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Before the

Subcommittee on Airland

COMMITTEE ON
ARMED SERVICES

UNITED STATES SENATE

HEARING TO RECEIVE TESTIMONY ON ARMY
MODERNIZATION IN REVIEW OF THE DEFENSE
AUTHORIZATION REQUEST FOR FISCAL YEAR 2017
AND THE FUTURE YEARS DEFENSE PROGRAM

Tuesday, April 5, 2016

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5 Tuesday, April 5, 2016
6

7 U.S. Senate
8 Subcommittee on Airland
9 Committee on Armed Services
10 Washington, D.C.
11

12 The subcommittee met, pursuant to notice, at 2:30 p.m.
13 in Room SR-232A, Russell Senate Office Building, Hon. Tom
14 Cotton, chairman of the subcommittee, presiding.

15 Subcommittee Members Present: Senators Cotton
16 [presiding], Inhofe, Wicker, Rounds, Ernst, Sullivan,
17 Manchin, Gillibrand, Blumenthal, Donnelly, and Heinrich.
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1 OPENING STATEMENT OF HON. TOM COTTON, U.S. SENATOR
2 FROM ARKANSAS

3 Senator Cotton: The Airland Subcommittee convenes
4 today to hear testimony about Army modernization to review
5 the defense authorization request for fiscal year 2017 and
6 the Future Years Defense Program.

7 I welcome our witnesses, Lieutenant General Mike
8 Williamson, principal military assistant for acquisitions;
9 Lieutenant General John Murray, deputy chief of staff for
10 Army programs; Lieutenant General Joseph Anderson, deputy
11 chief of staff for operations, plans, and training;
12 Lieutenant General H.R. McMaster, director of the Army
13 Capabilities Integration Center.

14 Thank you each for your dedicated service to our
15 nation.

16 In many hearings, the full committee has heard about
17 some of the most diverse, complex, and dangerous threats to
18 our national security since the end of World War II.
19 Russia occupies land in three countries and routinely
20 probes NATO allies, China is building and militarizing
21 islands out of the sea, North Korea is testing nuclear
22 weapons and missiles, and Iran is running wild across the
23 Middle East. But instead of strengthening our forces
24 against these threats, we have seen sustained cuts to our
25 military's force structure, modernization, and readiness.

1 Army Chief of Staff General Mark Milley often states
2 that readiness is his number-one priority. It is hard for
3 anyone who has led soldiers in combat to disagree, just as
4 the moms and dads of more than 186,000 soldiers deployed in
5 over 140 countries could never disagree. But we cannot
6 afford to shortchange modernization. Today's modernization
7 is tomorrow's readiness.

8 As we explore the Army's modernization strategy today,
9 I am particularly interested to explore how the Army is
10 using its new acquisition authorities in the creation of a
11 Rapid Acquisition office. In its understandable focus on
12 technological breakthrough, I wonder if the Army has moved
13 quickly enough to adopt proven technology already possessed
14 by our allies and adversaries alike. In many cases, the
15 desired technology may already exist in the private sector
16 and may be within the Army's grasp. I will offer three
17 examples.

18 First, active protection systems to protect vehicles
19 from close-in threats like rocket-propelled grenades are
20 near completion in Israel, fielded in Germany and Russia,
21 but the U.S. is still in the science-and-technology phase.

22 Second, the Distributed Common Ground System, or DCGS,
23 remains beset by problems. Last year, Lieutenant General
24 Williamson testified before this subcommittee that the
25 completeness of the DCGS program is what makes it so

1 valuable and predicted that as we go into the May time
2 frame where we go through our next set of evaluations, I
3 think you will see a completely different perception of how
4 that tool is provided.

5 Unfortunately, a year later a report by the Director,
6 Operational Test and Evaluation indicates that DCGS is not
7 a functional mission command or intelligence analysis tool,
8 and that even under laboratory conditions, soldiers and
9 commanders "did not consider DCGS to be very helpful for
10 the fight" and sought PowerPoint and pencil-and-paper
11 workarounds even when commercial, off-the-shelf solutions
12 are potentially available.

13 Third, the global response force typically housed in
14 the 82nd Airborne needs an enhanced tactical mobility
15 program. In plain English, they need four-wheelers and
16 other all-terrain vehicles to get from the drop zone to the
17 front lines. This requirement was demonstrated in 2012 and
18 approved in 2014. Here we are in 2016 when any farmer or
19 deer hunter in Arkansas could have gone and bought one at a
20 local dealer.

