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Before the

Subcommittee on Airland

COMMITTEE ON
ARMED SERVICES

UNITED STATES SENATE

TO RECEIVE TESTIMONY ON AIR FORCE MODERNIZATION IN
REVIEW OF THE DEFENSE AUTHORIZATION REQUEST FOR
FISCAL YEAR 2025 AND THE FUTURE YEARS DEFENSE
PROGRAM

Wednesday, May 8, 2024

Washington, D.C.

1   TO RECEIVE TESTIMONY ON AIR FORCE MODERNIZATION IN REVIEW OF

2   THE DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR 2025 AND

3   THE FUTURE YEARS DEFENSE PROGRAM

4

5   Wednesday, May 8, 2024

6

7   U.S. Senate

8   Subcommittee on Airland

9   Committee on Armed Services

10   Washington, D.C.

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12   The subcommittee met, pursuant to notice, at 4:00 p.m.

13   in Room SR-232A, Russell Senate Office Building, Hon. Mark

14   Kelly, chairman of the subcommittee, presiding.

15   Committee Members Present: Kelly [presiding],

16   Blumenthal, Peters, Duckworth, Cotton, Ernst, Scott, and

17   Mullin.

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1   OPENING STATEMENT OF HON. MARK KELLY, U.S. SENATOR

2   FROM ARIZONA

3   Senator Kelly: This hearing will come to order.

4   I want to welcome our witnesses and give you our thanks

5   for testifying in front of this subcommittee today. General

6   Spain, General Harris, welcome. Secretary Hunter, General

7   Moore, welcome back.

8   The budget request in front of us today was developed

9   under the tight constraints of the Fiscal Responsibility

10   Act. And some of your sister services were pushed into even

11   more painful decisions than the Air Force has had to make,

12   but we should not understate the difficultly of the

13   tradeoffs that have been made as you seek to modernize our

14   forces to maintain our competitive edge with our most

15   advanced adversaries, while also maintaining necessary

16   capabilities to respond to the threats that we face today.

17   Perhaps most notable is that the Air Force has proposed

18   to divest 250 aircraft in fiscal year 2025. Now, each of

19   these proposed divestments has their own arguments for and

20   against, but the broader picture is an Air Force that is

21   shrinking. It is an Air Force that is forgoing the

22   modernization of some legacy platforms, including F-15, F-

23   16, and F-22, and directly divesting of others, in order to

24   invest in fielding a highly capable future force. The

25   details of that highly capable future force, and the threat

1 that is driving you there, are difficult to talk about in an

2 unclassified setting. But what we can say is it will be a

3 smaller but better force that is betting on future programs

4 like Collaborative Combat Aircraft to reach the capacity we

5 will need.

6   In addition to risks in these modernization plans

7 themselves we need to be upfront about the risks we are

8 taking to get there. This year's budget request proposes to

9 retire 190 fighters and attack aircraft and procure only 60.

10 That would be 130 fewer tactical aircraft for pilots to

11 maintain proficiency and 130 fewer aircraft across which to

12 spread those flight hours. That would mean 130 fewer

13 tactical aircraft to provide forces to meet the combatant

14 commander's needs. And I see no reason to believe that

15 these demands will fall for the foreseeable future.

16   The merits of each proposed divestment must be

17 considered separately. Not all aircraft are created equal,

18 and those disparities only grow over decades of service

19 life.

20   We do understand the pressures the Air Force is under

21 in the procurement account and elsewhere. Two of the three

22 legs of the nuclear triad are under your umbrella,

23 presenting an enormous, fixed wedge in your plans. And of

24 course, the other side does get a vote. The most stressing

25 threats do not lend themselves to incremental improvements,

1 let alone standing still.

2   Finally, the Air Force is embarking on a significant

3 structure overhaul to optimize itself for great power

4 competition. The ambition is laudable, and I look forward

5 to hearing your testimony on your vision for these efforts.

6   I look forward to hearing from our Air Force witnesses

7 about the challenges and opportunities they face in

8 modernizing the Air Force, as we finish our scheduled

9 hearings before we mark up the DoD authorization request.

10   Anywhere we look in the Air Force program we can see

11 tradeoffs that are being made in this request between

12 strategy and budget. That includes with the Compass Call

13 aircraft, where we are replacing the current fleet with a

14 smaller number of upgraded aircraft that will not be

15 delivered until 2029.

16   It also includes the Air Force's plan that would have

17 truncated the HH-60 Whiskey program after fiscal year 2023.

18 We need to hear how this reduction in the inventory

19 objective for these forces would affect the Air Force's

20 ability to rescue downed pilots and aircrews in future

21 conflicts.

22   I am especially interested in hearing from the

23 witnesses how the Air Force plans to manage its multiple

24 modernization programs in ways that expeditiously deliver

25 the capabilities our warfighters need, while protecting

1   taxpayer dollars and avoiding too much risk to supporting

2   combatant commander requirements. These should include the

3   F-35 fighter, the B-21 bomber, the KC-46 tanker, and a new

4   program to procure "Wedgetail" aircraft to replace some of

5   the E-3 Airborne Warning and Control Systems, or AWACS,

6   aircraft, also the Advanced Air Battle Management System, or

7   ABMS, which seeks to replace the E-8 JSTARS capability, and

8   is the Air Force's contribution to the Defense Department's

9   Joint All Domain Command and Control program.

10   The F-35, the core of the tactical air forces for the

11   next few decades, has very real availability, affordability,

12   and modernization challenges. It seems the Air Force has

13   recently made some hard decisions when it comes to the F-35

14   upgrade efforts, accepting a diminished capability in order

15   to hopefully regain at least some momentum and avoid parking

16   a large number of jets while the TR-3 software matures.

17   It also sounds like the Air Force is doing some hard

18   prioritization on Block 4 capabilities to bring the schedule

19   back to where it needs to be, but whatever that capability

20   set is going to be, it needs to be locked in soon so we

21   understand what the demands are going to be on the engine

22   and cooling systems of the aircraft.

23   Finally, we need to ensure that subsequent Air Force

24   investments yield the capabilities necessary to compete in

25   any future conflicts, such as hypersonic missiles, the Next

1   Generation Air Dominance fighter program, and others. We

2   cannot ignore needs to recapitalize other existing

3   capabilities that give our forces a competitive edge, such

4   as our tanker forces. We will also take into account such

5   lower visibility, but very important capabilities such as

6   the investments we need to make to ensure adequacy of

7   training ranges for our fifth-generation fighters and other

8   next generation systems.

9   I am going to stop there and get to our questions, but

10   I want to thank our witnesses again for their service and

11   for appearing before the committee.

12   Yes, we will go to opening statements. Thank you very

13   much. And then when Senator Cotton arrives we will give him

14   the opportunity for an opening statement. So let me start

15   with General Spain.

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1   STATEMENT OF LIEUTENANT GENERAL ADRIAN L. SPAIN, USAF,

2 DEPUTY CHIEF OF STAFF FOR OPERATIONS

3   General Spain: Great. Thanks, Chairman Kelly, Ranking

4 Member Cotton is not here at this time, but Senator Ernst,

5 thank you for the opportunity to provide testimony on Air

6 Force modernization in review of the Department of the Air

7 Force's fiscal year 2025 Presidential budget.

8   As the Air Force continues to evolve to meet the needs

9 of the current and future strategic environment, we must

10 optimize how we organize, train, and equip Air Force forces,

11 and we must do so in light of increasing global demands on

12 the Joint Force.

13   We have made great strides in our journey to transform

14 the service and to task organize units of action with

15 clearly defined force elements capable of meeting the

16 worldwide demands of this strategic environment and its

17 associated threats, but there is more to be done.

18   Clarity in the structure of our force presentation and

19 force generation models has allowed us to better articulate

20 capability, capacity, operational readiness, and risks to

21 both ourselves and to the Joint Force. As we continue on

22 this path, fiscal reality means we must take measured risk,

23 even as we transform and modernize to meet those needs.

24   The Air Force Force Generation Model, or AFFORGEN, in

25 conjunction with a definable force presentation construct,

1   has been successful in providing predictability for our

2   service-retained forces, and continued improvement in this

3   model is allowing our airmen to deploy as a team. As our

4   force presentation model continues to evolve from the Air

5   Expeditionary Wing constructive, effective for the past

6   couple of decades, to Expeditionary Air Bases, to Air Task

7   Forces, and soon Combat Wings, we are shifting focus back to

8   warfighting in a peer competitor environment. We will

9   carefully balance the risk in our garrison functions in

10 order to prioritize focus on the combat mission and

11 warfighting effectiveness.

12   While we are in the midst of this important transition

13 the Air Force must continue to make deliberate and measured

14 risk in current operational readiness in order to modernize

15 our forces in line with the Department's Strategic Readiness

16 Framework mentioned in the National Defense Strategy. We

17 have had to make tough choices to order to prioritize

18 investments in manpower, training infrastructure, Flying

19 Hour Program, and Weapons System Sustainment, all aspects

20 critical to enabling a ready force.

21   DoD capabilities and those of peer, near-peer, and

22 potential adversaries are advancing at a rate that

23 challenges our ability to provide relevant and realistic

24 training. In order to maintain a qualitative advantage in

25 multi-domain, full-spectrum employment, we are modernizing

1   our training ranges and legacy airspace, and we have

2   increased investments in virtual and synthetic training,

3   acknowledging that while not a replacement for flying,

4   certain factors will demand high-end training be

5   accomplished in a synthetic or augmented environment.

6   The Air Force remains committed to meeting the needs of

7   the service and its airmen through continuous, data-driven

8   feedback. We have instituted multiple meaningful

9   initiatives over the years regarding pilot production, and

10 although it remains constrained we are taking a holistic,

11 ecosystem-wide approach to operational readiness and data

12 accountability, which in turn has refined our pilot

13 reporting information, awareness, and trust in the

14 information to shape future initiatives, and we are starting

15 to see positive indicators on those results.

