newer platform.

6 It will be a balance, and so right now we are on the
7 path to have 179 KC-46's and still have 300 KC-135's in our
8 inventory to meet the requirements laid out by the United
9 States Transportation Command.

10 Senator Wicker: And so if you had more money you still
11 would make the very same decision?

12 General Brown: Well, if I had more money I would
13 actually reconsider. What I would also do is, actually, I
14 am not so sure I would put it into tankers, because of all
15 the other requirements we have as an Air Force. And so that
16 is where the analysis that I have been working very hard
17 with our staff on, to ensure that any decision we make is
18 thought through very carefully, we have the analysis to back
19 it up, because, you know, when they do re-engineering I am
20 all about the facts and the numbers. And so that is what I
21 actually do. I would not commit to you whether I would put
22 it into tankers but I would take a hard look at tankers but
23 also other capabilities that the United States Air Force
24 requires.

25 Senator Wicker: Well, we are prepared to take a hard

1 look, in this committee, too. Just with regard to training
2 aircraft, I understand that a plan is being finalized to
3 retire the T-1 training aircraft, currently used to support
4 specialized UPT, and the Air Force intends to move to an
5 increased reliance on simulator training. General Brown,
6 what is the Air Force's plan for the future of the T-1
7 training fleet? In a recent forum, retired Air Force
8 General James Holmes commented that there is no substitute
9 for live training. That make sense to me. Are you
10 concerned about the possible impacts that overreliance on
11 simulator training could have on the quality of the new Air
12 Force UPT graduates?

13 General Brown: When I look at our UPT and our training
14 there is a combination of things I am actually looking at.
15 One is the T-1 and how we are looking at the T-1 here in
16 this budget but also to the future of how long we keep it
17 into the Air Force. It is also a balance of being able to
18 use some of the technology of some of our simulators as well
19 as using live flying, because you have got to be able to do
20 some of both.

21 What I have seen, really, throughout my career, is the
22 increasing capability of our simulators to make it more
23 realistic, but there is nothing like, you know, hearing that
24 engine noise, smelling that JP-8, and actually being
25 airborne. And so we have to do a combination of both and

1 ensure we get the best training for our pilots.

2 Senator Wicker: Well, does the current plan contain
3 enough of that actual in-the-cockpit training?

4 General Brown: Senator, I believe it does, and this is
5 something that I do pay very close attention to, as I work
6 with Air Education and Training Command, to talk to them
7 about some of the initiatives we have, to ensure not only
8 the production numbers but also the quality of our students
9 when they graduate from training.

10 Senator Wicker: Okay. Well, my time is about to
11 expire. I will submit a question to you, General Brown,
12 about an article written under the pseudonym of Ned Stark,
13 concerning a call for senior officer reform in the Air
14 Force, an insider's perspective on the promotion process in
15 the Air Force. I will submit that to you for the record,
16 sir. And thank you all for your service.

17 Chairman Reed: Thank you, Senator Wicker. We are
18 trying to re-establish connection with Senator Fischer.
19 Once we do we will recognize her in order, to finish her
20 questioning. But at this time let me recognize, via Webex,
21 Senator Gillibrand, please.

22 Senator Gillibrand: Thank you, Mr. Chairman. Yes, I
23 can attest the internet is down in the Senate right now, so
24 I am using my phone.

25 I am very excited, for Secretary Roth and General

1 Brown, to hear that the Niagara Falls Air Reserve Station,
2 one of my state's best defense equities, is a candidate for
3 hosting the KC-46A Pegasus reserve component. In addition
4 to the Air Station's strategic location, and that it
5 possesses much of the needed equipment, the community around
6 NFARS is one of the best in the country, that supports
7 servicemembers, their families, and has an economy,
8 amenities, and services, including health care and
9 affordable housing, that allows for this to be a very
10 strategic location.

11 Will you be looking at these type of issues as you make
12 your decision about where to locate, and to what extent do
13 considerations made by the Air Force include economic,
14 educational, and health care options for spouses and
15 dependents?

16 Mr. Roth: As you may be familiar, we have what we call
17 a strategic basic process, that is very analytically based,
18 and uses a series of criteria, that include an assessment of
19 the individual communities in terms of kinds of the
20 educational opportunities, the opportunities for spouse
21 employment, and those kinds of things. So it is part of our
22 strategic basing process and criteria, and will be used
23 across the board for all our basing decisions.

24 Senator Gillibrand: Thank you. On the issues of
25 sexual assault in the military, it something obviously this

1 committee has been looking at for the last 8 years, and I
2 personally have been focused on trying to create reforms
3 that I believe can begin to get at this scourge. And one of
4 the main reforms that we have settled on over the last 8
5 years is drawing a bright line at all serious crimes and
6 taking those crimes out of the chain of command.

7 The reason why there is a bright line at serious crimes
8 is because this is what our allies did -- the U.K., Israel,
9 Canada, Australia, Netherlands, Germany -- for defendants'
10 rights. They thought if you could have a less biased
11 system, a more professionalized system, a more highly
12 trained system, and certainly have the decision-maker not
13 know the perpetrator or the plaintiff, that it would be able
14 to be a fairer, more just system. So they did it for
15 defendants' rights.

16 And so this reform is something that 66 Senators now
17 believe is the right way to improve our military justice
18 system so that justice is possible, through
19 professionalization and through making sure that there is no
20 bias.

21 This will help our military in two ways. One, I
22 believe it will mean more cases will go to trial, sexual
23 assault cases, and I believe that the right cases will be
24 chosen, and so they might end in conviction, since we have a
25 very low conviction rate right now.

1 And second, there has been a lot of talk the last few
2 years about racial bias in the criminal justice system, in
3 the military system, and that black --

4 Chairman Reed: We are having, obviously, technical
5 difficulties. I am told that the internet in Russell
6 Building is down, and that, again, when we restore
7 communication with Senator Gillibrand we will allow her to
8 finish her questioning, along with others.

9 But at this point let me call on Senator Rounds,
10 please.

11 Senator Rounds: Thank you, Mr. Chairman. First,
12 gentlemen, let me begin by just saying thank you for your
13 literally decades of service to our country.

14 General Brown, an issue this committee consistently
15 hears about, from the combatant commanders, is the lack of
16 ISR capability. I understand this budget proposal asks to
17 retire a number of JSTARS, along with some RQ-4's. I would
18 like to hear your thoughts on how the Air Force will
19 continue to meet the ISR requirements while you retire a
20 portion of your existing ISR fleet, recognizing that right
21 now we are not able to meet the demands of the combatant
22 commanders today. And then I guess I would ask, also, as a
23 follow-up on that, I understand the Air Force is no longer
24 requesting to procure additional MQ-9 aircraft. Does the
25 Air Force plan to divest these valuable assets in the near

1 future as well?

2 General Brown: Senator, I appreciate your question,
3 and, you know, one of the things from the United States Air
4 Force is the demand from combatant commanders for ISR from
5 the Air Force far exceeds the capacity that we do have. So
6 there is a great appetite for what the Air Force provides.

7 Part of that is how we balance risks between the United
8 States Air Force and combatant commanders. That is the
9 dialogue I have with the combatant commanders. The aspect I
10 look at, as we move to the future, is we have got to ensure
11 that ISR is persistent, connected, and survivable. We have
12 persistent today, not as connected as I want to be, and not
13 as survivable as I think we need to be as we look to the
14 future.

15 And so as I work with the combatant commanders it is
16 how we make that transition. At the same time, how do we
17 look at moving information, because it is really about the
18 information to make decisions, versus a platform. Now I am
19 thinking about terabytes of data that we move through other
20 means, like Advanced Battle Management Systems. So it is a
21 combination of those that we work together.

22 On the MQ-9, we are not procuring MQ-9's but we are
23 going to still have MQ-9's in our inventory until the middle
24 of the next decade. We still have deliveries that will
25 occur into fiscal year 2024 and 2025. The MQ-9's that we do

1 have, we are going to modernize to make them more resilient
2 and connected, like I just described, and those upgrades
3 will occur on the MQ-9's that we do have, and they will be
4 in the inventory until about 2035 or so.

5 Senator Rounds: Thank you, sir. Just continuing on,
6 General Brown, reviewing the Air Force's budget requests I
7 am concerned with the decrease in flying hours that are
8 indicated, by about 7.5 percent. I am curious about your
9 opinion about how this is going to impact how we can safely
10 train pilots, and ultimately enabling the service to meet
11 the National Defense Strategy objectives. I know there have
12 been several reports in the press already where there has
13 been a question as to whether or not these airmen are able
14 to have access to aircraft and the numbers needed to
15 maintain the proficiency right now. How do we add into that
16 an anticipated 7.5 percent reduction in the budget for that?

17 General Brown: Part of that 7.5 percent reduction was
18 actually us going back and doing the analysis on under-
19 execution of our flying out program, going back to fiscal
20 year 2019. We made some adjustments in fiscal year 2020,
21 realizing that COVID -- in 2021 -- COVID has impacted what
22 we really executed. And so what we are really trying to do
23 is normalize and get closer to our actual execution.

24 The balance of that is also to ensure that we have the
25 right amount of training and flying hours to be able to

1 execute and train our airmen, by using that funding that we
2 take out of the flying [inaudible], to ensure we actually
3 have the availability of aircraft to match up with the
4 flying out program.

5 Senator Rounds: Thank you, General.

6 Secretary Roth, bomber inventory continues to be
7 stressed, and the retirement of 17 B-1B's, while
8 understandably necessary, depletes an already undersized and
9 critical force. Are there any further planned cuts to the
10 bomber force before adding significant numbers of the
11 operational B-21's to the inventory?

12 Mr. Roth: The answer is what we are going to do is
13 manage the transition from the current force of bombers that
14 we have to the ultimate bomber inventory that we will have,
15 that will be dependent on the B-21 and B-52. And so we will
16 manage that in a conditions-based, events-based kind of
17 manner, that as B-21's come online we will then start
18 retiring B-1's and B-2's. We will not get ahead of our
19 headlights on that. We will ensure that the B-21 is
20 delivering on time and on schedule as we go forward.

21 The 17 B-1's that were identified this year were the
22 oldest and most expensive to repair B-1's, that, to a large
23 extent, were not flying anyway. And so that is where we are
24 now, and we will stay there for a while, and then what we
25 are going to look forward to is as the B-21 delivers we will

1 start retiring B-1's, and B-2's.