21 In addition, some issues sit at the intersection of
22 modernization and readiness. I am concerned, for example,
23 about the maintenance and modernization of theater activity
24 sets and the Army's pre-positioned stocks to be used by
25 rotating units or to support contingencies.

1 Likewise, the subcommittee is curious about the Army's
2 plans to implement the Associated Unit pilot program in
3 which active Guard and Reserve units will be paired up to
4 train and potentially fight together. In both cases,
5 modernization could be disjointed and readiness may suffer
6 without a well-considered plan.

7 Finally, I am sure committee members will want to
8 examine the recommendations of the National Commission on
9 the Future of the Army. The Army has suggested that about
10 50 of the 63 Commission recommendations are very easy to
11 implement at no cost or some of which the Army has already
12 begun implementation. That is good news.

13 But, according to Army, another 15 significant
14 recommendations will require a detailed analysis and are
15 expensive to implement. For instance, the Army's FY '17
16 unfinanced requirements list includes nearly \$1.2 billion
17 in funding to implement recommendations on aviation
18 modernization, retain an 11th Combat Aviation Brigade, and
19 retain four National Guard AH-64 attack battalions. That
20 is not such good news.

21 Again, I thank our witnesses for their service and for
22 their appearance today. I look forward to the discussion.

23 Senator Manchin?

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1 STATEMENT OF HON. JOE MANCHIN, U.S. SENATOR FROM WEST
2 VIRGINIA

3 Senator Manchin: Thank you, Mr. Chairman, and thank
4 all of you for your service and for helping us navigate
5 this difficult, challenging time.

6 I want to thank the chairman for holding this
7 important hearing on Army modernization. I would also like
8 to welcome your witnesses to today's hearing and thank them
9 for their testimony and their service to our country.

10 The U.S. military remains the most ready and capable
11 fighting force in the world. However, after nearly 15
12 years of constant military operations, it is important that
13 we take a step back and assess the current state of our
14 military force and the threats that we face at home and
15 abroad.

16 While the focus of today's hearing is on the Army's
17 strategy for modernization, I think it is also imperative
18 that we acknowledge the other challenges facing the Army,
19 including the importance of rebuilding readiness in the
20 regular Army, the Army National Guard, and the Army
21 Reserve.

22 The Army has made rebuilding readiness their number-
23 one priority in fiscal year budget '17 request. The high
24 operational tempo for the past decade-and-a-half has
25 consumed readiness levels as quickly as they could be

1 reconstituted. And the demands on our military force will
2 not diminish any time in the near future.

3 Coupled with the devastating impact sequestration has
4 had on readiness accounts, I commend the Army for
5 prioritizing readiness in this year's budget and ensuring
6 that our military are trained and ready to respond to any
7 contingency at a moment's notice. And as the committee
8 begins their consideration of FY '17 National Defense
9 Authorization Act, it is important that we protect these
10 investments in the readiness accounts from any misguided
11 cuts.

12 While the readiness of the force is vitally important,
13 we cannot shortchange our investments in modernization.
14 However, in order to meet the top-line funding levels set
15 by the 2015 bipartisan budget agreement, the Army had to
16 reduce funding for some procurement and modernization
17 efforts. As General Daniel Allyn, vice chief of staff of
18 the Army, testified last month before the Senate Armed
19 Services Subcommittee on Readiness, this year's budget
20 request is insufficient to simultaneously rebuild decisive
21 action readiness and modernize. To ensure sufficient
22 readiness for the demands of today's operating environment,
23 the Army must assume risk by reducing end strength,
24 delaying modernization, and deferring infrastructure
25 recapitalization and investment.

1 The Army's fiscal year 2017 budget request included
2 \$22.6 billion for the Army's modernization efforts. Of
3 this amount, \$15.1 billion was requested for procurement
4 and \$7.5 billion for research, development, test, and
5 evaluation activities. However, the total funding for
6 procurement in FY '17 request is \$1.3 billion less than
7 enacted the amount in fiscal year '16.