16   We appreciate the support the committee on additional

17 efforts to improve rated force management and pilot

18 production to include improved retention initiatives. I

19 thank you for your support and for the opportunity to

20 testify today, and look forward to the questions and future

21 collaboration with the committee.

22   [The prepared statement of General Spain follows:]

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1   Senator Kelly: Thank you, General. Secretary Hunter.

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TP One

1   STATEMENT OF THE HON. ANDREW P. HUNTER, ASSISTANT

2   SECRETARY OF THE AIR FORCE FOR ACQUISITION, TECHNOLOGY, AND

3   LOGISTICS

4   Mr. Hunter: Thank you, Chairman Kelly, and also thanks

5   to Ranking Member Cotton for having us here today to provide

6   testimony on our fiscal year 2025 President's budget request

7   for Air Force modernization.

8   As we testified last year, our operational imperatives

9   work highlighted the challenges of integration and the

10 importance of tight partnerships between the operational and

11 acquisition communities in the Department of the Air Force

12 and developing the necessary capabilities to deter and win

13 in future conflicts.

14   Insights from that work directly informed, and I would

15 say shaped and enabled, our ability to make the challenging

16 tradeoffs that we had to make in our 2025 budget request

17 that you alluded to, Mr. Chairman, in your opening

18 statement. And while not all of those choices were ones

19 that we would have necessarily preferred to have to make, it

20 was really essential that had the analytical work and the

21 underpinning of our operational imperative to inform those

22 choices, and it will continue to be so in future year budget

23 requests, which are likely to be equally challenging, based

24 on the current budget environment.

25   It is also essential, as you alluded to, that we

1   organize ourselves to do that work repeatedly as a normal

2   functioning of the Air Force enterprise, and that really

3   informed our effort to reoptimize for great power

4   competition and make organizational changes so that the work

5   that we did under operational imperatives is something that

6   we do on a daily basis and not something that is done by

7   exception, as it was when we undertook initially to study

8   the operational imperatives. And we ask for your support

9   for our budget request, which really continues to focus and

10   build upon the modernization required to meet our

11   operational needs in the future.

12   We remain steadfast in resourcing these top priorities

13   as well as other, as well as nuclear modernization, but our

14   resources, as you noted, were limited by the 2023 Fiscal

15   Responsibility Act. The impacts of the FRA, combined with

16   funding through continuing resolutions, which were extended

17   this year, and restrictions on our ability to retire older

18   weapons systems divert our ability to focus on delivering

19   decisive combat power and put that capability at risk.

20   Nothing could be more imperative than our need to receive

21   timely authorization and appropriations of our fiscal year

22   2025 budget request.

23   As I noted, this request continues our modernization

24   efforts, such as the development of the Collaborative Combat

25   Aircraft, the Next Generation Air Dominance family of

1   systems, KC-46, continuation of uninterrupted tanker

2   recapitalization, our T-7 training aircraft, the E-7

3   Wedgetail, and the critical munitions that are essential to

4   our future operations. It also allows us to continue

5   fielding platforms like the F-15EX, the F-15 EPAWSS,

6   upgrades to the F-22 fighter, F-35 Block 4 capability, as

7   well as sustaining our current fleet.

8   I particularly want to highlight the CCA program as the

9   exemplar of our efforts to develop and field new

10   capabilities rapidly, affordably, and at scale. In April

11   2024, the DAF exercised two option-award contracts for CCA

12   Increment 1 to Anduril and General Atomics to conduct

13   detailed design, build, and test of production-

14   representative test articles. In fiscal year 2025, we will

15   begin concept refinement for the next CCA increment, as we

16   also continue to explore international partnership

17   participation with us on the CCA program.

18   All of the work that you see happening in our CCA

19   program has essentially been initiated and taken forward in

20   the last 2 years. So this is a program that is going from

21   initiation to moving towards production on the most rapid

22   time scale I have ever seen for a system of this complexity.

23   Since time is of the essence in capable development, we

24   also want to thank the Congress, and particularly the

25   members of this subcommittee, who are critical to the

1   effort, for providing the Department with Quick Start

2   authority in Section 229 of the fiscal year 2024 National

3   Defense Authorization Act.

4   Secretary Kendall, when he testified to the committee,

5   highlighted a program that was just approved through this

6   Quick Start authority, which will initiate work on providing

7   C-3 battle management for moving target indication at scale,

8   that we are initiating and have initiated this year. This

9   effort is an element of the operational imperatives funding

10 request in fiscal year 2025, and is included in the budget

11 request that you will be considering this year. And the

12 Quick Start authority allowed us to begin that work in this

13 year and not wait for next year's appropriation.

14   Thank you again for the opportunity to testify, and we

15 look forward to working with Congress, industry, and the

16 communities that support us to defend the nation.

17   [The prepared statement of Mr. Hunter follows:]

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1   Senator Kelly: Thank you, Mr. Secretary. General

2   Harris.

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TP One

1   STATEMENT OF LIEUTENANT GENERAL DAVID A. HARRIS, USAF,

2 DEPUTY CHIEF OF STAFF FOR STRATEGY, INTEGRATION, AND

3 REQUIREMENTS

4   General Harris: Chairman Kelly and Ranking Member

5 Cotton, I really do appreciate the opportunity to come and

6 talk to you about our modernization efforts in the Air

7 Force. We know that your support is vital to not only our

8 Air Force but our airmen as we go forward and develop

9 concepts and capabilities to confront our toughest

10 challenges.

11   Our current warfighting advantages are actively being

12 tested in both traditional and non-traditional ways, and

13 also our adversaries are determined to contest our

14 activities in all domains of warfare. Success in the future

15 operating environment will require some different

16 capabilities. Perhaps more importantly, winning will

17 require a new level of integration across the Air Force and

18 the Joint Force as advantages are becoming more relative and

19 increasingly transient.

20   We are demonstrating the resolve to rapidly adapt and

21 effectively compete, and we see that today in PACAP, USAFE,

22 as well as CENTCOM. We are transforming concepts,

23 capabilities, and organizational design to evolve the Air

24 Force at a rate that will ensure our warfighting advantage .

25   However, today our Air Force is out of balance. Our

1   operational imperative efforts and future force design

2   analysis highlight several strategic areas of modernization

3   that must be addressed, a modernization that moves away from

4   platform-centric views to a threat-informed and systems-

5   focused approach to deliver the right effects. I am really

6   referring to the Integrated Capabilities Command of our GPC

7   effort.

8   The threat environment is as complex and dynamic as it

9   has ever been. What worked well before may not work well in

10 the future. This is why the United States Air Force must

11 continue to aggressively modernize. We cannot scale with

12 our adversaries in terms of capacity alone. Instead, we

13 must develop the right balance of integrated capabilities to

14 maintain an operational advantage to deter adversaries.

15 This requires us to transition to a force that can generate

16 effects from longer range, with sufficient mass, through a

17 tailored mix of new and existing, and maybe even modified,

18 capabilities, to shape the battle space for the Joint Force.

19   Our investments in the fiscal year 2025 budget continue

20 to build on the work to modernize and rebalance the force,

21 as I have mentioned. We are making considerable progress

22 across areas such as kill chains, multi-domain sensing

23 grids, unmanned systems, but there is significantly more

24 work to be done. We need your support now more than ever to

25 rebalance that force for a credible deterrence, and if

1   needed to win in future conflict.

2   Thank you again for the opportunity to speak to you

3   today, and I look forward to answering any of the questions

4   you may have.

5   [The prepared statement of General Harris follows:]

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1   Senator Kelly: Thank you, General. General Moore.

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TP One

1   STATEMENT OF LIEUTENANT GENERAL RICHARD G. MOORE, JR.,

2   USAF, DEPUTY CHIEF OF STAFF FOR PLANS AND PROGRAMS

3   General Moore: Thank you, Chairman Kelly, Ranking

4   Member Cotton, and distinguished members of this

5   subcommittee. It is an honor to be able to testify today on

6   the Air Force's defense authorization request for fiscal

7   year 2025. On behalf of the Department, thank you both, as

8   well as the members of the committee, for your continued

9   leadership and your unwavering support of the United States

10   military.

11   Today we are in the midst of a difficult transition

12   from a legacy force to one built to deter Chinese aggression

13   and win against any peer competitor. Fiscal year 2025

14   presents another opportunity for the Department of the Air

15   Force and the Congress to work together to remain the

16   world's preeminent power projection force.

17   Through this partnership we have made substantial steps

18   towards achieving the force the nation needs, but we have

19   much more work to do. Our most valuable resources

20   -- manpower, money, and time -- remain limited. We must be

21   disciplined in our decisions and focus our investments on

22   what we need most.

23   The Air Force strategy is not to divest. The Air Force

24   strategy is to modernize. But this strategy requires us to

25   make some difficult choices. We do not want to get rid of

1   airplanes, but in order to invest in modernized

2   capabilities, and most importantly pivot our airmen from the

3   past to the future, we have to stop funding things that do

4   not measurably bring us closer to the goal. In our fiscal

5   year 2025 request, the Air Force remains focused on

6   achieving a fighter force mix that provides a capable,

7   sustainable, survivable, and affordable force that can

8   operate across a range of mission sets.

9   Most notably, our fiscal year 2025 request seeks to

10   preserve our advances in modernization while shaping future

11   investments around long-range kill chains and the elements

12   that support them. This contribution to the Joint Force is

13   central to our ability to deter, and if necessary, defeat

14   aggression.

15   We continue to make significant progress towards

16   closing key capability gaps, but the hard choices are not

17   all behind us. We must consolidate the things we need that

18   are relevant to the future fight and make them the most

19   relevant that we can. We must remain united as a Department

20   and as a Nation to successfully overcome barrier to change.