2 Senator Rounds: And just a confirmation that it is
3 your understanding that the B-21 is on time and on budget.

4 Mr. Roth: To date it is an exemplary acquisition
5 program. It has met every significant milestone to date.
6 The first flight we anticipate is in fiscal year 2022, so
7 the first airplane will actually get off the ground next
8 year.

9 Senator Rounds: Thank you, Mr. Chairman.

10 Chairman Reed: Thank you, Senator Rounds. There
11 appears to be a disruption of telecommunication services
12 around the Capitol, so would urge all of our colleagues to
13 come in person to ask their questions. That would expedite
14 the hearing immensely.

15 With that let me recognize Senator Hirono, please.

16 Senator Hirono: Thank you, Mr. Chairman. Secretary
17 Roth, last year it was announced that the Hawaii Air
18 National Guard had been selected to have one of four
19 national offensive space control squadrons. I understand
20 that the Hawaii Air National Guard is in the process of
21 establishing the 293rd Space Control Squad based on the
22 Pacific Missile Range facility on Kauai.

23 Mr. Secretary, I know that you are working with the
24 National Guard Bureau on a plan to add a reserve component
25 to the Space Force. What is the status of this plan?

1 Mr. Roth: Yeah. We have been working on that plan
2 over the last year or so, and that plan has been sent to the
3 Office of the Secretary of Defense, to the Secretary of
4 Defense, for his approval. So as soon as we can schedule a
5 session with the Secretary of Defense we plan to go through
6 that with them, and then we will work with both the Office
7 of the Secretary of Defense, ultimately probably the Office
8 of Management and Budget, and will be forwarding a proposal,
9 based on the Secretary of Defense's decision.

10 Senator Hirono: So in terms of the status of a plan,
11 then, would you envision it within this fiscal year, or
12 next, that this plan would be in place?

13 Mr. Roth: We actually hope it is imminent. I can have
14 the Space Chief jump in here too and give you more details.
15 We are hoping it is imminent. You know, we have done what
16 we have to do, and so we are working with the Secretary's
17 staff to get something we would anticipate this summer.

18 Senator Hirono: "Imminent" is good right now. For
19 General Raymond. Could you envision a missile tracking
20 system in space replacing ground-based radars like HDRH
21 Hawaii? If so, what is the timeline for these satellites
22 coming online?

23 General Raymond: Yes, ma'am. First of all, we are
24 doing work right now to design that, and we have united the
25 entire department towards that end, including the Missile

1 Defense Agency, the Space Development Agency, Space and
2 Missile Systems Center, and others. And so we are doing
3 that force design work as we speak, and then we will begin
4 the program for that this next budget, this shift. But to
5 do that mission effectively you have to do that from space.
6 It provides the coverage and the ability to do that critical
7 mission.

8 Senator Hirono: So are you saying that this kind of
9 tracking system in space will replace the planned HDRH
10 Hawaii, which, by the way, I and other members have concerns
11 that that is not even in the President's budget this year.

12 General Raymond: We are not looking to replace -- it
13 is kind of a dual path. Like today in missile warning, we
14 have satellites that are on orbit and we also have missile
15 warning radars. And so it requires both.

16 Senator Hirono: Just so I can be clear then, you are
17 saying it is not necessarily to replace the ground-based
18 defense radars but it could be in addition to. Is that what
19 you just said?

20 General Raymond: Yes, ma'am. The space capabilities
21 that we have today, for example, the missile warning detect
22 launches immediately upon launch, and then as the missiles
23 fly they go through radar paths. It requires really both of
24 those assets to be able to do that well.

25 Senator Hirono: Okay. Based on your response I

1 continue to have concerns that HDRH Hawaii is not in the
2 budget.

3 For Secretary Roth, I note in your testimony a
4 commitment to diversity, which, of course, I applaud. Do
5 you have a matrix for determine whether your efforts to
6 removing barriers to service, as you note in your testimony,
7 are, in fact, resulting in a more diverse Air Force?

8 Mr. Roth: Yeah. We actually have a data-driven
9 process. We have established an Office of Diversity and
10 Inclusion. The head of that office is a direct report to
11 the Secretary. So there has been a plan outlined. We have
12 something, for example, called the Barrier Working Group,
13 and other kinds of groups that are looking at doing climate
14 kinds of surveys and doing analysis on some of the trends in
15 both the hiring trends and the promotion trends and those
16 kinds of things.

17 And so we have an overall process that includes
18 education, that includes training, it includes additional
19 guidance to hiring panels and the like, as well. So again,
20 our attempt is to do focused, data-driven kinds of
21 initiatives to try to get at improving our posture overall.

22 Senator Hirono: Does this mean that you can already
23 provide us with information as to how you are doing on the
24 diversity front?

25 Mr. Roth: Let me get back to you. Let me check and

1 see, in terms of -- because, to some extent, the office --
2 in defense, the office was just stood up this year. But we
3 have some climate survey results from previous surveys that
4 we have done. So we will work with your folks, if that is
5 okay, and we will get with you and show you what we have.

6 Senator Hirono: I am glad that this is happening,
7 because, you know, having an intention to diversify does not
8 mean anything unless you actually do those kinds of things
9 that will result in diversity.

10 Thank you, Mr. Chairman. I do have some other
11 questions for the record.

12 Chairman Reed: Thank you, Senator Hirono. Senator
13 Cotton, please.

14 Senator Cotton: Thank you, Mr. Chairman. Thank you,
15 gentlemen, for your appearance today.

16 General Brown, as Congress considers this year's budget
17 requests, and the Department of Defense's top line budget,
18 it has become increasingly clear that the Services cannot
19 rely on budget increases to acquire the capabilities the
20 nation will require in the future unless Congress takes
21 action to change the President's budget. If not, though,
22 the Services will need to find money inside their existing
23 budgets.

24 I understand that retiring certain older aircraft is
25 critical to finding these funds to invest in what the Air

1 Force seeks for the future, like F-35's, KC-46's, the
2 Advanced Battle Management System, B-21's, and a new ground-
3 based intercontinental missile. Can you please describe
4 some of the risks that the Air Force will have to accept if
5 it is not able to pursue those planned retirements of older
6 aircraft?

7 General Brown: Sure, Senator. I appreciate the
8 question. I would categorize the risk in really four
9 categories: modernization, manpower, maintenance, and
10 operational.

11 On modernization, what it would do is really force us
12 to continue to operate today's equipment and not be able to
13 meet the requirements I expect from future combatant
14 commanders.

15 On manpower, from a manpower standpoint, the airmen
16 that we have today, that are tied up in some of these older
17 platforms or legacy platforms, are the same airmen I am
18 going to require to operate the newer platforms. So I have
19 to be able to balance and train them to be ready to execute.

20 On the maintenance, what I see is our sustainment costs
21 continue to go up, and as those sustainment costs go up it
22 actually then increases our buying power, to be able to use
23 that money to purchase new equipment, and as you have that
24 new equipment, it is a bit easier to maintain and sustain as
25 we go forward.

1 And then last is on operational. There are impacts for
2 readiness, based on aircraft availability, for example. I
3 also think about our airmen and our joint teammates that we
4 put at risk with capabilities that may not meet up against
5 the threat. And the last is really the risk to our national
6 security, when you pull it all together, what the Air Force
7 provides with our joint teammates to make sure that we do
8 the things that the nation has asked us to do.

9 Senator Cotton: Those are all worrisome risks, I would
10 agree. I think we should be mindful as a committee, too,
11 about those risks, before we try to maintain some of these
12 aircraft in the fleet, if it is time for them to go or we
13 pursue future aircrafts, occasionally for parochial reasons.

14 Is it also fair, General Brown, to say that some of the
15 money you hope to save by these retirements is going to be
16 spent on systems or weapons that we cannot discuss in this
17 open forum?

18 General Brown: That is correct, and I would be more
19 than happy to come back in a classified forum to share some
20 of those details.

21 Senator Cotton: I know what they are. You do not have
22 to come back to me.

23 I want to make appoint, though, here, that I think
24 every system the Air Force hopes to retire is a system that
25 flies openly, that we know about, that is in their local

1 communities, and that can cause some political friction with
2 Congress. Some of things we have talked about, we all know
3 about and talk about openly, like the F-35 or the B-21, but
4 some of them we can't, and that is hard for Senators and
5 Congressmen to explain to our voters back home sometimes,
6 especially if certain states or districts are going to lose
7 an aircraft. I just think that we need to be mindful that
8 there is a lot the Air Force needs to do in its classified
9 setting, and that we may not always be able to explain that
10 publicly, but the American people should keep that in mind,
11 that you are doing a lot of work behind the scenes to keep
12 this country safe as well.

13 General Brown, the Air Force is heavily invested in
14 both the B-21 and the long-range standoff weapon. Do you
15 agree that both of these programs are required in their own
16 right but also as a supportive and complementary system to
17 each other?

18 General Brown: I do, very much so.

19 Senator Cotton: Okay. Thank you. General Raymond, my
20 time is almost up. I would like to discuss with you, at
21 some point, the circumstances with Lieutenant Colonel Matt
22 Lohmeier's relief out in the 11th Space Warning Squadron, if
23 you will follow up with my office so we could have a
24 conversation.

25 And Secretary Roth, I think you probably will not be

1 appearing before the committee anymore any time soon, at
2 least as one of the longest-serving officials in the
3 Department of Defense, but I want to thank you for many
4 decades of service to our country. And should you come back
5 as an expert in the private sector at some point in the
6 future, I do not want to hear what we always hear from Bob
7 Gates when we bring him back, which is -- he is telling the
8 biggest lie in Washington -- "It is a pleasure to be back in
9 front of the committee."

10 [Laughter.]

11 Senator Cotton: But thank you very much for many, many
12 years of dedicated service at the Department of Defense.

13 Mr. Roth: Thank you, Senator, for your kind words.

14 Chairman Reed: Thank you, Senator Cotton. Now we have
15 restored communication with Senator Gillibrand. Let me
16 recognize her for the remaining 2 minutes of her
17 questioning.

18 Senator Gillibrand: Thank you, Mr. Chairman. So,
19 Secretary Roth, I just wanted to conclude the point I was
20 making, that this idea of a bright line begins to restore
21 two concerns we have with the military justice system: bias
22 against survivors of sexual assault and bias against black
23 and brown servicemembers, for both plaintiffs' rights and
24 defendants' rights, and to mirror the reforms of our allies,
25 that they have done over the last 40 years.