8 In particular, the Army's aviation portfolio was hard-
9 hit by these reductions. The aviation portfolio accounts
10 for approximately 25 percent of the Army's entire
11 procurement budget, and the FY '17 budget request reduced
12 procurement quantities for the AH-64 Apache, the UH-60
13 Black Hawk, and the CH-47 Chinooks. I would like to know
14 if our witnesses feel confident that the reduction in these
15 procurement accounts will not adversely impact these
16 programs by adding substantial cost to the overall program
17 or have an unintended consequence of reducing the readiness
18 of our aviation units.

19 At the same time, the Army has had a poor track record
20 with their modernization efforts. Many programs have been
21 truncated or canceled, usually after billions of dollars
22 had already been invested. Last year, this committee gave
23 new acquisition authority to the service chiefs with the
24 intent that this would improve the acquisition process.
25 And I look forward to hearing from our witnesses on their

1 thoughts on this new authority and what further actions the
2 Army needs to take to improve its acquisition processes.

3 Earlier this year, the National Commission on the
4 Future of the Army released their comprehensive study on
5 the roles and structure of the Army. I was pleased with
6 the Commission's report and believe it was thorough and
7 thoughtful.

8 With regards to the Army's Aviation Restructure
9 Initiative, the Commission recommended that the active
10 component retain 20 battalions of Apache helicopters, each
11 equipped with 24 aircraft, while providing the Army
12 National Guard with four battalions of Apache helicopters,
13 each equipped with 18 aircraft.

14 While the Commission struck a balanced compromise, the
15 fact remains that in order to execute the Commission's
16 recommendations for ARI, it will require substantial
17 funding. According to the Army's unfunded requirements
18 list, the Army would need approximately \$1.2 billion in
19 additional funding to implement the Commission's
20 recommendation of fiscal year '17, as well as additional
21 funding above that amount over the next several years.

22 While it is my understanding that General Milley is still
23 reviewing the Commission's proposal, I would welcome any
24 comments from our witnesses on this issue.

25 Finally, we must ensure our men and women in uniform

1 remain the best trained, the best-equipped fighting force
2 in the world. In light of the Budget Control Act and the
3 Army's constrained top-line funding levels, it becomes even
4 more imperative that every dollar we spend on the military
5 is spent efficiently and effectively so that our soldiers
6 can complete their mission, win our nation's wars, and
7 return home safely.

8 Again, thank you, Mr. Chairman, for holding this
9 hearing, and I look forward to hearing from our witnesses.

10 Senator Cotton: Thank you, Senator Manchin.

11 We will turn to our witness now, General Williamson.

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1 STATEMENT OF LIEUTENANT GENERAL MICHAEL E.
2 WILLIAMSON, USA MILITARY DEPUTY AND DIRECTOR, ARMY
3 ACQUISITION CORPS, OFFICE OF THE ASSISTANT SECRETARY OF THE
4 ARMY FOR ACQUISITION, LOGISTICS, AND TECHNOLOGY

5 General Williamson: Chairman Cotton, Ranking Member
6 Manchin, and distinguished members of the subcommittee on
7 Airland. Thank you for the invitation to discuss the FY
8 '17 budget request and Army equipment modernization. I
9 respectfully request that our written statement be made
10 part of today's record.

11 Senator Cotton: Without objection.

12 General Williamson: Mr. Chairman, today's Army
13 prioritizes readiness while continuing to assume risk and
14 modernization. Due to resource constraints, we simply
15 cannot modernize the entire force with the most modern
16 equipment. Therefore, we must do so selectively. Our
17 resources are focused on protecting science and technology
18 so the next generation of breakthrough technologies can be
19 rapidly applied and exploited with our existing and our new
20 systems.

21 We are also investing in targeted new systems to fill
22 critical operation requirements and capability shortfalls.
23 These systems include the armored multi-purpose vehicle,
24 the joint light tactical vehicle, and fixed-wing aviation.
25 We are incrementally modifying and modernizing existing

1 systems to increase capabilities and to extend service
2 life. These systems include the Paladin, the Black Hawk,
3 the Apache and Chinook helicopters, as well as our unmanned
4 aviation.

5 We also have a requirement to reset and sustain and
6 return our existing Army equipment to the required level of
7 combat capability so that we will be prepared to fight in
8 any immediate contingencies.

9 And then finally, we are divesting excess equipment
10 across the entire Army to reduce and eliminate sustainment
11 costs. Systems currently being divested include the M113
12 armored personnel carrier, the TH-67 training helicopters,
13 as well as the Kiowa, the Kiowa Warrior, and the UH-60
14 Alpha Black Hawk fleets.