21   We cannot fail in this endeavor.

22   Can we keep more legacy aircraft? Yes. Can we

23   increase today's readiness? Yes. Can we get after

24   tomorrow's modernization? Yes. But we cannot do all of

25   these things at once, particularly in light of reduced

1   buying power as a result of the Fiscal Responsibility Act

2   plus the workforce, supply chain, and inflation issues which

3   remain as a relic of COVID. We have to strategically spread

4   risk over time. We have chosen a strategy that allows us to

5   move past what is holding us back from being able to

6   compete.

7   But our adversaries are watching. We must act now to

8   make difficult choices and show them our commitment, and

9   time is not on our side. American lives and those of our

10 allies and partners rely on our ability to deliver airpower.

11 We look forward to once again working with Congress to shape

12 a lethal force that does exactly that and also efficiently

13 and affordably provides the most capable airpower for our

14 nation.

15   I am honored to sit here today with Mr. Hunter, General

16 Harris, and General Spain, and we look forward to answering

17 your questions.

18   [The prepared statement of General Moore follows:]

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1   Senator Kelly: Thank you, General.   Senator Cotton.

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1   STATEMENT OF HON. TOM COTTON, U.S. SENATOR FROM

2   ARKANSAS

3   Senator Cotton: Thank you, Chairman. I apologize for

4   my late arrival. I was at the ceremony to unveil the statue

5   of Daisy Bates, the iconic civil rights leader of Little

6   Rock Nine in 1957, which is the new statue that the State of

7   Arkansas has chosen to place inside Statuary Hall.

8   In the interest of time, and with great disappointment

9   to you all, I will enter my remarks into the record. I know

10   you came here just to hear them.

11   Senator Kelly: I am very disappointed.

12   Senator Cotton: Thank you.

13   [The information follows:]

14   [SUBCOMMITEE INSERT]

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1   Senator Kelly: Thank you, Senator Cotton. We will

2 start with questions here. I am going to start with

3 Secretary Hunter.

4   Secretary Hunter, as you know, 60 to 80 percent of

5 lifecycle costs for the average airplane is sustainment, and

6 at various times there have been press reports that the Air

7 Force leadership is wondering whether you could afford to

8 buy all 1,763 F-35s and pay for the lifecycle costs at the

9 same time. Some estimates had the flying hour costs at

10 $39,000 an hour.

11   The F-35 is the most advanced weapons system in the

12 world. I got to experience this just in January when I flew

13 an F-16 against an F-35, and was very impressed with some of

14 the F-35's capabilities.

15   This aircraft is critical to us maintaining our

16 competitive edge over our near-peer adversaries. So

17 Secretary Hunter, could you tell us what avenues the Air

18 Force is investigating for reducing the lifecycle costs of

19 the F-35 so that we can afford to operate the airplanes in

20 the numbers that we need, and what progress have you made in

21 reducing the operating and support costs?

22   Mr. Hunter: Well, we work a very close construct with

23 the F-35 Joint Program Office and with the Department of the

24 Navy to really get after the issue of F-35 sustainment

25 costs. And we have a number of initiatives that we have

1 been working on, some of which have been accelerated by the

2 National Defense Authorization provisions Section 142

3 direction to us, to examine how we better leverage the

4 enterprise sustainment capabilities of the services, Navy

5 and Air Force, to more affordably sustain that aircraft.

6 That is something that the Air Force is committed to. We

7 are putting together a transition team to help us tackle

8 some of those challenges.

9   The biggest one that the Air Force is focused on

10 initially is the supply chain management part of the

11 problem. We do supply chain management for a lot of large

12 air fleets, a lot of large international air fleets, the F-

13 16 being an example. And we believe that there are savings

14 to be had by leveraging some of our enterprise sustainment

15 capabilities, in addition to the capabilities that Lockheed

16 brings to the table, to the partnership.

17   Senator Kelly: Mr. Secretary, could you talk a little

18 bit about the F135 engine and some of the challenges? I

19 know the Air Force has faced turbine blade issues, also

20 cooling problems that are tied to the expansion of

21 capability. But is the engine one of the biggest components

22 in trying to bring down the lifecycle costs?

23   Mr. Hunter: Well, it is a huge component of lifecycle

24 costs. You are absolutely right about that. And when I

25 first came into this job we had huge issues of engines not

1   being available because of the turbine issue that you talked

2   about, and we had power modules that were just not

3   functioning and had to be returned to the depot for repairs.

4   A lot of aircraft sitting without engines.

5   We have largely worked through that issue, thanks to

6   the incredible work of the folks at Tinker and the Air

7   Logistics Center there, in close partnership with Pratt &

8   Whitney. It was a team effort to really get through that

9   issue. So now we are able to generate the number of power

10 modules that it takes to keep engines in our fleet.

11   There is a longer term issue, as you identified.

12 Because of the need for power for all of the systems of the

13 F-35, that longer term, we are working through the lifecycle

14 of the F135 engine faster than what was projected, and that

15 has led us to make an investment in the ECU upgrade to the

16 F135 engine to get after restoring the full lifetime of the

17 engine.

18   Senator Kelly: And what is the current goal for per-

19 flight-hour costs that you are trying to get to, from

20 $39,000 an hour?

21   Mr. Hunter: I would have to do some translations. So

22 we articulate that goal in the Air Force as a cost per tail

23 per year of $6.8 million, which is the goal that we have

24 established. We are actually not far from that goal today.

25   Senator Kelly: And how many hours does that give you?

1   Mr. Hunter: I would have to go back and look. I

2   believe it is 180.

3   Senator Kelly: Yeah, that is $37,000 per flight hour.

4   That is still incredibly high. I am not sure what the F-22

5   is, but I cannot imagine it is as high as $39,000.

6   Go ahead, General.

7   General Harris: So the F-22s, in particular, the Block

8   20s are in the neighborhood of $75,000 per hours.

9   Senator Kelly: Wow.

10   General Harris: That is part of our challenge with

11 those aircraft.

12   Mr. Hunter: Yeah, we will work -- we will not stop

13 trying to get that cost lower, but from my perspective it is

14 not uncommon with what we are seeing in our other fleets,

15 what we are seeing right now with F-35.

16   Senator Kelly: Thank you.

17   Mr. Hunter: That cost.

18   Senator Kelly: Senator Cotton.

19   Senator Cotton: I want to explore the topic of force

20 design and Department plans. General Harris, you mentioned

21 in your opening statement that Air Force fighters are older

22 than the other services, with an average age of 26 years.

23 Is that correct?

24   General Harris: I believe that was the comment that

25 was made, yes.

1   Senator Cotton: So does that mean that sustainment

2   cost are rising as the fleet ages, and thus reducing funds

3   that are available for modernization needs?

4   General Harris: So there is always a tension between

5   the modernization and the readiness, and when you start

6   putting upgrades onto them, how much can we do per tail, per

7   upgrade, and still maintain pilot absorption. So that

8   tension for readiness and modernization will still exist,

9   yes.

10   Senator Cotton: That sounds like a yes.

11   General Harris: Yes.

12   Senator Cotton: Okay. So how does the procurement of

13   F-15EX, F-35, Next Generation Air Dominance manned fighters

14   help you avoid that downward spiral of continued sustainment

15   cost growth?

16   General Harris: So from a force design aspect, what we

17   do is we look at where do we need to be with respect to the

18   threat into the future. That mix of what is an inside force

19   and what is an outside force is the balance that we are

20   trying to maintain. That becomes the mix of the

21   Collaborative Combat Aircraft, the CCA, plus the F-15EX. So

22   if you think about the number of rails and the number of

23   munitions you can put on the EX as an outside force, working

24   your way into the contested environment, there has to be a

25   mix of both.

1 When I mentioned in my comments about the force being

2 out of balance, we have a great short-range fighter game

3 right now, but it is not the inside force that we need.

4 What we need to do is pivot to a more outside force, with

5 more rails, the F-15EX, and the like.

6 So from a force design standpoint, that is how I would

7 answer the question. I think if there is an operational

8 piece I would pass that off to General Spain or General

9 Moore as far as the cost per tail.

10 Senator Cotton: Before that, how important is the Next

11 Generation Air Dominance manned fighter to your future force

12 design?

13 General Harris: So the Next Generation Air Dominance

14 family of systems is critical to what we do. And what I

15 mean by that is the technologies that are being developed

16 within that portfolio and where we are going with the entire

17 enterprise, it is feeding technologies and it has helped us

18 create S&T and other areas that we are leveraging to put

19 into other platforms and weapons systems.

20 Senator Cotton: I mentioned the manned fighter. You

21 talked about the family of systems. Can you speak directly

22 to the manned fighter?

23 General Harris: I can ask Secretary Hunter.

24 Senator Cotton: Do you want to jump in on that one?

25 Mr. Hunter: On that one, so for our fiscal year 2025

1 budget request we are requesting significant funds for the

2 crewed fighter part of the NGAD family of systems, and all

3 the members of the family are leveraging the technology that

4 General Harris described. But yeah, we have requested

5 significant funds in our fiscal year 2025 budget request to

6 move to the next phase of the program when it comes to the

7 crewed fighter.

8   Senator Cotton: What is your current assessment of

9 whether the United States Air Force or the PLA Air Force

10 will first field a sixth-generation manned fighter?

11   Mr. Hunter: My assessment would be that it would be

12 the United States, but the term "pacing threat" is, I think,

13 a very apt term, because it is a race.

14   Senator Cotton: Okay. General Spain, every year the

15 committee seems to receive a request to reduce the number of

16 manned fighters. How many fighters do you need to do your

17 mission?

18   General Spain: Thank you, Senator. I think that part

19 of the last question hints at the answer to this question.

20 And the idea is that we are reducing the number of actual

21 aircraft fielded in order to bring on new capabilities that

22 are exponentially greater than those we are divesting.