1 So I wanted to know what your take on this was, whether
2 you have looked at this data in details, what you think the
3 current status of affairs is with regard to the Air Force,
4 and what you hope to accomplish.

5 Mr. Roth: Yeah. Obviously we have looked at it and we
6 have discussed it, and we are aware of the legislation that
7 is working its way through the Senate. We are also aware of
8 legislation in the House, and I think, as you are aware, we
9 have Independent Review Commission inside the Pentagon who
10 is also coming up with a series of recommendations. And so
11 our commitment to all of you is we will work with you. We
12 have some concerns, in terms of some of the breadth of what
13 is being addressed, and we also have some process concerns.
14

15 But we agree there is a problem there. We need to fix
16 it. What we are doing today is not working, and so we will
17 work with everybody to find a way forward here, and arrive
18 at what is best for the airmen and the guardians in the
19 force.

20 Senator Gillibrand: Thank you. Secretary Roth and
21 General McConville, you did address this issue of the Space
22 National Guard, and you discussed it already today, but I
23 wanted to know what your perspective is on that and what you
24 hope to create with a reserve component, and whether you
25 think that might be able to address some of our recruiting

1 challenges and our retention challenges for that best talent
2 in the country.

3 Mr. Roth: Yeah. Perhaps I should defer to the Space
4 Chief. But from my perspective, you know, there are two
5 elements to that. There are the reserves and then there is
6 the National Guard, and there is some nuanced differences in
7 how we approach that. But I think with the Space Force we
8 have a unique opportunity here for a new Space Force, a
9 relatively small Space Force, to do things that are
10 innovative and creative, that will move us forward, and
11 might provide us, you know, kind of a pilot for what we
12 could do with a larger force as well.

13 General Raymond: Ma'am, it is the centerpiece to our
14 human capital strategy. I think it will help enable exactly
15 the things that you highlighted. I would welcome the
16 opportunity, since the red light is on, to come discuss this
17 with you in great detail. I am excited about where we have
18 landed on this, and I think it is going to be very
19 beneficial to our service and to the Guard and reserves as
20 well.

21 Senator Gillibrand: Thank you. Thank you, Mr.
22 Chairman.

23 Chairman Reed: Thank you, Senator Gillibrand. Let me
24 recognize Senator Ernst, please.

25 Senator Ernst: Thank you, Mr. Chair, and gentlemen,

1 thank you for appearing in front of the committee today. We
2 certainly appreciate your great service to our nation.

3 I would like to start, obviously we have addressed the
4 issue of operating in a budgetary environment that is very
5 constrained, and with that comes certain challenges. But
6 through those challenges I think it is up to us to find some
7 opportunity.

8 And, Secretary Roth, Congress had granted DoD middle-
9 tier acquisition authority, the 804 authorities, to save
10 some time and money on acquisition programs. And as I
11 understand it, this particular authority is being used to
12 procure, or at least in the B-52 engine program.

13 So could we hear from you a little bit about some of
14 the lessons learned, if that is effective, how that program
15 is working with the use of the 804 authorities?

16 Mr. Roth: Well, for us, I mean, the criticism of DoD
17 acquisition, Air Force acquisition, specifically is that it
18 is too bureaucratic, it is too slow, it is not agile enough,
19 all those kinds of things. And we look at the mid-tier
20 acquisition initiative, Section 804, as an opportunity to be
21 more agile, to be quicker, to be more responsive, more
22 dependence on prototyping, more dependence on tailor
23 acquisition to individual programs, more emphasis on
24 delegating management of programs down to the lowest level
25 possible, rather than trying to run everything from the

1 Pentagon.

2 And so we are actually very interested and excited
3 about what that could bring to the table across the board,
4 and so we have, I guess, for lack of a better word, bought
5 in across the board in terms of doing that.

6 So the B-52 re-engineering program is an example. We
7 plan to use it, for example, for the A-10 re-winging
8 program, for two major programs, two or three major programs
9 that are in our modernization program. The Next Generation
10 Air Dominance program, the Ground-Based Strategic Defense
11 program, and the B-21 are all examples where we are using
12 that kind of an approach, you know, married up with digital
13 engineering, the digital trinity, in terms of open systems
14 architecture and agile software, and the like.

15 Going along with that is some rigorous metrics that
16 have to be put in place. Just because we are going fast
17 does not mean we should not have any discipline and we
18 should not be watching these. But it also offers us
19 opportunities to shift gears and go in a different direction
20 if what we are doing is not working.

21 Senator Ernst: No, that is fantastic, and I appreciate
22 that. My next question was going to be, can you give other
23 examples where this is working, and so thank you for laying
24 that out for us. Again, I think it is important that we
25 understand, operating in this type of environment, that we

1 need to find other ways of doing business, not to drop the
2 standard but simply to find ways where we can save time and
3 hopefully some dollars.

4 General Brown, I want to thank you again for traveling
5 to Minot and Offutt, as Senator Fischer had stated. It was
6 a phenomenal trip for many of us to witness our two branches
7 of the nuclear triad. But I would like to address the
8 National Guard for just a moment.

9 The President and the Secretary of Defense have both
10 raised some alarm about the rising challenges that we see
11 from some of our near-peer adversaries, primarily China and
12 Russia, and, of course, a lot of dispersed terrorist threats
13 around the globe. And we have really been stretching our
14 force to meet those challenges, and the Air Guard has seen
15 its busiest year since World War II. The demand signal
16 continues to increase, and the Air Guard is mobilizing with
17 increasing frequency, both at home, domestically, in the
18 United States, as well as abroad.

19 The President's budget does slash the Air National
20 Guard training and component budgets, along with cuts to
21 paid drill and individual training days, with the
22 expectation that contingency mobilizations are on the path
23 to pre-9/11 levels. What evidence do you have that would
24 indicate the Air National Guard's usage reductions will go
25 to pre-9/11 levels?

1 General Brown: One of the things that we are going
2 doing inside the United States Air Force is our force
3 generation model, new force generation model that actually
4 can better predict how we are going to actually deploy our
5 forces, and at the same time put some discipline about how
6 we execute. The Air Force and the Air Guard gets called on
7 a lot. We have a lot of flexibility, as I said in my
8 opening statement, to air power, any time they work, and
9 because of that we get called on quite often.

10 And so one of the things we are working with, both on
11 the active but also with the reserve components, is to
12 ensure we lay out a more disciplined process of how we
13 actually execute with that air power to support our
14 combatant commanders. And that will give us a more
15 predictable tempo that gets to pre-9/11 levels, as well as
16 the ability to train and maintain a level of readiness.

17 Senator Ernst: Okay. I appreciate that, and should we
18 not return to this pre-9/11 op-tempo level then we certainly
19 need to know that. We want to make sure that are supporting
20 those reserve and National Guard forces.

21 So again, gentlemen, thank you so much for your time
22 and your commitment to our great United States. Thank you,
23 Mr. Chairman.

24 Chairman Reed: Thank you, Senator Ernst. Senator
25 Tillis, if you are ready, you are recognized.

1 Senator Tillis: Thank you, Chairman Reed. Thank you,
2 gentlemen, for being here, and Secretary Roth, I want to
3 associate myself with my colleague, Senator Cotton, on your
4 service and wish you the best.

5 I know you all are working in an environment where if
6 we can wave a wand and give you all the money to fund the
7 unfunded priority list and move some others up that you
8 would welcome it, but you are not working in that
9 environment right now. I know a couple of my colleagues
10 talked about the KC-46A and the problems that we are
11 continuing to have with the boom system. So I want to talk
12 a little bit about the operational impact.

13 I know you are trying to balance some of the cost
14 savings and deployment of future systems against meeting
15 your mission, but just going down this list, if you have
16 this information, how many KC-46A air-to-air refueling
17 missions are being sourced to OCONUS?

18 General Brown: I do not have an exact number for you,
19 Senator, but we can get that for you. But we are using the
20 KC-46 on a day-to-day basis to support particularly our
21 training missions, the refuel, to get our pilots their
22 currency and our brand-new pilots up to speed on their
23 refueling.

24 Senator Tillis: I have got a series of questions that
25 you can maybe report back for the record, a similar question

1 for the KC-10 air-to-air refueling mission.

2 You know, one of the concerns that I have, I think it
3 was the Air Force and TRANSCOM had previously stated that
4 more than 25,000 hours of air refueling missions are not
5 being supported annually, with the KC-46 not being fully
6 operational. So we will submit a series of questions on
7 that, because we just want to get it right. I am not here
8 to preserve an old platform if you have full confidence in
9 the future one, but the gap is what I am concerned about and
10 the mission requirements, and potentially the training
11 impacts, by not being able to train the way that they would
12 fight, based on current capabilities.

13 General Raymond, I think at one point, I know we have
14 talked about, in the space domain, the need for
15 identification and attribution activities of our
16 adversaries. I think at one point you also mentioned the
17 concept of the need to punch back or retribution. You have
18 got 2.4 percent of the total DoD budget. Number one, is
19 retribution a part of your planning process, and number two,
20 how do you manage that with the relatively small percentage
21 of the overall budget?

22 General Raymond: Thank you for the question. First of
23 all, in this budget we invest in our ability to
24 characterize, as you mentioned in your question, we invest
25 in what we call space domain awareness, to have an

1 understanding of what is going on in that domain and to be
2 able to characterize it. Just like any other warfighting
3 commander, the U.S. Space Command Commander must have an
4 opportunity to have the ability to understand what is going
5 on in that domain.

6 The second big area is, yes, to have the ability to
7 command and control, so we are focusing on commanding and
8 controlling as well.

9 Where we are really focusing on in this budget is four
10 big priorities. One is you have to be able to defend what
11 you have. Two, we have to shift. We have to modernize to a
12 more defensible architecture. Three, you have to develop
13 the ability to impose costs, warfighting capability, and
14 fourth, you have to look at what other new missions should
15 go to space. And we are really working to balance all four
16 of those priorities. I think space is central to our
17 ability to deter, and that space can help amplify the
18 deterrence messaging and change the deterrence calculus of
19 an adversary, in both denying benefits and imposing costs,
20 and that is what we are balancing.