15 Equipping is and will always remain a critical
16 component of readiness. We cannot put our soldiers at risk
17 by not providing them with the right equipment at the right
18 time and at the right place to accomplish their assigned
19 missions.

20 Mr. Chairman, with your permission I would like to
21 address just two other areas. First, reduction in the
22 Army's modernization account continues to present
23 significant challenges for the defense industrial base,
24 including our own organic industrial base. In developing
25 our equipment modernization strategy, we carefully assessed

1 risk across all portfolios to protect ongoing production
2 and to sustain the industrial base and to include the
3 preservation of key workforce skills.

4 Secondly, I want to take this opportunity to express
5 my appreciation to the members of the subcommittee for your
6 continued efforts to strengthen and enhance the acquisition
7 workforce. Our acquisition professionals are experienced,
8 well-educated, and well-trained. They are critical assets
9 in the Army's ability to design, develop, and deliver
10 needed capability to our soldiers.

11 Mr. Chairman and distinguished members of the
12 subcommittee, thank you for your steadfast and strong
13 support of the outstanding men and women of the United
14 States Army, our Army civilians, and their families. This
15 concludes my opening remarks.

16 [The prepared statement of General Williamson
17 follows:]

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1 Senator Cotton: General McMaster?
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1 STATEMENT OF LIEUTENANT GENERAL HERBERT R. MCMASTER,
2 JR., USA DIRECTOR, ARMY CAPABILITIES INTEGRATION CENTER;
3 DEPUTY COMMANDING GENERAL, FUTURES, UNITED STATES ARMY
4 TRAINING AND DOCTRINE COMMAND

5 General McMaster: Thank you, sir. Chairman Cotton,
6 Ranking Member Manchin, distinguished members of this
7 subcommittee, thank you for the opportunity to speak with
8 you today about the importance of ready land forces and the
9 enduring need to maintain a ready Army with sufficient
10 capacity and capabilities to secure our nation.

11 As Senator Cotton mentioned already, threats and
12 enemies are becoming increasingly capable, and our
13 competitive advantages that we have banked on over recent
14 years are narrowing. Due to reductions in the size of the
15 Army and decreased investments in modernization, as well as
16 the improved capabilities of potential enemies, the Army
17 risks losing qualitative overmatch in future conflicts.

18 With a 74 percent decrease in Army modernization total
19 obligation authority since 2008, risk to mission and
20 soldiers is increasing. All of today's conflicts are over
21 the control of territory, people, and resources. Because
22 the Army is foundational to the joint force, the increased
23 risk applies as well to joint operations, as well as to
24 soldiers and Army units. In particular, we must ensure
25 that combined arms units in our Army possess the mobility,

1 the firepower, and the protection to defeat the enemy and
2 establish control of land, resources, and populations.

3 Over the last 15 years of combat operations, our Army
4 has focused on winning against enemies in Afghanistan and
5 Iraq. We are behind, though, in modernization against
6 current as well as future threats. We have no current
7 major ground combat vehicle development program underway.
8 With current funding levels, the Bradley Fighting Vehicle
9 and the Abrams tank will soon be obsolete, but they will
10 remain in the Army inventory for the next 50 to 70 years.

11 Meanwhile, threats, enemies, and adversaries have been
12 modernizing rapidly. To mitigate mounting risk, our Army
13 is particularly concerned about developing future
14 capabilities in the following areas: combat vehicles,
15 future vertical lift, expeditionary mission command or
16 command-and-control capability, cross-domain fires, cyber
17 and electromagnetic activities, robotic and autonomous
18 systems, advanced protection as was already mentioned, and
19 soldier and team performance and overmatch in close combat.

20 The stakes are high. The combination of increasingly
21 dangerous security environment, reductions in the size of
22 the Army, decreasing investment in Army modernization, and
23 fiscal uncertainty have increased risk to the joint force
24 and to national security.

25 Mr. Chairman and distinguished members of this

1 subcommittee, thank you for the opportunity to speak with
2 you today. I look forward to your questions.