23   There are limits to how much we are able to divest that

24 we adhere to, and we continue to work with the Secretary of

25 Defense and the combatant commands and the global force

1 management process to ensure that the fighter fleet that we

2 have meets the needs of the force.

3   Senator Cotton: Do you have a direct or specific

4 answer about how many fighters you need?

5   General Spain: I can take that for the record, sir,

6 but there is not a specific number of fighters. I can say

7 that we retain between 1,900 and 2,000 fighters currently.

8 That is the range that we are in. That is sufficient to

9 meet today's commitments, and that will be sufficient to

10 continue to meet the commitments going forward.

11   Senator Cotton: Okay. If the Air Force shuffles

12 combat-capable aircraft like the F-15E and the F-22 into

13 training roles, due to divestment, how is that going to

14 affect your current combat capacity?

15   General Spain: We are still working through the

16 details of how that would actually play out, if that were to

17 occur. But the bottom line is combat-capable aircraft would

18 be used for training, just like a training-tailored

19 aircraft. However, in extremis, if they were needed to go

20 into combat, if they were not T-coded tails, then we would

21 be able to use them for combat missions, if necessary.

22   Senator Cotton: Okay. Well, this is one of the

23 concerns I would have stated in my opening statement. I am

24 sure you are all going to go read the record about it

25 tonight. I just do not think we are buying enough stuff

1   fast enough, whether it is fighters or the E-7 or munitions.

2   I may have more on that later.

3   Senator Kelly: Senator Duckworth.

4   Senator Duckworth: Thank you, Mr. Chairman. Secretary

5   Hunter, General Moore, to continue the conversation, I

6   wanted to chat with you a little bit on KC-135

7   recapitalization. I am aware of the significant risks that

8   the Air Force faces in its ability to sustain and protect

9   the Joint Force across the globe with an aging aerial

10 refueling fleet. It is vital and incumbent on the Air Force

11 to provide the Air National Guard with the requisite

12 equipment to support its aerial refueling mission.

13   I want to ensure that there is transparency in the

14 decision-making process for the MOB 7 selection of the KC-46

15 and a plan for what comes next with the remaining Air

16 National Guard with legacy aircraft.

17   Can you, Senator Hunter or General Moore, can you

18 provide insight into how Air National Guard units that have

19 an existing association with an active duty air wing will be

20 scored on the basis of that association during the MOB 7

21 process, and if units will not be scored on their

22 association with an active duty air wing, why did the Air

23 Force not include this in the basing criteria for MOB 7 and

24 was this scoring included in the basing criteria for MOBs 1

25 through 6?

1   General Moore: Senator, MOBs 1 through 6 all included

2   an active associate where they went to Guard units.   MOB 7

3   is not intended to include an active associate necessarily.

4   Senator Duckworth: Why?

5   General Moore: That is just not what we decided to do

6   with MOB 7.   So there is --

7   Senator Duckworth: But why did you decide to take that

8   criterion out when it was in the previous six MOBs?

9   General Moore: So we feel like we have the capacity

10   with the first six that we needed to have in the KC-46 as we

11   transition forward, past MOB 8 and into the future.   We will

12   look at this again.   But for MOB 7 we elected not to include

13   an active associate.   With the possibility of that coming,

14   we did include scoring criteria for the facilities that go

15   along with an active associate in the event that that

16   becomes an additive mission in the future.   But the presence

17   of the active associate itself is not a part of the scoring

18   criteria for MOB 7.   For the units that compete but are not

19   selected for MOB 7, we intend to replace every KC-135, one

20   for one, eventually.   It will take us some time to do that.

21   But our intent is to replace all of the KC-135s with some

22   form of a new tanker.

23   As you alluded to and as you well know, I am not

24   telling you anything that you have not been watching for

25   quite some time.   The youngest KC-135 that we own was made

1   in 1964, and so continuous recapitalization of the KC-135s

2   is the top priority in the air refueling portfolio. And we

3   have the ability to complete the KC-46 buy. That will take

4   us to 183, and then beyond that we will continue

5   recapitalization the KC-135s as the budget top line permits.

6   But our intent is to recapitalize all of them.

7   Senator Duckworth: Okay. Are you committed to

8   continue to work with me on this?

9   General Moore: Yes, ma'am. Of course.

10   Senator Duckworth: Thank you. Over the last year I

11   have discussed with Air Force leadership the importance of

12   having a force design plan, a strategic document to guide

13   the Air Force's modernization efforts, and I want to thank

14   you and just say how pleased I am that the Air Force has

15   worked with me this past year on creating a force design

16   process, and thank you for being very responsive to that.

17   As you continue to refine this process and finalize your

18   force design plan, I do want to offer my continued support

19   and willingness to engage in those planning discussions.

20   Pivoting to conversation in the Indo-Pacific, I am

21   concerned about the unique challenges in the region and that

22   the region will have on the Air Force's aeromedical

23   evacuation and aerial refueling capabilities. The Air Force

24   needs to coordinate and integrate modernization efforts with

25   INDOPACOM and TRANSCOM to support a fight tonight mission

1   and force design planning.

2   General Spain, General Harris, and General Moore, as

3   you continue to develop the force design for the Air Force,

4   how are you working with combatant commands like INDOPACOM

5   and TRANSCOM to ensure our current and future operational

6   requirements like aerial refueling and aeromedical

7   evacuation are incorporated into the force design? And I

8   ask about this capability specifically because they are

9   contingent on the Air Force's investment in the next

10 generation air refueling systems and the KC-135

11 recapitalization.

12   General Harris: Senator Duckworth, thank you for the

13 question, and also thank you for your continued support with

14 this and working with us on the force design.

15   Since the last time we met, we have continued work on

16 the force design. We now have the framework of it, which is

17 the strategic context and where we are looking out into

18 2030, 2035. We also have, from the intel community, an

19 assessment of that same timeline and what we think. And

20 what that does for us is it allows us to do an assessment,

21 and these are the gaps and the holes that we have within the

22 Air Force. Come of it could be a clean sheet new aircraft.

23 Some of it is modifications we need to make to existing

24 platforms, and we have a list of that, as well. We are

25 happy to go over that at any time with you.

1   But the other parts of this that we continue to develop

2 are the force structure pieces of it, and by the end of June

3 we should have the manpower piece. So it is not good enough

4 just to have the capability come and arrive, but you need

5 the manpower to meet up at the same time, as well. So those

6 are the next two efforts, and that should be done by June,

7 and we are happy to circle back with you and have a meeting,

8 and keep working with you and your staff.

9   But as far as the COCOM inputs on this one, I would say

10 that the framework of the force design has three components.

11 It is homeland defense, strategic deterrence, and power

12 projection. And from the we use the O-Plan, so this is the

13 COCOM's input to that, to make sure that we are adhering to

14 what NORTHCOM needs, what STRATCOM needs, and what all the

15 other combatant commands need under the power projection

16 platform piece of this. So that is one way that we do it.

17   The second way is we work through our components, so

18 PACAP, USAFE, to make sure that we are hearing their

19 requirements and putting that into the force design.

20   We are just finishing up a wargame this week, to take a

21 look at what that force structure looks like, to see if it

22 is going to meet the needs of the future threat environment

23 that the intel community has laid out.

24   Senator Duckworth: Thank you. Can I just read out a

25 question for the record, for Secretary Hunter and General

1 Moore? I am concerned about the Air Force's operating and

2 contested environment and the need to resource air mobility

3 command. And this is for the record. Can you explain how

4 the new integrated capabilities command will allow the Air

5 Force Air Mobility Command to modernize prioritization

6 investments and resourcing decisions, and how much input

7 will combatant commands like TRANSCOM have in these

8 decisions? And just get that back to me.

9   Thank you, Mr. Chairman.

10   Senator Kelly: Thank you, Senator Duckworth. Senator

11 Ernst.

12   Senator Ernst: Yes. Thank you, Mr. Chair, and thank

13 you, gentlemen, for being here today. And, you know,

14 obviously the Air Force is transforming to meet the needs of

15 the NDS and of great power competition. And as part of the

16 transition the Air Force has been engaged in a series of

17 open and closed tabletop exercises to get ready for that

18 China challenges.

19   One of the key recommendations has been the urgent need

20 to improve the resiliency of our air assets. Secretary

21 Hunter, if I could start with you, how does the Air Force

22 plan to prioritize when it comes to the construction and

23 upgrade of hardened bases in response to some of these

24 evolving challenges?

25   Mr. Hunter: Yeah, that was a huge part of our

TP One

 1   Operational Imperative 5 effort was to understand what are

 2   the bases that are most in need of hardening and how do we

 3   prioritize and rank among them. So there are significant

 4   funds that were included in our 2024 budget request and also

 5   in our 2025 budget request to procure equipment, supplies,

 6   construction material, and everything that is required to do

 7   that work. And then the issue is how do we prioritize where

 8   those materials and supplies then go. So that has been a

 9   huge part of our OI 5 effort, in close coordination with Air

10   Combat Command and the Air Force components that General

11   Harris just reference, PACAF and others, as to how we deploy

12   those assets.

13   Senator Ernst: Mm-hmm. I just want to make the

14   statement, of course, we do have a KC-135 tanker unit in the

15   Iowa Air Guard, so I just want to remind everyone not only

16   do we see needs for the future in our active duty forces,

17   but please do not forget about our Reserve and Guard forces

18   and their needs, as well. The concern that we have in Sioux

19   City with that squadron is that they were promised by the

20   Air Force years ago that the Air Force would pay for the

21   runway to accommodate these 135 tankers. That has not

22   happened. We divested fighter jets. We took on the

23   tankers. The Air Force has not made those improvements to

24   the runway. And we are very concerned that when KC-46s roll

25   around, we will not be able to accommodate and we will lose

1   that mission.