21 Senator Tillis: And I do not know whose lane this is
22 in. I could assume maybe several different agencies. But
23 we have had reports about the amount of space debris or
24 space junk that we had out there. We had a report about a
25 month ago of the International Space Station being hit. Is

1 that a part of your planning process, and is there budget
2 allocated for that purpose?

3 General Raymond: Yes, sir. We act as the space
4 traffic control for the world, the United States does. We
5 catalog or track about 30,000 objects. We provide all the
6 conjunction assessment, if you will, warning if two things
7 are going to collide, and then U.S. Space Command does all
8 that notification to keep things from hitting the ISS and
9 other satellites. That is becoming a full-time job, because
10 of the increased congestion that is going on and the
11 increased number of objects that are launching into space.

12 Space domain awareness is critical to the warfighter.
13 Space traffic control or space traffic management is
14 something that needs to be shifted to another organization
15 to free up U.S. Space Command and our operators that operate
16 all those systems and doing the critical space domain
17 awareness work that they need to do for our national
18 security.

19 Senator Tillis: Thank you. And Secretary Brown, I am
20 kind of curious of your perspective. Senator Gillibrand
21 asked some questions about the UCMJ proposals that are
22 coming through. There are some on military sexual assault
23 but there is a larger proposal that would dramatically
24 change the shift out of the command. Have you reviewed the
25 commission report? And I am saying this to everybody who is

1 coming here that is part of the DoD, we need your feedback
2 soon. We are about a month away from doing an NDAA markup
3 that could have a sweeping change that may have some
4 operational challenges and others.

5 I am over time but I would like to just send a message
6 to Secretary Austin and all of the leadership, who I
7 understand is in the process of vetting it. We need your
8 feedback pretty quickly or it will not weigh into the
9 decisions we are going to be making about a month from now.
10 So I will just leave that as a statement rather than expect
11 you to respond.

12 Chairman Reed: Thank you, Senator Tillis. Let me
13 recognize Senator Cramer, please.

14 Senator Cramer: Thank you, Mr. Chairman, and thanks to
15 all of you for being here. And since Senator Tillis just
16 ended with that, let me just add my voice to the same
17 admonition.

18 As you might imagine, General Brown, thank you for
19 being here and thank you for going to Minot, I listened very
20 attentively to your answers to Senator Reed about the
21 retirement of Global Hawk 30's and the waiver. But I also
22 noticed that in the modernization plan presented to the
23 House Armed Services Committee, the Block 40 now is being
24 slated for retirement beginning in 2025. Do we now consider
25 the Block 40 a sunset system?

1 General Brown: Not at the moment, Senator, and, you
2 know, part of our process as well is we want to make sure we
3 have a good transition. And as we build the plan and as we
4 have had a chance to talk about it, we look at the
5 classified system we are bringing on. What I do not want to
6 do is actually leave a gap. So it is balance between our
7 planning factors for the Block 40 and the classified system
8 we are going to bring on, to make sure that we have a smooth
9 transition going forward.

10 Senator Cramer: And I have appreciated your great
11 attention to the details of that with me.

12 Secretary Roth, you reported that the Air Force's
13 budget is \$212.8 billion. How much of that \$212.8 billion
14 does the Secretary of the Air Force actually control?

15 Mr. Roth: \$174 billion. \$39 billion is what has been
16 referred to frequently as the pass-through.

17 Senator Cramer: Can we do something about a more
18 transparent budgeting system that does not give this view
19 that the Air Force is getting a whole bunch of money that
20 they really do not control?

21 Mr. Roth: Yeah. We are actually working with the
22 Office of the Secretary of Defense to see if there are some
23 things that could be done. There are classified reasons why
24 that exists, and so we need to make sure that we do not
25 uncover things that ought not be uncovered. But we are

1 working with our colleagues on the Secretary of Defense's
2 staff to see if there are some ways to do that.

3 I will say, when we come out with the budget and we do
4 our budget briefings, come brief you and others here on the
5 Oversight Committees, we immediately identify what we call
6 the "blue budget," which is the \$174 billion, and all our
7 conversations from that day on is about the \$174 billion.

8 But I take your point, and we are, in fact, discussing
9 what is in the art of the doable with the Office of the
10 Secretary of Defense.

11 Senator Cramer: Well, and I think you are answering
12 that question that way, in this forum, is part of the
13 process, so I thank you for that.

14 General Raymond, I really appreciate all the efforts
15 that you have put in, in this last year and a half, really
16 from day one, in how to involve universities in providing
17 not only technological assistance but obviously a well-
18 educated and hopefully prepared workforce, in many cases,
19 for you to succeed. And I was really happen to see that 10
20 University of North Dakota faculty made a recent visit to
21 Cavalier, to the radar station, and if Molly does not get
22 you to ND today, she can have my copy to read all about it.
23 It was very cool, and I really appreciate it.

24 But now that you have had these 18 months, do you think
25 that Space Force's outreach and involvement with

1 universities is where it needs to be, and what can we do to
2 strengthen you in that regard?

3 General Raymond: Yes, sir, and I think it is where it
4 needs to be. We have developed a University Partnership
5 Program. It is focused on doing research together,
6 developing people together, recruiting talent together. And
7 this first year we are going to have 10 universities that
8 are part of that University Partnership Program, and we look
9 to expand that in the future. I think it is going to
10 provide us great advantage, and we appreciate very much
11 University of North Dakota's partnership with us.

12 Senator Cramer: Well, and as always, let us know how
13 we can be helpful.

14 General Brown, I do have some concerns about the cuts
15 in the fiscal year 2022 funding for the MH-139, and it is
16 slated to replace, of course, our very aging UH-1
17 helicopters in Minot. I am told the delay is because of a
18 delay in FAA certification. But unless you think the
19 aircraft is not going to achieve its certification, why
20 would we stop, you know, paying for it and building it,
21 because we have seen other aircraft that have had those same
22 FAA delays but did not have a pause in production. So I am
23 kind of concerned about that. Is it really necessary? I do
24 not know if you have ever flown in a UH-1 in Minot in the
25 winter, but it is very unpleasant, and we would like to be

1 able to keep that on track.

2 So do you have an explanation, other than the FAA
3 certification?

4 General Brown: Well, it is FAA certification, and the
5 aircraft is a commercially derived platform that we are
6 putting military equipment on, which drives the additional
7 certification. So we ran into an issue in part of the
8 testing. So we are continuing testing on other parts of the
9 aircraft besides the defensive system, that was causing some
10 issues.

11 What we want to do is ensure we aligned our money with
12 the delivery. The delivery delay is, I believe, just
13 several months, is what we expect going forward. So we want
14 to keep our focus on it, and we want to make sure that, as
15 you said, flying a UH-1 in Minot in the winter is probably
16 not what we want to continue to do, which is why we want to
17 get the MH-139 on track.

18 Senator Cramer: Thank you. Thank you all again for
19 your service.

20 Chairman Reed: Thank you, Senator Cramer. Now let me
21 recognize Senator Warren, via Webex, please.

22 Senator Warren: Thank you, Mr. Chairman, and thank you
23 all for being here today.

24 General Brown, I had the opportunity to discuss the
25 strategic basing process at Mr. Kendall's nomination

1 hearing, and I would like to be able to do the same with you
2 this morning. This is the formal process the Air Force uses
3 to decide where to station new aircraft, like the F-35 or
4 the KC-46.

5 The Air Force has gone to admirable lengths to ensure
6 that when it is choosing installations for these aircraft
7 issues like the quality of education available near a base,
8 and licensure reciprocity are a big part of the
9 consideration. This is, of course, important because the
10 quality of schools available for their children and the
11 ability of spouses to obtain jobs and sustain careers are
12 critical issues that impacted servicemembers' quality of
13 life.

14 So, General, can you commit to ensuring that the
15 quality of education and licensing reciprocity are indeed
16 factors in the strategic basing process?

17 General Brown: Yes, Senator, they are.

18 Senator Warren: Good. I just want to hear that. You
19 know, these issues are part of base selection criteria for a
20 reason, and they matter a lot to the servicemembers who do
21 so much for our country.

22 One thing that is not formally considered during part
23 of the process is the effects of climate change and extreme
24 weather. A 2019 Pentagon analysis found that of all the
25 services, the Air Force's base infrastructure is most at

1 risk for climate change threats, such as recurrent flooding,
2 drought, desertification, wildfires, and thawing permafrost.

3 Do you think it is worth making that another factor in
4 the strategic basing decision-making process?

5 General Brown: One of the areas we do look at is
6 installation resiliency and how we take a look at not only
7 the location but its capability and what kind of things we
8 would have to do to make sure that that base or that
9 location will be operationally relevant, as well as to
10 ensure it can support the mission. As we look at that, we
11 want to make sure that we do not put ourselves in a
12 situation selecting a location that is going to be impacted
13 by extreme weather or other things and the base locations
14 are not well prepared.

15 Senator Warren: So just to make sure I am
16 understanding, you are saying yes, that we should take into
17 account the climate change threat and the impact it could
18 have on military operations.

19 General Brown: That is one of the factors we do look
20 at, the location, but we also look at the operational
21 mission. You mentioned earlier also the education, the
22 community, spousal licensure as well.

23 Senator Warren: As one of the conditions. That is
24 what I care about. And while we are on the subject of
25 climate change, there is no way to address the climate

1 crisis without confronting DoD's role as the largest
2 consumer of fossil fuel on the planet, and the Air Force is
3 obviously a big contributor to this, given the number of
4 aircraft it flies.

5 General Brown, what is the Air Force's progress,
6 researching and developing new engine technologies that will
7 decrease your dependency on fossil fuel and reduce emissions
8 without sacrificing capability?

9 General Brown: Well, one of the things we talked about
10 a little earlier today is the re-engineering of the B-52,
11 and that is one area that is going to save us about 30
12 percent of its fuel consumption from what it does today.
13 The other aspect that we also take a look at is advancing
14 technology with our simulators, the ability to do some of
15 our training in simulators, particularly from some of our
16 more complicated and high-ends that we do not want our
17 adversaries to see and be able to take those into a
18 simulation environment, which then saves us on fuel. So it
19 is a balance of those as well as the technology, engine
20 technology we look at as well.

21 Senator Warren: Okay. And what I am hearing you say
22 is about reducing consumptions, which I very much
23 appreciate. But I hope that you are prioritizing research
24 and development as well in the engine technology and how to
25 reduce reliance on carbon-based fuels. That will help make

1 sure that the Air Force remains flexible and agile for the
2 future and reduce dependency on potentially vulnerable
3 fossil fuel supply chain.