3 [The prepared statement of General McMaster follows:]

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1 Senator Cotton: General Anderson?
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1 STATEMENT OF LIEUTENANT GENERAL JOSEPH ANDERSON, USA
2 DEPUTY CHIEF OF STAFF OF THE ARMY (G-3/5/7)

3 General Anderson: Thanks, Mr. Chairman. Chairman
4 Cotton, Ranking Member Manchin, and distinguished members
5 of this committee, thanks for the opportunity to talk to
6 you about the Army's fiscal year '17 PBR as it pertains to
7 Army modernization. And thanks to all of you for your
8 continued support of our soldiers, our families, our
9 civilians, and our veterans.

10 As you know, the Army remains the world's decisive
11 land force. We are currently globally engaged with 187,000
12 soldiers in over 140 countries, while participating in
13 seven named operations and rotating forces through Europe,
14 the Pacific, and the Middle East. The Army remains the
15 foundation of the joint force, and we conduct diverse and
16 enduring missions. We will continue to invest in training,
17 equipping, and leader development while balancing resources
18 between readiness and strength and modernization.

19 We require long-term, sustained, and predictable
20 funding to meet our demands in today's security
21 environment. The 2015 BBA did provide some short-term
22 relief. While the budget provides some predictability, it
23 is insufficient to build full-spectrum readiness and
24 modernize our equipment at the same time. We assume risk
25 by reducing end strength, delaying modernization, and

1 deferring infrastructure enhancements to build readiness
2 for today's operating environment. These tradeoffs
3 mortgage our future readiness and increase the risk of
4 sending undertrained and poorly equipped soldiers into
5 harm's way.

6 I look forward to working with you to ensure that our
7 Army remains the premier land force in the world, and I
8 look forward to taking your questions. Thank you.

9 [The prepared statement of General Anderson follows:]

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1 Senator Cotton: General Murray?
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1 STATEMENT OF LIEUTENANT GENERAL JOHN M. MURRAY,
2 DEPUTY CHIEF OF STAFF OF THE ARMY, G-8

3 General Murray: Chairman Cotton, Ranking Member
4 Manchin, distinguished members of this committee, once
5 again, thank you very much for allowing me to testify today
6 on the Army's FY '17 budget request.

7 I would simply amplify a couple things that my
8 colleagues have already said and the chairman and ranking
9 member have mentioned several times, and that is the
10 fundamental issue the Army faces each and every time we
11 build a budget, and we are facing it right now as we build
12 a team budget, and that is how do you balance really the
13 three legs of the stool that we deal with when we talk
14 about how we apply our resources. That is near-term
15 readiness, that is really manpower or structure, and it is
16 modernization/capital investments. And it is the balancing
17 act between those three that we deal with every time we
18 build a budget.

19 This budget request in FY '17 clearly prioritizes
20 readiness. It is about a 5 percent increase in what we
21 have asked for in readiness over the '16 request. And at
22 the same time we are maintaining end-strength ramp on our
23 way down to 450, as directed, and so you pay for that with
24 modernization, capital investments in our installation. So
25 that is where the bill-payers are.

1 If you ask me if I am concerned about risk in this
2 budget, I would tell you no. I am more concerned about the
3 cumulative risk over the last 5 or 6 years because this is
4 exactly the way we have built budgets for the last 5 or 6
5 years. So I am more concerned about the cumulative effect
6 of the impact on the modernization accounts in our
7 installations than I am in particular one budget.

8 Once again, thank you for your steadfast support for
9 our soldiers, our families, our civilians, and our
10 veterans, and I very much look forward to taking your
11 questions.

12 [The prepared statement of General Murray follows:]

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1 Senator Cotton: Thank you all.

2 I want to return to a concept you all raised in
3 various ways. General Williamson, you talked about
4 assuming risk on modernization, selectively modernizing
5 targeted investments. General McMaster, you talked about
6 the future of the Army and the risk we face there. General
7 Anderson, you said we are assuming risk in modernization.
8 General Murray, you said that you are more worried about
9 the cumulative risk not just of this budget but 5 years of
10 budgets.

11 When we prioritize readiness, we are prioritizing the
12 training and the safety of the soldiers that we have in the
13 Army today downrange, which means that we are putting at
14 greater risk the soldiers that we are going to be sending
15 downrange in 5, 10, 15 years just to put it in the most
16 concrete terms. Is that fair?