2   So the Iowa Guard continues to give and give and give,

3   and yet we have not received what the Air Force has

4   promised.

5   So I understand the need to move forward and harden

6   structures in the future, but let's make sure we take care

7   of the commitments that have already been made, as well.

8   Thank you. That was just an aside. I am fighting for

9   my Iowa Air Guard.

10   Then, as well, let's move on to modernization. On the

11   13th of April, I think we all witnessed in horror the launch

12   of over 350 missiles and drones at Israel from Iran. And

13   fortunately a lot of the threats were neutralized due to the

14   Israeli defense capabilities, which included the F-15E. And

15   General Moore, the Air Force currently plans to divest those

16   Strike Eagles, over 100 of those, in order to modernize the

17   Air Force.

18   What are we doing to make sure there is no capability

19   gap?

20   General Moore: Yes, ma'am. So we are very proud of

21   what happened as Iran took on multiple countries' air

22   forces. First of all, I would say that the command and

23   control that went behind that, all of the things that are a

24   part of that system, not just the aircraft and the pilots,

25   the munitions command and control, there were no friendly

1   fire incidents in that, in a very, very busy and very, very

2   compressed airspace. That is amazing.

3   And not to take anything away from what happened that

4   night but there was no air-to-air threat, there was no

5   ground-to-air threat, and Iran is not a peer adversary. So

6   those aircraft did not have to enter a highly contested

7   environment, and they did not compete with an air force that

8   was specifically designed to defeat them.

9   China is a peer adversary. Iran is not. Those

10   aircraft averaged 33 years old, and as I said at the

11   beginning, our strategy is not to divest aircraft. That is

12   not the goal. However, we do see the need to modernize

13   aggressively, and in order to do that we need to transition

14   airmen as well as resources to the future.

15   So we are very proud of what happened in Israel, but

16   those aircraft were not in a highly contested environment,

17   and they were not taking on a peer adversary.

18   Senator Ernst: Yeah, and I do appreciate the approach

19   you are taking. I know we have to assume some prudent risk

20   in doing this, so as long as the Air Force has a plan to

21   close any gap that might exist out there, we trust that you

22   are covering down on that. So thank you for that.

23   I do have a couple more questions. I will submit those

24   for the record. But thank you, gentlemen, very much for

25   being here today. I appreciate it.

1   Senator Kelly: Senator Peters.

2   Senator Peters: Thank you, Mr. Chairman, and

3   gentlemen, thank you for your testimony here today. Thank

4   you for all the work you do for our country every day. We

5   appreciate that.

6   General Spain, I would argue that the Air Force needs

7   to continue to think outside of the box about potential KC-

8   46 refueling tanker and the collaborative combat aircraft

9   teaming, and the potential that offers. I was particularly

10   pleased during his SAS testimony last month when General

11   Allvin shared that the Air Force now is exploring using KC-

12   46s as a communications node with these efforts, potentially

13   enabling their use as an airborne battle management platform

14   for future CCAs.

15   So my question for you, sir, is how is the Air Force

16   working to advance expanded KC-46 communication

17   capabilities, and simultaneously, how can the Air Force

18   begin to plan for potential CCA KC-46 interoperability?

19   General Spain: Yeah. Thank you, Senator. I think

20   operationally what I will talk to is the need to connect the

21   mobility fleet broadly and gain situational awareness within

22   those platforms to help out in the battlefield.

23   One of the things that we are learning as we experiment

24   with agile, expeditionary com capabilities is that the

25   battle management function in the future could be done

1 really from any platform and not an airborne early warning

2 platform solely. So for the acquisition details I will kick

3 it to Mr. Hunter, but from an operational perspective,

4 getting the flexibility in the evolution of command and

5 control down the road would be very beneficial to the joint

6 force and coalition force.

7   Senator Peters: Yeah, great. Secretary Hunter?

8   Mr. Hunter: One of the great things that happened last

9 year was our mobility guardian exercise in which we did some

10 relatively low-cost upgrades to enable some additional coms

11 with the air refueling fleet that participated in that

12 exercise, and demonstrated quite a bit of payoff, payback,

13 operationally for those investments.

14   So that is something that we are absolutely looking at,

15 how do we take that lesson learned and that approach and

16 apply that across our fleets. KC-46 starts ahead. KC-135

17 is an older platform, has a little bit farther to go. But

18 there is a need for some modernization in both cases, and

19 make that part of our approach.

20   And ultimately what we characterize as our NGAS, the

21 Next Generation Air-refueling System, it is designed, in

22 principle, like our NGAD approach family of systems,

23 technologies developed under that programmatic approach,

24 which actually be utilized across the broader fleet, not

25 just in the new aircraft that would be being procured as

1   part of a modernization program.

2   So those are threads, all of which are currently in

3   work to expand the coms capability of the air refueling

4   fleet.

5   Senator Peters: Great. Very good. Generals Spain and

6   Harris, this is question is for you. CCAs will require

7   comprehensive and integrated training certainly for all Air

8   Force components, including the Air National Guard.

9   Training should be planned and executed by all components to

10   foster uniformity in skills, tactics, and most importantly,

11   readiness for the total Air Force.

12   As Air Force integrates CCA, it is crucial, I would

13   argue, to ensure that our training programs are

14   collaborative as the aircrafts themselves. So my question

15   for both of you is, currently how does the Air Force

16   integrate new platforms across the total force, including

17   fielding, training, and maintenance, and does the Air Force

18   plan on adopting a similar model to which you have used when

19   it comes to CCAs?

20   General Harris: So I will start. First off, thank you

21   for the question. The way that we are going to onboard

22   CCAs, I do not think it is going to be too drastically

23   different from the way that we have seen onboarding of other

24   aircraft, with the exception of bringing something out into

25   an experimental operations unit. Something we have not done

1   before is having the aircraft fly with other unmanned

2   aircraft in close proximity to it, so there is going to be

3   some learning baked into this.

4   Using AETC is going to be part of this journey with us.

5   There are ways that as we are learning through tactics,

6   techniques, and procedure, things we want to institute

7   within the schoolhouse, so when we bring new pilots on they

8   become familiar with how to operate with these unmanned

9   systems. So it is going to be the pairing and the learning

10 plus the experimental operations unit that we can actually

11 use to help harness some of this learning.

12   General Spain: Senator, from a training perspective

13 and operational perspective I would say that the benefit and

14 the value that is very clear by outfitting the total force

15 with similar capabilities in particular mission areas is

16 clear across all of our fleets, and CCAs would be no

17 different. We would intend to ensure that those units,

18 whether active or reserve component, have the same

19 capabilities to operate for the Joint Force in any fight

20 with our allies and partners, and on behalf of the Secretary

21 of Defense, our combatant commander in any theater,

22 regardless of the affiliation. So we would ensure that

23 there is a baseline common across the total force.

24   Senator Peters: Great. Wonderful. Thank you. Thank

25 you, Mr. Chairman.

1   Senator Kelly: Senator Mullin.

2   Senator Mullin: Thank you, Mr. Chairman. General

3   Harris, just looking at you guys' reoptimizing for the

4   future powers ahead, right, you guys are making some changes

5   to the training processes for your pilots, which is great.

6   You know, we have got new platforms, new technology we have

7   got to work on. But as you know, Altus Air Force Base in

8   Oklahoma and Vance Air Force Base, where Vance is one of the

9   top five pilot training centers in the country, where are we

10   at with changing those programs there, and where does it

11   leave the Air Force bases, when you start talking about what

12   is the future of Vance and what is the future of Altus and

13   their current mission?

14   General Harris: So I do not see the current missions

15   changing. What I do see changing is as we look to reframe

16   what a unit of action is and how we deploy, that will be

17   different, and this is where we get into the in-place combat

18   wings or the different types of combat wings that might be

19   out there. There are still foundational things that we need

20   to do within our Air Force, that Air Education and Training

21   Command does for us today.

22   The changes that we are talking about under great power

23   competition and reoptimization for this really are aligning

24   things like the accessions part of it, or onboarding of the

25   warrant officers and the other things that our chief has

1 talked about in previous testimonies.

2   As far as the bases and the missions and the roles and

3 functions, specifically the institutional ones that are

4 aligned to that, I do not see those changing.

5   Senator Mullin: Well, in Vance I have a concern

6 because you are changing a lot of your flight times as

7 simulators, which is, at first, to be quite frank with you,

8 General Harris, I was thinking how are you taking someone

9 with the actual flight time to a simulator, and then your

10 instructors down there actually spent time with me and said,

11 "Listen, we can put these pilots now in simulations where

12 they might have a 5 percent survivability rate because of a

13 mechanical error, we can put them in the simulator over and

14 over and over again, and we are going to see an increase of

15 that survivability rate," and which I thought, okay, I

16 totally understand that now. I am not a video game guy at

17 all. I never even won Mario Brothers way back when on

18 Nintendo, so that is just not my world.

19   But when you start looking at the simulators and the

20 way they are training, I totally understand it. But some of

21 the simulators you guys have set up at Vance is literally in

22 a warehouse. I was in there in the middle of summer and,

23 wow. I mean, this warehouse was 100 degrees all day long,

24 if not over, and these future pilots are sitting in these

25 simulators for hours. And so I do not see the

1   infrastructure meeting where you guys are moving towards.

2   You are just taking them and putting stuff there, and I do

3   not see the investment.

4   I definitely do not see it when you are going to your

5   budget that the Air Force put out, I did not see anything

6   new for Vance to develop and need the new training that you

7   are asking them to do except using old infrastructure. So

8   can you speak to that?