4 So I look forward to working with you and the incoming
5 Secretary to help make this technology a reality.

6 General Brown: Well, thank you, Senator. One thing I
7 would highlight is our Agility Prime that we have been using
8 to -- it has been called a flying car, but that uses mostly
9 electrical power, and it is an aspect we are also taking a
10 look at of how we do that for logistics and other
11 opportunities versus using the fossil fuels.

12 Senator Warren: Well, that is the whole point. Let's
13 invest in that R&D and get this up and running. Our entire
14 world is depending on it.

15 Chairman Reed: Thank you, Senator Warren. Let me now
16 recognize Senator Scott, please.

17 Senator Scott: Thank you, Chairman. I thank each of
18 you for your service. I want to thank each of you for the
19 benefit of the men and women who defend the freedom of this
20 country.

21 First, can you all agree that it looks like we are
22 facing increased threats around the world? You all would
23 say that, wouldn't you?

24 General Brown: Yes, Senator.

25 Senator Scott: And we would all agree that Communist

1 China is investing in building up their military, with one
2 goal, is to actually compete with us.

3 General Brown: Yes.

4 Senator Scott: And as they build their economy, do you
5 see any reason that they are going to slow down their
6 investments?

7 General Brown: I don't.

8 Senator Scott: So given knowing what Communist China
9 is doing, do you all believe that the Air Force today is
10 prepared to defend this country but also to help our allies,
11 like Taiwan?

12 General Brown: I believe we are prepared but I still
13 think, as you just described, as the Chinese advance their
14 capability, the United States Air Force needs to do the
15 same, which I particularly am pushing on being able to
16 modernize our capability to make sure that we have an
17 already credible deterrent so you do not have a conflict in
18 the Indo-Pacific.

19 Senator Scott: So I think, both for General Brown and
20 Mr. Roth, as we have had these hearings, a lot of people on
21 our committee have expressed a lot of concern about the
22 President's defense budget, his proposed defense budget,
23 especially when you look at it as compared to other
24 agencies, how we spend money.

25 So we have had pretty good defense budget for the last

1 few years, but do you really believe that this budget is
2 going to give you the resources you need to be able to deter
3 the actions of China, Russia, and other threats around the
4 world?

5 Mr. Roth: The short answer is yes, we are challenged.

6 We need to get on with it, and in particular that is why we
7 are emphasizing investing in future technologies. We need
8 to take some reasonable risks today in order to make sure
9 that we keep pace with the Chinese. Our concern is the pace
10 in which they are modernizing. They seem to be quicker than
11 we are. They have amped up their spending. And so as a
12 number of us have said, we need to move out smartly. We
13 need to accelerate. We need to buy things smarter, quicker,
14 and more agile. So the answer is I think this budget
15 provides a reasonable risk going forward, but we need to
16 keep on that pace.

17 Senator Scott: General Brown?

18 General Brown: I mean, I feel the same way the
19 Secretary just described. That is exactly why I wrote
20 "Accelerate Change or Lose," is if we do not pick up our
21 pace, there is the distinct possibility of losing, and
22 losing our advantage, at the least. And so it is important
23 that we take a hard look at budget. You know, ideally it
24 puts pressure on us, but we have got to be smarter within
25 the budget we do have, regardless of what the number might

1 be.

2 Senator Scott: Thank you. General Raymond, does the
3 President's budget allow you to develop and deploy the force
4 you need, because clearly the threats in space are not
5 decreasing. They are clearly increasing.

6 General Raymond: Yes, sir. The President's budget
7 does, and this budget request of \$2 billion increase in
8 national security space, about \$1 billion of that is
9 shifting existing capabilities and resources from services
10 into the Space Force, and then about \$1 billion in new
11 growth, focused on protecting and defending. I am very
12 comfortable that I can protect and defend today, but that
13 superiority gap is shrinking fast. And one of the reasons
14 why we established the Space Force was to move out at speed,
15 derive unity of effort, reduce costs, and be able to stay
16 ahead of that threat, and that is our main focus.

17 Senator Scott: Thank you. Do you all believe that we
18 are ahead of the Russians and the Chinese in developing
19 hypersonic weapons?

20 General Brown: Thank you. I have asked the same
21 question of our intel, and the aspect, I believe, is that we
22 are -- there are areas that we are ahead, but their testing
23 is probably a little more advance in numbers than we are.
24 And so this, again, is an area that I am focused on. As a
25 matter of fact, in this budget we need to buy 12 hypersonic

1 munitions by the end of fiscal year 2022. So we have got to
2 continue to put pressure on ourselves to provide that
3 capability as well.

4 Senator Scott: Do you believe that is enough?

5 General Brown: Well, I want to balance it against the
6 threat. And so at the rate that I see that our adversaries
7 is going, we need to make sure that we continue to build out
8 our capability. But it doesn't actually have to be
9 symmetric. I think there are aspects of using asymmetric
10 capability as well. But having some hypersonic capability
11 to go against our adversaries will be important.

12 Senator Scott: Do you think the American public
13 realizes the threat of Communist China and what their goals
14 are?

15 General Brown: I do not. I would say, just based on
16 my time as the Pacific Air Force Commander, and how much I
17 learned in the 2 years I was out there, and where I sit
18 today, advancing capability of the Chinese is something that
19 we all should be thinking about.

20 Senator Scott: Thank you. Thank you, Mr. Chairman.

21 Chairman Reed: Thank you, Senator Scott. Let me now
22 recognize, via Webex, Senator Rosen.

23 Senator Rosen: Well, thank you, Chairman Reed, Ranking
24 Member Inhofe, for holding this hearing. And I would also
25 like to thank the witnesses for their service, and, of

1 course, for being here.

2 Today I would like to talk a little bit about, of
3 course, Nevada, and Nevada's Air National Guard's 152nd
4 Airlift Wing in Reno. It flies legacy C-130's in some of
5 the hottest temperatures. You can just look at the weather
6 report today. I do not have to tell you what is happening
7 all out on the West Coast. They fly in the highest
8 elevations, the most challenging mountainous environments of
9 any C-130 unit. Integral to their mission is flying the
10 modular airborne firefighting system, the MAFS. They supply
11 those in support of the U.S. Forest Service. We know
12 wildfire season is just upon us.

13 Upgrading the Nevada Air National Guard C-130 aged
14 fleet with C-130J's would have a substantial impact on their
15 readiness and firefighting capabilities, in Nevada and the
16 western United States, where every year we are plagued by
17 devastating fires.

18 I was therefore discouraged that the Air Force was not
19 considering MAFS when evaluating base candidates for the C-
20 130J, and even more disappointed when Reno was not selected.
21 Ensuring that the Air National Guard is ready to assist and
22 respond to these emergencies, it should be a priority for
23 the Air Force as you consider where to base more capable
24 aircraft.

25 So Acting Secretary Roth, can you explain to me this

1 decision not to consider MAFS when conducting your base
2 evaluation, particularly in the West Coast where more fires,
3 our open terrain, our longer distances to travel, we have in
4 any other region in the Lower 48?

5 Mr. Roth: Senator, we will take a look at that. I
6 mean, your point is well taken. It is not part of our core
7 criteria that we use in selecting the base. My commitment
8 to you is we will work with you and see if there are ways
9 that we can give that some consideration going forward.

10 Senator Rosen: Thank you. I appreciate that. And
11 General Brown, can I get a commitment that MAFS will be part
12 of the basing criteria in the future rounds of C-130J
13 recapitalization? Again, all I have to do is point to
14 weather reports today around the West Coast and around the
15 country to see what is happening, and then understanding
16 what Nevada does and what we are responsible for, we really
17 need your commitment that Reno will be considered, given its
18 need, its mission, its capabilities, and existing
19 infrastructure to host the aircraft.

20 General Brown: Senator, you have my commitment to have
21 that considered as one of the criteria as we look at forward
22 basing decisions.

23 Senator Rosen: Thank you. I would like again, General
24 Brown, to talk to you a little bit about the Air Force and
25 its NTTR, the land withdrawal that you have requested for

1 Nevada Test and Training Range. You requested a 300,000-
2 acre expansion of the Nevada Test and Training Range within
3 the Desert National Wildlife Refuge in order to modernize
4 the range. You also asked for primary jurisdiction over the
5 800,000 acres of land currently shared with the refuge. The
6 fiscal year 2021 NDAA renewed your existing withdrawal of
7 almost 3 million acres of public land, and Senator Cortez
8 Masto and I offered mandates on intergovernmental executive
9 committees between the Air Force, U.S. Fish and Wildlife,
10 and other allies and partners, to be sure that we are taking
11 everything into consideration.

12 So, General Brown, as the Air Force pursues
13 modernization of the range, can you commit to setting up our
14 intergovernmental committees and can you commit to
15 exchanging information with all the collaborating state,
16 local, and Tribal governments, along with our relevant
17 environmental stakeholders on any proposals to withdraw
18 Nevada's public lands?

19 General Brown: Senator, you have my commitment, and I
20 will tell you, in the course since our last conversation
21 about a month ago we have already had some of the
22 interagency committee meetings to work towards the
23 intergovernmental executive committee. That first needs to
24 occur here in the next couple of months. But I am committed
25 to work with you and other entities to work on the Nevada

1 Test and Training Range, to ensure we are paying attention
2 to all the equities of all the interested parties.

3 Senator Rosen: Thank you. I appreciate that. I will
4 just make a note that up in northern Nevada, in Fallon, the
5 Navy has already scheduled those meetings, and so I hope it
6 would be sooner than the next few months, as soon as
7 possible.

8 Thank you, Mr. Chairman.

9 Chairman Reed: Thank you, Senator Rosen. Let me now
10 recognize Senator Sullivan, please.

11 Senator Sullivan: Thank you, Mr. Chairman, and I
12 appreciate the great work that all the panelists are doing.

13 You know, I listen to some of my colleagues, and some
14 of my Democratic colleagues continue to make this narrative
15 that climate change is somehow an issue that is a bigger
16 threat than China or Russia, that the military has something
17 to do with.

18 Let me just ask, you mentioned basing locations in your
19 exchange with Senator Warren. General Brown, you mentioned
20 some climate change. Do you actually take into account
21 strategic location for basing locations as well?