9   General Harris: Senator, I can speak to part of that.

10 In terms of great power competition and the reauthorization

11 you will not see money associated with any of the efforts

12 that we are making into this one. A large part of that is

13 the work is ongoing, and we are still uncovering what it is

14 going to take to be able to do this effectively, and FSRM

15 and some of these facilities will be one of them. The joint

16 simulation environment is another piece of this. But it

17 also speaks to a broader piece of the ranges, in general,

18 and how we train and practice every day, and the

19 modernization that it is going to need to keep all of those

20 together.

21   Senator Mullin: Go ahead, General.

22   General Moore: Senator, I am not tracking the issue

23 that you are talking about at Vance but I understand the

24 concern. Let us take this for the record and come back to

25 you and give you a more cogent discussion on this.

1   Senator Mullin: And let me explain this one too. I

2 would love to invite you guys there. We take a lot of pride

3 in Vance, and it is something that the community is 1000

4 percent behind, it is something that the state is behind.

5 We love the fact that there are more pilots trained there

6 any anyplace in the country. We want to keep that that.

7   So with that being said, I am a hands-on type of guy.

8 I want to see it. So we would love to make that invite. I

9 will personally make sure I change my schedule to fit your

10 schedule, if anybody wants to come down there and put eyes

11 on it.

12   General Moore: Yes, sir. We would love to do that. I

13 am not tracking this particular issue, but we will take it

14 for the record.

15   Senator Mullin: And they are not complaining to me. I

16 picked it up.

17   General Moore: Yes, sir.

18   Senator Mullin: They never brought it to me and said,

19 "Hey, we need to look at this." I just thought that if we

20 are talking about retaining the best, sometimes conditions

21 do matter.

22   General Moore: Yes, sir. Fair.

23   Senator Mullin: Real quick before I run out of time,

24 and I hated to spend so much time on that. Secretary

25 Hunter, we have got a problem at Tinker with providing our

1   mission when we have an overrun of the E-7s while we are

2   phasing out the E-3s. And I have brought this up multiple

3   times, and we get answers that go all over the place on how

4   we are going to actually phase out the E-3s when we cannot

5   deliver the E-7s on time and still be mission capable.

6   We talk about utilizing space assets, which that is a

7   possibility. But what are we actually going to do to make

8   sure the mission that Tinker does -- and we know Tinker

9   provides a very vital role to us, and especially in a time

10   of conflict. If we go into an eventual fight they are going

11   to be our eyes and our ears, and yet we are not going to

12   have the platform to provide the mission.

13   What is our actual plan? Are we going to plan on just

14   keeping some of the E-3s around, because they are phasing

15   out pretty quick, before we get the E-7s?

16   Mr. Hunter: So our plan is to have E-7 as a

17   replacement, and we are on contract with Boeing --

18   Senator Mullin: But way behind and over budget.

19   Mr. Hunter: So we have been executing on the work.

20   What we have been behind on is we got a proposal from Boeing

21   that was roughly twice what the budgeted funding, funds that

22   were budgeted based originally on information from Boeing

23   about what the cost was going to be.

24   I can tell you we have narrowed that gap quite

25   considerably, and to an area where I believe we will soon

1 have an agreement that will be something that is affordable

2 for the taxpayer, affordable for the Air Force, and we will

3 be able to definitize that contract with Boeing and know how

4 that rapid prototyping program, which is what we are

5 currently engaged in, is going to work over the next several

6 years.

7   Then the issue -- and we have seen some changes in our

8 plan, if you are referencing accurately -- is how do we move

9 into production of those aircraft that we have taken through

10 that prototyping process. And that is where there have been

11 some delays because not knowing that we had a design that

12 was affordable we could not in good conscious budget for

13 production of an aircraft that we did not yet have a design

14 that we knew was going to work.

15   So we will be able to revisit the issue of what does

16 the pace and tempo of E-7 production once we have that

17 agreement reached with Boeing.

18   Senator Mullin: Thank you. General Moore I think

19 wanted to weigh in on this but I am out of time. So,

20 Chairman, it is up to you.

21   Senator Kelly: Yeah, go ahead.

22   General Moore: Sir, you said the E-3 would be our eyes

23 and ears. I think we all have to be honest about what the

24 E-3 actually provides. The physics of the E-3 does not

25 permit it to function in the highly contested environment.

1   Nothing that we can do to upgrade the airplane will change a

2   10-second revisit rate. It will not change the range. It

3   will not change the resolution, which allows it to see what

4   we need. The mission computer in an E-3 weighs 25,000

5   pounds.

6   It is powered by TF33 engines. We did an extensive

7   amount of research in the B-52 upgrade program to determine

8   how long those engines were sustainable, and there are some

9   heroics that could get some of those engines past 2030. But

10   for all intents and purposes, 2030 is the end of the road

11   for the TF33 engine.

12   So we are working, as Mr. Hunter said, as quickly as we

13   can to bring the E-7 on, but the E-3 is not a part of the

14   fight in the highly contested environment. That does not

15   mean that it does not have use in other AORs in other

16   regions, homeland defense in particular, but it is not a

17   part of the fight in the highly contested environment.

18   Senator Mullin: Thank you. I appreciate it.

19   Senator Kelly: Senator Blumenthal.

20   Senator Blumenthal: Thank you. Thanks a lot, Mr.

21   Chairman. Thank you all for being here. Thanks for your

22   service.

23   Secretary Hunter, could you repeat for me the cost of

24   flying the F-35. Did you say it was 180? I may be off on

25   that.

1   Mr. Hunter: We were saying it is 180 flight hours, but

2 it is $6.8 million cost per tail per year. Then I think we

3 were trying to translate that into a flying hour cost, which

4 I think we calculated was in the mid-thirties range.

5   Senator Blumenthal: Mid-thirties. Is that a cost that

6 our allies or the customers for this plane are going to be

7 able to sustain? In other words, other nations that are

8 buying the F-35 are paying $30,000 an hour to simply train

9 and fly, and then there is the cost of modernization of

10 them. I am just wondering about the long-term viability in

11 terms of our allies and partners with this plane.

12   Mr. Hunter: Yeah, obviously they have smaller fleets.

13 I have not heard any of the allies indicate to me that the

14 operating cost of the F-35 is something that is

15 significantly challenging their budgets, beyond that we are

16 all challenged by these operating costs. But I have not

17 heard any of the partners talk about reducing their buy

18 because of the sustainment cost.

19   It is something we continue to work to get after and to

20 get down, and I think we will, and we are on a path. And I

21 give General Schmidt a lot of credit for the effort that he

22 and his team have put into that. But to the contrary, most

23 of the partners that I have talked to are talking about

24 increasing their purchases of F-35s. So that suggests to me

25 that they are finding it sustainable.

1   Senator Blumenthal: Well, that was my next question.

2   What is the likelihood of reducing the $6.8 million per

3   tail?

4   Mr. Hunter: I think we can reduce it. I think we are

5   currently on track to do better than that, and I would like

6   to do quite a bit better than that if we can get there. And

7   I think there are some good approaches. As I said, the

8   potential leverage, some of our Air Force enterprise

9   sustainment tools, some of which we are already doing. So

10 the engine maintenance work we do in partnership with Pratt

11 & Whitney at Tinker has really grown quite strong. And we

12 can do similar type approaches on other subsystems of F-35

13 in the Air Force, and the Navy has many that they are

14 focused on, as well.

15   Senator Blumenthal: The number of planes this year,

16 the procurement this year, is going from 48 to 42, and I

17 understand your testimony that there are reasons for it, in

18 part the modernization costs and, quote/unquote,

19 "flexibility" I think is the word that you used to give

20 Lockheed. What is meant by "flexibility" for Lockheed

21 Martin to work through the issues related to Block 4

22 development and integration? What does that mean?

23   Mr. Hunter: So the challenge we have specifically with

24 the aircraft in our fiscal year 2025 request is they are of

25 the variant that we are currently working to do the Block 4

1   upgrades, and working to deliver the technology, the design,

2   the hardware, the software to make a Block 4 variant of the

3   F-35. So specifically the lot of aircraft that we are

4   funding in fiscal year 2025.

5   Right now it is huge challenge to Lockheed to make all

6   of that integration work in time to meet the jets that are

7   being produced on the production line. And so a slightly

8   smaller buy does add some flexibility for making sure that

9   production schedule is going to work.

10   Senator Blumenthal: Last year, when we spoke about the

11   F-35 procurement at the modernization hearing you indicated

12   that Russia's aggression in Ukraine has spurred numerous F-

13   35 purchases by partners and allies, and I guess that trend

14   is continuing. And you indicated that those purchases were

15   sufficient to mitigate the dip in procurement by our

16   military, and by extension, to sustain the supplier base.

17   Have you analyzed what the effects of the current

18   trends in purchases by allies versus our own military is

19   going to be on the supplier base?

20   Mr. Hunter: We have looked at what the likelihood is,

21   based on, because there is obviously Air Force and

22   Department of Navy both had some reductions in our fiscal

23   year 2025 aircraft purchases. It is our current belief and

24   understanding that there will not be a disruption to the

25   production rate at the factory, or that the FACOs, primarily

1   Fort Worth, but obviously some of the overseas ones, that

2   they would be able to continue at rate, even with these

3   purchase levels from the United States services.

4   Senator Blumenthal: And is that true of the parts and

5   components, the supply chain that provide what is necessary

6   going into the plane?

7   Mr. Hunter: Yes, sir.

8   Senator Blumenthal: Thank you. Thanks, Mr. Chairman.

9   Senator Kelly: Thank you, Senator Blumenthal.

10   Secretary Hunter, let's talk a little bit about

11   electronic warfare here for a moment. We are seeing, in the

12   war in Ukraine, just how critical modern EW is on a modern

13   battlefield. And certainly in any conflict with a near peer

14   adversary we would be faced with a significant challenging

15   EW environment, hence the need for electronic warfare

16   aircraft like the Compass Call. The Compass Call airplane

17   today, the EC-130, is being replaced over time with the EC-

18   37. This program is currently slated to replace the 14 EC-

19   130s with 10 EC-37s, the first one having been delivered

20   already to Tucson, the Davis-Monthan Air Force Base.

21   It looks like the budget justification material shows

22   that we are not going to get all 10 of the EC-37s until the

23   end of the FYDP in 2029.

24   So Secretary Hunter, what steps could we take right now

25   to accelerate the delivery of EC-37s, understanding that

1   this is an important capability that we would need in any

2   conflict with a near peer adversary?

3   Mr. Hunter: Well, Senator, that program has been

4   executed again on a relatively short time frame. It was

5   only a few years ago that the decision was made to do the

6   modernization, so the rehosting of the Compass Call combat

7   system onto the EC-37 platform. So I would hold it up as an

8   exemplar of some faster work, in general, compared to some

9   of our production programs.

10   But to your point, to get all the way to fielding of

11   the new capability, you have to go through the aircraft

12   production process, the modification process, and then

13   fielding to the units. So I will look to see what

14   opportunities we might have to save some time on that

15   process. But the work that has been ongoing has not been

16   without challenge, but it has happened relatively on

17   schedule.

18   Senator Kelly: The equivalent airplane in the Navy was

19   the EA-6B Prowler and then later the EA-18 Growler, and each

20   air wing typically had a squadron that had four aircraft.

21   So with, let's say, a dozen battle groups there you had

22   about 36 or more, 48, airplanes.

23   I was surprised when I saw that the Air Force had just

24   14 electronic warfare airplanes, and now going down to 10.

25   So could you talk about -- and Secretary Hunter, maybe one

1 of the generals would be better equipped to answer this

2 -- but is 10 enough? I mean, it seemed to me when I heard

3 this number, that there were going to be 10 at Davis-

4 Monthan, my initial question was, well, where are the other

5 electronic warfare aircraft? And then I found out, well,

6 there are not anymore. There are just the 10.

7   Mr. Hunter: Yeah, like you I have a little bit of

8 background on EA-6B from a prior portion of my career, and

9 so when I started looking into the Compass Call program I

10 had to understand it is extremely different conops from the

11 way in which EA-6 --

12   But I will take your suggestion and defer to General

13 Moore.

14   General Moore: Yes, sir. So the EA-37 is a highly

15 capable aircraft, as you know, and it does some things that

16 no other aircraft can do. It is far from the limit of the

17 Air Force's electronic warfare capability. With the APG-85

18 on the F-35, the APG-32 on the F-15Es, EPoS on the F-15Es,

19 there are a variety of other electronic warfare capabilities

20 that we have in the fleet flying, and many of those at the

21 front edge even in the highly contested environment.

22   Beyond that we have added a Spectrum Warfare Wing

23 headquartered at Eglin with detachments in other places in

24 the Southeast with the specific intent of being able to

25 characterize a signal ingested by the F-35 and turn that

1   back around in an F-35 mission data file in a time that we

2   could talk about in a different forum. But suffice it to say

3   the quickness with which we intend to be able to do that is

4   eye-watering.

5   So the EA-37, it is unique in what it does, but the Air

6   Force's electronic warfare capability goes far beyond that

7   aircraft. Ten aircraft was intended to provide two caps.

8   Depending on what you believe about the breadth of the AOR

9   that we might have to fight in, you could discern whether or

10   not you think two caps would be enough. But that was the

11   force sizing construct when the program of record was set at

12   10.

13   Senator Kelly: Thank you, General, and thanks for the

14   reminder. I have met with the commanding officer of the

15   unit in Eglin, talking specifically in the SCIF about how

16   they turn that signal around and how that can benefit the

17   warfighter. So thank you for that response.

18   Senator Cotton.

19   Senator Cotton: Mr. Hunter, we have heard some talk

20   about connectivity today, and in your written statement you

21   talked about the need to develop command and control systems

22   for relevant contested missions. What is the fielding

23   timeline of a resilient network for all of these fighters,

24   drones, and future systems to talk to each other?

25   Mr. Hunter: It is a rolling timeline. In terms of

1 that first increment of capability, probably in the '27 time

2 frame, I would say, if you were to talk about something at

3 the level of a network capability. We have capabilities

4 that are rolling out prior to that, and they are meaningful.

5 So we have that for air defense already. We have already

6 rolled out increments of capability of that system that are

7 meaningful.

8   But if you start talking about really being able to do

9 entire mission threads at scale, anywhere in the world, it

10 is going to be another few years before we can really say we

11 have rolled that out to the warfighter.

12   Senator Cotton: All right. What is the impact of the

13 Air Force's inability to certify basic network modernization

14 today like Link 16, due to FAA roadblocks?

15   Mr. Hunter: Well, we have a lot of challenges in test

16 when it comes to FAA and their certification of Link 16, so

17 that has impacted our acquisition programs, like the F-22,

18 and several other. And it is challenge that we share

19 jointly with the Navy because many of our Link 16

20 capabilities are ones that the Navy is the program lead for,

21 and they run into the same challenges that we do.

22   Senator Cotton: Okay. General Moore, I want to turn

23 my attention now to munitions. I noted $1 billion less in

24 the Air Force missile procurement compared to last year,

25 even though our munitions stockpiles are not where they need

1   to be. Is the Air Force currently maximizing procurement of

2   munitions?

3   General Moore: Senator, we are close to maximizing

4   procurement. What we are talking about here are the

5   advanced munitions really, the ones that pertain to the

6   highly contested environment. We are, in most cases, within

7   single digits, or in some cases within 20 or 24 individual

8   procurement units of maximizing procurement.

9   What I think is helpful for the future is, thanks to

10   the Congress in the '24 cycle there was additional

11   facilitization that allowed us to increase what the defense

12   industrial base is able to procure. And so as that

13   facilitization money takes effect we will be able to

14   increase procurement.

15   I would not say that we are buying every single round

16   that is available, but we are really close. And the

17   facilitization money that came in '24 will increase that

18   capacity as we go through the FYDP.

19   Senator Cotton: I am sorry. I do not know what you

20   mean by additional facilitization money.

21   General Moore: Building an additional line, putting

22   together the facilities that it takes to build more of the

23   same thing.

24   Senator Cotton: Is the Air Force using multiyear

25   procurement? Well, I should say, I know you are using

 1 multiyear procurement for critical munitions. Can you buy

 2 more of these munitions with additional fiscal year 2025

 3 funds under that multiyear plan?

 4   General Moore: There is some additional procurement

 5 that is possible, and if it is okay we will take the

 6 specific numbers and the specific dollars for the record and

 7 provide those back to you, by individual item.

 8   Senator Cotton: Please do.

 9   General Harris, I want to talk a little bit about

10 unmanned aerial systems and counter-unmanned aerial systems,

11 C-UAS, known by normal people as drones. What is the plan

12 to defend our air bases from small drone attacks? After

13 all, we had three troopers killed in Jordan about 3 months

14 ago from such an attack, and dozens of drones have overflown

15 Langley Air Force Base in the last 6 months.

16   General Harris: Thank you for the question. It has

17 been almost a year since I was back from the desert, where I

18 was the Deputy Air Component Commander, and the drone

19 problem was very much an everyday problem for us to deal

20 with. For the program of record and what we have within the

21 Air Force, the Ninja system onto this, is the one that we

22 use primarily, but it has to be a joint solution for this

23 one.

24   The Army has several systems that are out there, and

25 quite frankly, is the detection piece as far as some of the

1   smaller Group 1 and Group 2, and then for the Groups 3 and

2   5, as far as the Air Force doctrine and what we do, it is

3   using some of our counter-air tactics and air-to-air

4   munitions to be able to mitigate the counter-UAS, or the

5   drone, threat that is out there.

6   Some of the ones that you are seeing around Langley and

7   the like, these are things that we have to get after. We

8   are putting resources to those. But for right now, some of

9   these that use the systems that I mentioned before, the

10   Ninja system, that is one that we also have money that is in

11   fiscal year 2025 to start looking at some other systems that

12   might be effective for this.

13   Senator Cotton: Okay. What is the Air Force plan, if

14   any, for low-cost, one-way large drones, like we have seen

15   from adversaries from Russia and Iran and China? I guess by

16   low-cost I mean numbers that have only one comma in them.

17   General Spain: Senator Cotton, yeah, if I can.

18   Senator Cotton: Do you want to take that, General

19   Spain?

20   General Spain: Yes, sir. Yes, sir. As was mentioned,

21   the problem of counter-UAS is a joint, and really, frankly,

22   a coalition problem. As we saw in Jordan, any loss of life

23   is tragic, and our hearts go out still to our Army brothers

24   and sisters who were impacted by that.

25   General Kurilla and General Grynkewich at the time,

1   General France now, are implementing procedures in the

2   theater to increase domain awareness, which is really a key

3   limitation in that theater. And the events in Langley, or

4   in Virginia, really speak to the idea that the homeland is

5   no longer a sanctuary, and we have to continue to pay

6   attention to it. The systems that we have been pushing

7   forward have largely gone to the most contested and kinetic

8   theaters, and we have still paid attention to systems in the

9   Pacific and/or in Europe. But starting with the Pacific

10 next year we will field some systems from a command and

11 control perspective, from a sensing perspective, and from a

12 non-kinetic effect perspective.

13   Currently what we are doing is we are nested under the

14 Secretary of Defense's TIGER team for counter-UAS as a part

15 of the service, and the Air Force has its own TIGER team at

16 the half level that has initiated operations to support the

17 wing commanders who are in the field today, if that problem

18 becomes a factor, and they do not have the relevant

19 capabilities at their wings. And Air Combat Command has

20 initiated its own TIGER team for the below-major-command

21 level to ensure that there is support for the commanders to

22 deal with this threat, as well.

23   General Harris: And it looks like, I was going to say

24 there are more things we could share with you in a different

25 forum.