22 General Brown: Senator, we do.

23 Senator Sullivan: Good. Is that a pretty high
24 priority?

25 General Brown: Strategic location and operational

1 mission requirements are high on the list, and it carries
2 most of the weight in our decision-making for strategic
3 basing.

4 Senator Sullivan: And that is what I would assume.

5 Do you remember the father of the Air Force, Billy
6 Mitchell? Do you remember what he called the most strategic
7 place in the world?

8 General Brown: I do, and you remind me often. It is
9 Alaska.

10 Senator Sullivan: Oh, okay. I am just checking. So
11 that is pretty strategic. Just checking.

12 And, you know, if DoD stopped using any fossil fuels,
13 like today, forever, how much do you think that would reduce
14 global greenhouse gas emissions?

15 General Brown: I will just give you the answer. It
16 would not.

17 Senator Sullivan: So your mission is to fight and win
18 wars, kill people, yes? Sometimes we have to say that. So
19 I think it is really important to just stay focused on
20 lethality. A lot of times you are getting pushed to do
21 climate change, trying to fix climate change. The
22 Department of Defense is not going to fix climate change.
23 So that is what most people believe. I just want you to
24 hear it from Senators who care about the real mission of the
25 Department of Defense, which is to fight and win our

1 nation's wars, not somehow be the lead agency fighting
2 climate change. It is not your role. You are not capable
3 of doing it. And I know you get pressured from the other
4 side to do it all the time, including the President, and I
5 think it is nuts. So stay focused.

6 Can I get your commitment to stay focused on your
7 number one mission? What is your number one mission?

8 General Brown: The number one mission for the Air
9 Force is to fly, fight, and win, provide air power, anytime,
10 anywhere.

11 Senator Sullivan: Great. Thank you, General. That is
12 a great mission.

13 JPARC, and Senator Rosen was just talking about the
14 Nevada Testing Range. I, too, am very concerned about the
15 reduction in the Department of Defense's budget. But as you
16 know, prioritizing that kind of high-end training and
17 fighting, particularly fifth-gen, remains important. Can I
18 get your commitment to prioritize and accelerate the
19 investments in JPARC and the Nevada Testing Range -- I think
20 JPARC is about ten times bigger -- to achieve the Threat
21 Matrix Level 4 capability that I know you are very
22 interested in, even though you are starting to see declining
23 budget?

24 General Brown: Senator, you do have my commitment, and
25 as you described, JPARC and the Nevada Testing and Training

1 Range are the two ranges we have for the United States Air
2 Force that we are looking to get the Threat Level 4, and
3 another six that would be Threat Level 3. And so we have a
4 strategy to be able to do that for both the Nevada Testing
5 and Training Range and the JPARC.

6 Senator Sullivan: So I have a commitment -- thank you
7 on that -- I have a commitment from the incoming Secretary,
8 and I know we are going to do it together -- you, me, and
9 him -- on the KC-46, the global basing decisions on our new
10 tankers. You and I talked about this for over 5 years.

11 So can I get your commitment when he gets confirmed to
12 work with me and this committee just on the new strategy
13 that the Air Force has put forward on that? It has been a
14 moving target, as you know, but it is an important issue for
15 me and the country?

16 General Brown: Senator, you have my commitment.

17 Senator Sullivan: What about the issue of the E-3?
18 How are we looking at the replacement? You may have seen
19 this big, big Russian exercise last fall where they actually
20 had, I think it was either five or six Bear bomber runs in
21 the ADIZ of Alaska, where we had to go scramble six
22 different sections of F-22's to go intercept these
23 simultaneous incursions into our airspace by the Russians.
24 It was unbelievable, the biggest one ever. And as you know,
25 there were no AWACS up there. That was a really tough

1 mission. Our great pilots in Alaska did it well, but they
2 did it with no AWACS capability, which is tough.

3 What are we looking at in terms of the AWACS
4 replacement, and how quickly do you think we can get that
5 going?

6 General Brown: There are a couple of things we are
7 looking at, reference the AWACS. One is some modernization
8 aspects of the AWACS, at the same time looking at advanced
9 technologies to do airborne moving target indications from
10 other capabilities. That technology is not quite there, so
11 we are going to have to take a look at some type of gap, and
12 we are looking at a handful of platforms that may have that
13 capability to bridge to the newer technology. And that is
14 not in this budget cycle but it is something that I am
15 looking at, internal to the Air Force.

16 Senator Sullivan: Is the E-7 one of those that you are
17 looking at?

18 General Brown: E-7 is one of those candidates. It is
19 actually flown by the Royal Australian Air Force. The Royal
20 Air Force from the U.K. is also purchasing. It is a
21 capability platform. I have actually personally flown on
22 it. So it is one of those that I am considering.

23 Ms. Wada: Great. Thank you, gentlemen, and, Mr.
24 Chairman, I will have additional questions for the record.

25 Chairman Reed: Thank you very much, Senator Sullivan.

1 Let me now recognize Senator Kelly, please.

2 Senator Kelly: Thank you, Mr. Chairman. Senator
3 Sullivan was just speaking of lethality and fighting and
4 winning, which I too find incredibly important. So, General
5 Brown, I want to discuss, just for a minute here, one of the
6 most lethal aircraft in your inventory, the A-10 Warthog.
7 We have spoken before about my serious concerns with the Air
8 Force's proposed retirement of more than 40 A-10 aircraft in
9 this year's budget, and as you know, I feel it would be a
10 mistake to retire these combat-tested, combat-proven
11 aircraft when we do not have a viable replacement to
12 effectively conduct close-air support for our troops.

13 In addition to my disagreement with the Air Force's
14 attempts to divest A-10's, I see some concerns with the
15 plans to sustain the fleet the Air Force proposes to keep,
16 and this is a real concern, because we all agree that A-10's
17 are going to continue to support our warfighters into the
18 2030s.

19 Last year, the Air Force budget request indicated a
20 requirement for \$100 million in fiscal year 2022, and \$100
21 million again in fiscal year 2023 to support the A-10 wing
22 replacement program. Critical element, as we know, of
23 sustaining the fleet. So I have to say I am concerned about
24 the incredibly low amount of funding, just \$44,000 budget
25 for the A-10 wing replacement program in this year's

1 request.

2 So, General, why has the Air Force not followed through
3 on using the money it requested in fiscal year 2021, that
4 Congress appropriated for wing replacements last year, and
5 is the Air Force seeking to reprogram fiscal year 2021
6 funds?

7 General Brown: Senator, we are not going to reprogram
8 fiscal year 2021 funds. We are fully committed to rewing of
9 the A-10's as it was laid out in the budget. We are able to
10 execute that over multiple years. By the end of this fiscal
11 year we should be about 50 percent done, and we are going to
12 continue on the path to upgrade those wings, as laid out in
13 the budget and as we committed to.

14 Senator Kelly: Can you clarify the \$44,000 request for
15 A-10 rewinging in this year's request?

16 General Brown: I do not have those details with me
17 here today, but I will get back to you with more information
18 on it.

19 Senator Kelly: Okay. Thank you. Thank you, General.
20 I appreciate it.

21 General Raymond, in the remaining time here, great to
22 see you again, General. I would like to touch on the
23 security of U.S. assets in space. You know, many Americans
24 think of space, you know, distant place, but the ability for
25 us to operate unhindered in space, it is a matter of

1 national security. As Russia and China aggressively advance
2 their space programs and develop capabilities that aim to
3 disrupt or destroy U.S. space assets, it is critical that we
4 are able to adapt to secure our systems and deter
5 aggression. The Department's statement for this hearing
6 affirms that both China and Russia have mobile ground-based
7 laser systems and electronic warfare systems capable of
8 jamming and blinding our satellite systems.

9 General Raymond, in your estimation, how good is our
10 current understanding of threats to our satellite systems
11 and our space architecture?

12 General Raymond: I think we have a really good
13 understanding of the threats. They have been pretty
14 visible. Both China and Russia have developed a full
15 spectrum, the ones that you mentioned and also on-orbit,
16 anti-satellite weapons, missiles that can launch from the
17 ground and destroy satellites. There is a full spectrum out
18 there. We have a good understanding of the threats. The
19 work that we are now doing is to shift our architecture to a
20 more defendable architecture, because the architecture that
21 we have today was built for a different domain.

22 Senator Kelly: And do you feel that our defense and
23 intelligence communities are working well enough together on
24 this issue?

25 General Raymond: I do. In fact, one of the benefits

1 of standing up the Space Force is that we are now going to
2 stand up a National Space Intelligence Center that is going
3 to be co-located with the NASA Air and Space Intelligence
4 Center, and that is going to sharpen the focus on
5 foundational intel. We still have a lot of work to do on
6 that, both foundational and operational, but I am very
7 comfortable that the intelligence community is focused on
8 this.

9 And the other thing that we have done, after
10 establishing the Space Force, we became the 18th member of
11 the IC, which also gives us a stronger seat at the table to
12 get the intelligence requirements that we need.

13 Senator Kelly: Well, thank you, General. I am
14 convinced that the only way we are going to stay ahead of
15 our near-peer adversaries is by innovation, and one of the
16 domains that we are really good at is space, and we just
17 have to continue to move forward, out-innovate our
18 adversaries, but also make sure we can protect the assets
19 that we have.

20 General Raymond: I could not agree more. Thanks.

21 Senator Kelly: Thank you, General.

22 Chairman Reed: Thank you very much, Senator Kelly.

23 Let me now recognize Senator Blackburn, please.

24 Senator Blackburn: Thank you, Mr. Chairman, and thank
25 you to each of you for being here today.

1 Being a Tennessean, I think you would each expect me to
2 talk about Arnold Engineering and Development Complex, the
3 AEDC, there in Tennessee. It really is the crown jewel of
4 the Air Force testing infrastructure. And you have got 68
5 wind tunnels there, you have got engine test cells that are
6 there, arc heaters, space testing chambers. It is vital to
7 the test work that has been mentioned here today. It is
8 vital to hypersonics. The way we get ahead in hypersonics
9 is we have testing.

10 So, General Brown, when we are looking at these
11 facilities we are very concerned about upkeep and about
12 maintenance. The state of that infrastructure is posing a
13 critical risk to continuing this testing mission for high-
14 priority items like hypersonic development. So talk a
15 little bit about the importance -- what is the priority with
16 you, where does it stand when it comes to risk of not
17 modernizing this structure, how does this affect retention
18 and recruiting, what are you looking at this year for
19 preventive maintenance? Because whether it is some of our
20 AV's or hypersonics, Arnold is an important component.