1   Senator Cotton: Yeah, and I take all that, but some of

2   these drones are not going to be for the little C UAS,

3   right, but for the actual attack systems.

4   General Harris: Yeah, there is more we could share on

5   that in a separate discussion.

6   Senator Cotton: Yeah. I fear that, no one at this

7   table, but I fear that this Department of Defense is taking

8   its name a bit too literally, and there is not enough

9   thinking about how offense creates its own defense.

10   Senator Kelly: Yeah, that is what I thought you were

11   talking about, like what is the cheap offensive drone

12   program, and I know we need to talk about that maybe in a

13   different environment.

14   Secretary Hunter, I want to talk a little bit about the

15   B-21, if you can give us an update. It was good to see it

16   is going into low-rate initial production. Obviously, an

17   essential capability that we need to get a lot of ordnance

18   on target, on time. Any new developments, positive or

19   negative, since last year?

20   Mr. Hunter: Well, we are in the flight test program.

21   The flight test program is proceeding well. It is doing

22   what flight test programs are designed to do, which it is

23   helping us learn about the unique characteristics of this

24   platform, but in a very effective way. So we are working

25   our way through the test objectives that we have for the

1   platform, and I am encouraged with how that is progressing.

2   There are some key points still to come this year, and

3   looking forward very much to talking to you when we can come

4   back with data on those efforts and let you know where we

5   stand. But as of today, good progress being made, the

6   flight test program. We believe we are on track.

7   Senator Kelly: is this the first airplane that would

8   be considered to be fully digitally designed?

9   Mr. Hunter: Well, if you get to the people who are the

10   true experts on this topic there is always a point about,

11   oh, was this really digital, or how was this done. I would

12   say it is the first aircraft where it is far more digital

13   than not, that you can say that we have taken where we are

14   at this stage of production and moving towards fielding.

15   Senator Kelly: And can you attribute the timeline, and

16   I imagine the relatively shorter timeline, in getting this

17   airborne and starting flight tests to the fact that it was

18   digitally designed?

19   Mr. Hunter: I think it has helped us with being as on

20   track as we are to demonstrating that the aircraft that we

21   have built to test is meeting our requirements. So I think

22   higher fidelity, a higher likelihood of success.

23   There were other things that we did that contributed,

24   as well, which is we had quite a discipline in setting

25   requirements and looking for mature technology. So a lot of

1   good process things, but digital has been a key enabler,

2   especially on the software side. So this platform is

3   somewhat unique in the maturity of the software that we had

4   available when the aircraft came out of the factory.

5   Senator Kelly: One capability that is critical for the

6   system is the LRSO. Could you give us an update on where we

7   are? Is it on track?

8   Mr. Hunter: It is tracking well. The program is

9   definitely on track to meet its timelines and deliver to the

10   warfighter need date. And we are also doing well on cost

11   for that program, as well.

12   Senator Kelly: Right. Thank you, Secretary Hunter.

13   General Moore, in my opening statement I mentioned my

14   concerns that the Air Force plans to truncate the HH-60

15   Whiskey program. It would leave the Air Force roughly 25

16   percent short of its original plan to modernize the combat

17   search and rescue capability of the fleet. So I worked to

18   add 10 aircraft last year to help alleviate the situation.

19   So for General Moore or General Spain, why do you

20   believe that truncating the HH-60 Whiskey program will be an

21   acceptable risk?

22   General Moore: Sir, the HH-60 Whiskey was designed and

23   purchased for warfare in the desert. Over the distances

24   that we see in the desert and with the threat profile that

25   we see it is highly effective in that AOR. It also does

1   other good work. The HH-60 Whiskey will support manned

2   space flight. It will support search and rescue inside the

3   CONUS. But we have enough aircraft to do all of those

4   missions.

5   When you then translate to the highly contested

6   environment, I do not know that any of us think that we want

7   to be flying around the Pacific in a machine that refuels at

8   115 knots behind a C-130. It is just not the combat search

9   and rescue machine that we need for the highly contested

10   environment.

11   So for what we do need and for the great work that the

12   HH-60 Whiskey can do, we have plenty of them. We do not

13   need any additional aircraft to support combat search and

14   rescue in the Pacific. Personal recovery, as you know,

15   certainly from many years of service, is a service

16   responsibility, and there are literally thousands of

17   aircraft in the DoD that can perform personnel recovery.

18   Senator Kelly: So you are planning on PJs out of a C-

19   130, that kind of rescue in INDOPACOM?

20   General Moore: That could be one of the options. I

21   think that we will have to look at all of the relevant

22   options. I think CV-22 could play a role here. I think

23   there are several things that could be a part of personnel

24   recovery. But for combat search and rescue, doing that in a

25   highly contested environment with HH-60 Whiskeys, I do not

1   see that that is a path that leads us to success. And for

2   what the HH-60 Whiskey can do, we have plenty.

3   Another facet of this is as those aircraft continue to

4   be added, in order for us to bring them into the Air Force,

5   particularly if we are bringing them in as mission aircraft,

6   we have had 10 added in the last 2 years. If another 10

7   were to be added, the bill for the FYDP for the Air Force to

8   bring those aircraft in would be nearly $1 billion.

9   So there is a balance here that we need to strike with

10   other Air Force priorities, and this is not where we would

11   put incremental investment dollars. There are lots of other

12   higher-priority things. This is just not it.

13   We are not unappreciative, and we understand your

14   perspective. I have heard you say that combat search and

15   rescue is a moral imperative. We do not disagree with that.

16   We just do not think that is going to be done in the highly

17   contested environment with HH-60 Whiskeys.

18   Senator Kelly: Thank you. Senator Cotton?

19   Senator Cotton: I have got one more question here. I

20   want to talk a little bit about the CCA program a little bit

21   further. What do you expect the first delivery of a

22   Collaborative Combat Aircraft that is operational?

23   Mr. Hunter: So what we are anticipating is operational

24   units ready to operate in the later 2020s, with production

25   aircraft that are delivered and ready for operations.

1   Senator Kelly: Have you given any thought to, as we go

2   and fly training missions with pilots in NGAD, certainly

3   there will be times that you would want a full-up complement

4   of however many CCA aircraft would be in whatever the strike

5   package would look like. I mean, that certainly does make

6   sense. But from a cost perspective, you have got to also

7   maybe see a scenario where you could fly NGAD in a training

8   environment without the associated CCA, and, at the same

9   time, simulate them. Is that part of the program? It was

10   something I was thinking about today as, I think it was

11   Senator Peters was asking his questions, that you would have

12   within the airplane itself, within NGAD, have some kind of

13   simulation mode so you are communicating with some CCAs, but

14   they are actually not really out there.

15   Mr. Hunter: There is absolutely a plan to have that as

16   a capability, that CCAs will be able to contribute. We have

17   talked about the joint simulation environment. We need to

18   have CCAs represented in that. That is absolutely part of

19   our plan.

20   And as you suggest, Senator, the way in which one

21   trains for the CCA could look very different from the

22   traditional training, because the capabilities, what the

23   pilot has to do to interact with the CCA, in operations they

24   may not actually see those aircraft. They may not be within

25   visual range.

1   So it is potentially going to look different from what

2 we are used to, and we are thinking that through as we work

3 into the CCA capability and with the experimentation that

4 the Experimental Operations Unit is going to be doing.

5 Thinking through those issue, how does it work best, not

6 just for operations but also for training and sustainment.

7   Senator Kelly: This is a technological leap that we

8 are about to take here, and to get there we are going to

9 have to divest some systems that today can deliver ordnance

10 on target. I am all for innovation, and I think it is one

11 of the things we do well as a country, and I think we have

12 to out-innovate our adversaries.

13   But do you worry about maybe we get to a certain point

14 and realize this is not going to work as well as we thought,

15 and then we went too far down the road, and we have divested

16 of certain capabilities? Or are you starting to feel -- and

17 I know there has been some simulation done on this, some

18 testing -- are you starting to feel as if we are going to

19 get there and we can make this work?

20   Mr. Hunter: I have a very high confidence that the CCA

21 capability will be a significant increase in our overall

22 capability. But I think to your point, we will learn how to

23 best use these assets and what exactly they can and cannot

24 do. But let me defer to General Spain on that.

25   General Spain: Senator Kelly, operationally the CCA

1   program, as it is currently moving down its path, gets us to

2   a place where some of the risks that we are taking with

3   manned platforms can be mitigated to a degree in less

4   survivable platforms down the road in highly contested

5   environments.

6   The other part of this that we are doing as pathfinders

7   is in the training environment. So from an undergraduate

8   pilot training perspective, we are pursuing augmented

9   reality technology, artificial intelligence technology that

10   can be embedded into the synthetic environment, potentially

11   in the joint simulated environment specifically, to enable

12   this capability down the road and enable the ability to

13   train with it at a high end, in a relevant environment that,

14   to your point earlier, allows our air crew to wring out the

15   systems, both the systems and their tactics, techniques, and

16   procedures, in any relevant environment that we can no

17   longer emulate and lifeline.

18   So we will have elements that are preserved for a

19   lifeline that we still need to train to and put pressure on

20   humans in cockpits to be able to do that and get to the

21   skill sets required in those mission areas from a cockpit.

22   But better we can, and the more we can bring this technology

23   down the road to create synthetic targets that they are

24   flying against, where the TTPs are not observable out in

25   live fly, the better off that we will all be.

1   Senator Kelly: All right. Thank you, General.

2   Anything further anybody would like to share? Anything you

3   feel we need to know?

4   [No response.]

5   Senator Kelly: All right. Well, thank you. Senator

6   Cotton, anything else?

7   [No response.]

8   Senator Kelly: Okay. This hearing is adjourned.

9   Thank you.

10   [Whereupon, at 5:26 p.m., the subcommittee was

11 adjourned.]

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