21 General Brown: As you described, very important work
22 that occurs there to advance our capability in hypersonics.
23 And so the United States Air Force works with the OSD Test
24 and Resource Management Center that helps drive the
25 investment on places like Arnold, in particular. And so as

1 the Air Force Chief of Staff, with our staff, is working
2 very closely with them to outline the requirements to upkeep
3 the capabilities there, not only for hypersonics but the
4 future capabilities that might come our way as well.

5 I think a key aspect of this is, you know, in order to
6 retain that great capability, of the minds that work there,
7 is we have got to have the right infrastructure and tools
8 there. So it is the combination of that investment that
9 helps us to be able to do that. I do not have details but I
10 will be able to get you details.

11 Senator Blackburn: Let me ask you about, because I
12 think one element important to this is the ground test asset
13 board. So speak to that a minute, and I would like to have
14 you commit to work to stand up that asset board, because we
15 need to make certain that all resources are available to
16 maintain facilities like Arnold.

17 General Brown: That ground asset test board is
18 internal to the Air Force Test Center, and it is something
19 that I will commit to look at how we might broaden that
20 beyond just the Test Center but broader within the Air
21 Force.

22 Senator Blackburn: Okay. And also, the 2 percent PRV,
23 reaching that and having budgets sufficient to reach that 2
24 percent, there is concern over that because your unfunded
25 priority list is to the tune of \$320 million. So where are

1 you on having sufficient budget to reach that?

2 General Brown: The combination of the budget we have,
3 plus the \$320 million that we have in the unfunded priority
4 list will get us to that 2 percent.

5 Senator Blackburn: That does get you to the 2 percent.

6 General Brown: Yes, ma'am, it does.

7 Senator Blackburn: Okay. Even though you are not
8 reprogramming funds.

9 General Brown: That is correct.

10 Senator Blackburn: Okay. All right.

11 General Raymond, we were pleased to see you make a trip
12 to Vanderbilt University. We thank you for that. We do
13 believe that the projects that are being done there in the
14 partnership programs are vitally important. Involving the
15 warfighter, the front-line warfighter is important. Having
16 this collaboration with academia on cyber and electronics
17 R&D we think is vital. And my hope is that you are going to
18 continue to keep these programs robust and work to recruit
19 talent for these technologies.

20 General Raymond: Absolutely. I agree. Not only did I
21 visit Vanderbilt, I also visited Tennessee State. I also
22 had the opportunity to talk to the Tennessee STEM
23 Initiatives group. I think there are about 500 elementary
24 school and high school teachers. It was a great visit. We
25 are eager to partner on the University Partnership Program

1 and research consortiums that we have had. In Vanderbilt, I
2 was very impressed with what I saw.

3 Senator Blackburn: As you are aware, if you visited
4 with the STEM Consortium, we have not only our elementary
5 schools and middle schools but also groups like Boy Scouts
6 are now starting STEM Scouts and programs of that nature to
7 encourage our young people to consider STEM, and certainly
8 our military is a great opportunity for them to consider.

9 General Raymond: Ma'am, after that visit I had a
10 gentleman that worked in the studio where I did the session
11 with the STEM Innovation Network. He just joined the Space
12 Force. So we are excited to recruit, and we are excited to
13 have him on the team.

14 Senator Blackburn: There you go, and we are so pleased
15 to have Space Force with the Huntsville present, which is in
16 our region. I know that Senator Tuberville is going to talk
17 with you about that. So thank you all so much.

18 Chairman Reed: Thank you, Senator Blackburn. Senator
19 Hawley, please.

20 Senator Hawley: Thank you, Mr. Chairman. Thanks too
21 to the witnesses. Thank you for being here. Thank you for
22 your service.

23 Mr. Secretary, if I could just start with you.
24 Rosecrans Air National Guard Base in my home state is home
25 to the Advanced Airlift Tactics Training Center, which

1 offers training, of course, not just to U.S. airlift units
2 but also to our allies and partners, something I think not a
3 lot of people know.

4 Give me a sense of how you see the Center's work
5 contributing to the Air Force's broader efforts to
6 strengthen those relationships with allies and partners.

7 Mr. Roth: As you noted, it does, in fact, make a
8 significant contribution, and at this point we do not have
9 any intent to change the current mission.

10 Senator Hawley: Very good. Thank you for that.
11 General Brown and General Raymond, let me shift now to our
12 pacing theater and our pacing threat, which you have been
13 getting a lot of questions on today, which I am glad to hear
14 about.

15 Secretary Austin and Deputy Secretary Hicks have both
16 testified before this committee that the United States has
17 got to maintain its ability to deny a Chinese fait accompli
18 against Taiwan. I am a broken record on this subject, and I
19 am not going to disappoint here today. So do you agree with
20 that testimony that we must maintain that ability to defeat
21 the Chinese fait accompli? Go ahead, General Brown.

22 General Brown: I do.

23 Senator Hawley: Great. General Raymond?

24 General Raymond: I do.

25 Senator Hawley: General Brown, there are a few ways we

1 can think about denying a fait accompli in a Taiwan
2 scenario. Most of them involve sinking or disabling key
3 elements of the Chinese fleet in a relatively short period
4 of time. How would you envision the Air Force executing or
5 support this kind of a sea denial mission?

6 General Brown: Well, the first thing you have got to
7 have in order to be able to execute the sea denial mission
8 is a level of air superiority. So I think that is important
9 that is the aspect of our next-generation air dominance
10 fighter, so we can actually get our bombers in, because you
11 have a defensive threat from China to get you close to where
12 that maritime capability might be that you are trying to
13 sink. We would get our bombers in, and then also the
14 ability to actually have the awareness of where things are,
15 and that goes into joint, all-domain command and control,
16 and the Air Force's contribution to that is the Advanced
17 Battle Management System. It is how we move the data around
18 between not just internal to the Air Force but within our
19 joint partners, to be able to do that. And then the last is
20 actually having the weaponry to go with that. And so LRASM
21 is one of those. It is very focused on this particular
22 mission set, but it is also working with the rest of the
23 joint team as we bring that.

24 And then the last piece of this is logistics. In order
25 to maintain that campaign we have got to be able to do the

1 logistics, and be able to do it under attack. So, you know,
2 it is connecting the Joint Force, generating the combat
3 power, and being able to execute the logistics under attack
4 in support of the complete joint team from the Air Force,
5 supporting both our Navy and friends and our allies and
6 partners as well.

7 Senator Hawley: Very good. Thank you for that. You
8 mentioned LRASM. Let me ask you about it. The Air Force
9 requested funding for just five LRASMs last year, if I am
10 not mistaken. This year, I think zeroed out, so no LRASM
11 request. Give me a sense of why this is. Why are we
12 cutting funding for anti-ship missiles, given how important
13 it is, as you just stated, for our sea denial capability?

14 General Brown: Well, part of this is actually how we
15 balance out not just sea denial but other sea capabilities
16 that we have for missions, and hypersonics, the conversation
17 we just had, is high on that list for us, to be able to do
18 that. But we will continue to look at LRASM as we bring
19 that on with other capabilities as well, for advanced
20 weapons.

21 Senator Hawley: Got it. Yeah, I am concerned by the
22 cuts there in what I think is a pretty key capability. You
23 mentioned JADC2. Let me just ask you about that, General,
24 while I have you. Can you describe the progress that has
25 been made on the JADC2 over the last year and what your

1 goals are for it, this coming year?

2 General Brown: Sure. You know, the JADC2 is more of
3 the Joint Staff piece to drive between the services, the Air
4 Force's Advanced Battle Management System. And so over the
5 course of the past couple of budget cycles we have been
6 really focused on demonstrations and evaluations. And so we
7 have gone through that part and now it is about delivering
8 capability. The first step in that is a capability, one, to
9 put that capability on the KC-46, to be able to connect with
10 our fifth-gen capability and expand our node. Underlying
11 that, though, is the digital infrastructure to move all that
12 information I talked about just a minute or two ago. So
13 that is important on how we do that.

14 The last -- and I will not say last, but one of the
15 other areas is our collaboration with the other services,
16 with the Army in their Project Convergence, the Navy on
17 their Project Overmatch, and the dialogue we have had
18 together. Because if we cannot move information between the
19 services we will not be able to do the maritime scenario
20 that you just described. And so it is important that we
21 work very closely together to be able to have that
22 capability.

23 And then I would also offer, with the Space Force,
24 because a lot of that information moves through space. So I
25 am very connected to General Raymond as well, to ensure we

1 are able to make sure we are able to communicate and move
2 information for decision-makers.

3 Senator Hawley: Very good. Thank you. Let me ask you
4 about, briefly here, in my remaining time, the modernization
5 agenda that the Air Force has embarked upon, General. The
6 modernization agenda is focused on the early to mid 2030s,
7 but this committee has heard testimony, repeatedly and
8 recently, that a Chinese potential assault on Taiwan or
9 other contingency could happen much sooner than that. It
10 could happen as early as the late 2020s, 2027, for instance.

11 Give a sense of what the Air Force is doing to ensure
12 that it is able to help on defeating that fait accompli
13 scenario that we were talking about in the next 5 to 7
14 years, even as you pursue this necessary modernization that
15 is going to take you out to 10 or 15 years from now.

16 General Brown: Well, Senator, as I said in my opening
17 statement, that transition needs to start today. If we do
18 not start today, we will not be ready 5 to 6 years from now,
19 or 10 to 15 years from now. I lay out 10 to 15 years from
20 now so we can actually have something to put a goal on, but
21 we have got to make that transition, to provide that
22 capability, and we have got to do it much faster. And this
23 is why the acquisition authorities are so important to allow
24 us to move much faster, in collaboration with Congress, this
25 particular Congress, and with our energy partners, we have

1 got to move faster. If things were to happen, to
2 accelerate, we have got to be able to accelerate as well.

3 Senator Hawley: Very good. Thank you very much.
4 Thank you, gentlemen, all of you, for your service. I will
5 have a few additional questions for you, for the record.

6 Thank you, Mr. Chairman.

7 Chairman Reed: Thank you, Senator Hawley. Let me
8 recognize Senator Tuberville, please.

9 Senator Tuberville: Thank you, Mr. Chairman. The
10 great thing about being last is everybody has already asked
11 you questions, so I just want to ask a couple of things.

12 General Raymond, two things that I think that are most
13 important in anything that we do is people and education.
14 And we talked today about, you know, you going around to
15 universities and all that. And I would like all three of
16 you to maybe just chime in on this.

17 Our biggest threat is going to be in space in the very,
18 very near future, if it is not today. Do we need a Space
19 Academy, where we can have specialized skills and training?
20 I have spoken at every academy in our country, leadership
21 and organization. I am very proud of them. And I just hope
22 that we are -- you know, we have got great institutions in
23 this country, but I think we need something maybe to just
24 specialize with space.

25 General Raymond: I think one of the things, as an

1 independent service you have to develop your own people. On
2 the officer side, we only bring in about 300 or so folks a
3 year. I am very comfortable that the Air Force Academy is
4 developing those people for us. In fact, you know, 2 years
5 ago, before the Space Force stood up, we only got 30 cadets
6 out of the Academy. The first year, last year, out of the
7 Academy we received 86. This year, 118. So we are coming
8 up on almost a half, a little less than half of our total
9 population is coming from the Academy, and the talent that
10 we are getting is really top-tier talent, including a Rhodes
11 scholar.

12 And so the Academy has a strong astro program, they
13 have got a strong space program. I am very comfortable to
14 that they are producing the officers that we need to come in
15 the Space Force, and they are doing really good work.

16 Senator Tuberville: Do you think we need something for
17 contractors, future, not in military, for space?

18 General Raymond: Yeah, I think, Senator, there is
19 great excitement going around the country about space, and
20 it is in all three sectors. You have NASA going back to the
21 moon and then on to Mars. You have got commercial space
22 sector that is really alive and well and flourishing. And
23 then you have the national security space sector.

24 And what we are seeing, and what I am seeing as you go
25 around to the schools is that there is an increased amount

1 of folks that are applying for space-related STEM degrees,
2 which is important. I think it is going to pay great
3 dividends for our nation. What we are trying to do with our
4 University Partnership Program is partner with those folks
5 and then attract them to come into the space program. I
6 have talked to Administrator Nelson. I would really like to
7 partner with them as well. I think there is great
8 opportunity here for the youth of America.

9 Senator Tuberville: You know, I am excited about going
10 around to high schools, as I have all my life, and even the
11 last few years in campaigning for this job I have got today,
12 and we are seeing a lot of robotics courses being taught in
13 high schools now. We are really advancing, and I think that
14 is going to be the key to our survival, to be honest with
15 you, is the education of our kids. Of course, they are all
16 into computers and technology, and I just hope we are doing
17 enough and planning on that for the future, because I do not
18 want us to get to a point where we hit a wall and we do not
19 have enough people trained, you know, for the future in
20 space. But thank you for that.

21 General Brown, you know, I know one of your first acts
22 as Chief was to honor General Charles McGee. And Alabama is
23 proud to host the Red Tails and the 187th Fighter Wing down
24 at Dannelly Field. And in the very near future, within 2
25 years, we are getting the opportunity to have transitioned

1 in 20 F-35's, and we are excited about that. I just want
2 your commitment to stay with us on that, and we want to see
3 red tails on all those planes. I was there the other day,
4 and I think it is going to be huge for recruiting in the
5 future of having 20 F-35's there. A lot of young kids, you
6 know, they are kind of recognized with the red tails, and we
7 have done a good job of that. We just need to keep it
8 going. So can I get your commitment to continue with the
9 Red Tails and the things that we do at Dannelly Field?

10 General Brown: Senator, you have my commitment, and
11 great legacy from the Tuskegee Airmen there at Dannelly and
12 there in Alabama with the Tuskegee Institute as well.

13 Senator Tuberville: Well, thank you very much. Thank
14 you for your service, guys. Thanks for being here today.

15 Chairman Reed: Thank you, Senator Tuberville. Now we
16 are trying to connect with Senator Duckworth via Webex.
17 There may be some technical difficulties, but Senator
18 Duckworth, you are recognized.

19 Senator Duckworth: Thank you, Mr. Chairman. I logged
20 out and logged back in so it seems to be working now.

21 Chairman Reed: Very good.

22 Senator Duckworth: Good morning, gentlemen. Thank you
23 for being here today, and thank you for your service to our
24 country.

25 As the Air Force modernizes its platforms to meet the

1 demand of future conflict, particularly the possibility of a
2 contested logistics environment in the Indo-Pacific region,
3 we must consider the evolution of our air mobility and other
4 combat support functions, in addition to our combat
5 capabilities. Bottom line, without combat-credible air
6 mobility we do not have a combat-credible deterrent.

7 General Brown, will you ensure that the Air Force
8 addresses the gap in advanced air mobility capabilities
9 suitable for distributed warfare in the Indo-Pacific, and
10 when do you think the Air Force can deliver a plan for the
11 future of air mobility, beyond the C-130, to Congress?

12 General Brown: Senator, you do have my commitment, and
13 this is an area we are looking at, particularly through the
14 aspect of Agility Prime and other techniques to be able to
15 logistics under attack. That planning process is in its
16 very early stages and so I probably cannot commit to you
17 today on when we would actually be able to present a plan to
18 Congress. But what I would like to be able to do is
19 continue to work with you and this committee to work through
20 a process to answer that particular question, not only in
21 the capability but also the timeline of when we would be
22 able to provide some more information on a study and some
23 other techniques, and the technology to be able to look at
24 how we do mobility, particularly in the Indo-Pacific.

25 Senator Duckworth: Thank you. I am going to take you

1 up on that. Thank you very much. You know, modernization
2 is critical, but it must be balanced against present-day
3 readiness requirements that are necessary to respond to
4 emerging crises.

5 I am actually pretty alarmed that the Air Force plans
6 to continue C-130 divestment from the Guard and reserve. It
7 has not created a plan to replace the C-130 itself.
8 Eliminating enduring platforms without even beginning to
9 design their replacement I think is a huge gamble. Is it
10 wise to wager our National Guard and reserves' operational
11 capability and capacity and risk creating a huge gap that
12 undermines our ability to respond to new emergencies? I
13 mean, after all, over half the Air Force tactical and
14 ability airlift resides in the reserve components.

15 I truly believe that C-130 divestiture will limit the
16 Joint Force's ability to meet the challenges outlined in the
17 2018 NDS and the Interim National Security Strategic
18 Guidance, as well as the reserve components' ability to
19 complete their domestic missions, which have only increased
20 in recent years.

21 That is why I fear that we must not divest the C-130
22 aircraft in our reserve components without first ensuring
23 that we retain the critical airlift capability and capacity
24 that gives our commanders the operational flexibility to
25 respond when called, both overseas and here at home. While

1 I understand that the Air Force has difficult decisions to
2 make in how it manages its budget, and I understand about
3 the increasing costs of maintaining old aircraft, I
4 [inaudible] entire Army inventory [inaudible] production
5 lines, so I understand the challenges of that. I have,
6 however, heard from my TAG about how concerned he is that
7 the Illinois National Guard will not be able to fulfill its
8 duties to Illinois and to the country if there are further
9 C-130 divestments without replacement platforms.

10 And during his confirmation hearing, Mr. Kendall, the
11 President's nominee to lead the Air Force, committed to
12 working with governors and adjutants general of states with
13 reserve component C-130 wings to ensure that they can
14 fulfill their domestic missions and the Air Force's
15 divestment plans do not eliminate C-130 capacity that is
16 needed to deliver the air mobility our nation has come to
17 rely upon.

18 General Brown, will you make the same commitment as Mr.
19 Kendall?

20 General Brown: Senator, I will, and as a matter of
21 fact, one of the areas that I am focused on is every time I
22 travel to any one of the states, one of my goals is to
23 either meet with or communicate, ahead or during the trip,
24 with the TAGs for each of the states, to talk about where
25 the Air Force is headed. So you do have my commitment.

1 Senator Duckworth: Thank you. Another asset that is
2 really important to our combat credibility are the KC-135's,
3 and, you know, the Air Force plans to divest 18 KC-135's and
4 14 KC-10 tankers in fiscal year 2022 to support the KC-46
5 program. This budget significantly reduces aerial refueling
6 capacity. Could you please outline the risks we are
7 accepting in the short term, and is the KC-46 program
8 appropriately funded to accelerate its fielding to close
9 this gap?

10 General Brown: Well, one thing I will tell you about
11 the KC-46 is that it does have the capability to do a good
12 majority of missions, to include air refueling, aeromedical,
13 as well as cargo movement. And so what we are working very
14 closely with the United States [inaudible] on is an interim
15 capability release to provide the KC-46 for day-to-day
16 mission taskings that will allow for it to be able to
17 support the retirement of our KC-10's and KC-135's. And I
18 have had great conversations with General Lyons most
19 recently as about 6 weeks ago on this very topic, and we are
20 both in agreement that the path we have right now on the KC-
21 46 versus the KC-135 and KC-10 retirements are suitable to
22 support his requirements.

23 Senator Duckworth: Thank you. I am out of time but I
24 would love to be updated on the Air Force's process in
25 fielding the KC-46 and to be provided early notification to

1 myself, and to the committee, actually, if any issues arise
2 that may further delay the program or otherwise increase
3 gaps in our overall aerial refueling capability, and we take
4 this after the hearing. Thank you.

5 General Brown: Thank you.

6 Chairman Reed: Thank you, Senator Duckworth. Thank
7 you very much. Gentlemen, again thank you for your
8 testimony. Thank you for your dedicated service over many
9 years. I also want to thank you for opening up your
10 schedule for a possible closed session after this session,
11 but I do not think there were any issues that have come up
12 within the context of this hearing that cannot be resolved
13 by an individual contact with the relevant Senator. And so
14 because of that we will not have a closed session.

15 I thank you very much for your, again, service, and
16 Secretary Roth, thank you. You have done a superb job, not
17 only in this tenure as Acting Secretary but for years as a
18 stalwart in the Department of Defense. Thank you very, very
19 much, sir.

20 General Raymond: Thank you very much, Chairman.

21 Chairman Reed: Gentlemen, with that I will adjourn the
22 hearing.

23 [Whereupon, at 11:54 a.m., the hearing was adjourned.]

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