17 General Anderson: It might be fair, Senator, but I
18 think the issue is as we watch the cycle, our job is to --
19 how we make sure from home station training, that is some
20 of the money you are seeing pulled for readiness out of
21 some of these programs to make sure they get better
22 opportunity at home. So before they go to one of the
23 training centers, be it at Fort Irwin, be it Fort Polk for
24 their validation exercises before they out from a training
25 perspective we are okay. The issue is going to be -- and

1 so far, as we keep doing that for all things Korea, for all
2 things Afghanistan, all things Iraq, elsewhere, we are okay
3 on a three-to-one cycle rotation.

4 The issue is going to be, though, as you allude to, is
5 what kit do they bring, as we watch in Europe and
6 elsewhere. And that is where, as H.R. mentioned, the
7 overmatch piece. That is the larger concern of the two.

8 Senator Cotton: General McMaster used the term
9 qualitative overmatch. Could you explain what you mean by
10 that?

11 General McMaster: Yes, sir. We are losing
12 qualitative overmatch over our enemies, and that has a lot
13 to do with increased enemy lethality and our inability to
14 keep pace in protection. You mentioned active protective
15 systems in that connection.

16 Also, we are seeing some disruptive technologies as
17 our enemies really are doing four things that we have to
18 keep up with. The first is they are evading our long-range
19 detection. Our ability to project power onto land from the
20 aerospace and maritime domains obviously is limited based
21 on enemy counter actions.

22 They are also, though, disrupting what they see as our
23 differential advantages, so evading us, disrupting our
24 capabilities. And we see that with cyber electromagnetic
25 capabilities that go after our networks in such a way that

1 we cannot rely on the precision strike capabilities that we
2 have been able to rely on over the years.

3 The other thing that we are seeing disrupted from an
4 enemy perspective, disruptive threats are tiered enemy air
5 defense capabilities. Russia has established air supremacy
6 over Ukraine from the ground, and so how do we contend with
7 that sort of environment but then also how do we develop
8 Army capabilities that have similar capabilities to those?

9 Other capabilities we see emerging are enemy unmanned
10 aerial systems, and we do not have an easy fix, a quick fix
11 for that now, and we need to develop countermeasures to
12 enemy UAS and swarm unmanned or remotely piloted aircraft
13 capabilities.

14 And what we see Russia put on display in eastern
15 Ukraine is the ability to combine these capabilities, to
16 skim social media with the cyber capability, to identify a
17 general target area then with UAS, and then to use massed
18 artillery fires. So we are outranged and outgunned by many
19 potential adversaries in the future in winning that sort of
20 deep fight against an enemy who has long-range
21 capabilities.

22 So those are some of the things that we are concerned
23 about, sir, and of course with the modernization budget
24 going down and we are trying to manage, you know, the
25 programs that are vital to Army modernization and we do not

1 have the flexibility really to invest in some of these key
2 areas where we see some new vulnerabilities or areas that
3 we have to go after with some urgency.

4 Senator Cotton: General Williamson, did you want to
5 respond?

6 General Williamson: I did, sir. I wanted to give an
7 example. So when General McMaster talks about competitive
8 advantage -- so I am a product of the '80s. I came in the
9 Army in the '80s. But one of the things I distinctly
10 remember was that we wanted to own the night. And so the
11 investment that we made in night vision capability and
12 laser capability gave us a competitive edge on the
13 battlefield.

14 But what has happened now, separate from a state
15 directing investment in something, what has happened now is
16 that access to technology, so your ability to go on the Web
17 and order something that in the '80s we spent lots of money
18 developing, our adversaries now have more access to things
19 like night vision, to communications equipment, and so the
20 investment for us is to always be one step ahead of them.

21 And the agility that you alluded to, the ability to
22 react quickly to new threats, to exploit new technologies,
23 that is the type of thing that we are looking for because
24 now the access to technology is so great.

25 Senator Cotton: I just think it is important that we

1 be very frank here and that we are not engaged in political
2 spin or military jargon. We are prioritizing readiness. I
3 do not disagree with that priority. We cannot send our
4 sons and daughters into combat today without 100 percent
5 confidence in their readiness. If you have a child in our
6 Army who is 20 years old, they are going to be prepared for
7 the battle downrange.

8 If you have a child who is 10 years old who is going
9 to be in the Army in 10 years, right now, their lives are
10 going to be a greater risk because we have systematically
11 underfunded our military and specifically Army
12 modernization programs, as General Murray said, for the
13 last 5 years.

14 Senator Manchin?

15 Senator Manchin: The definition of insanity is pretty
16 well defined, I think, and a lot of people back home in
17 West Virginia ask and they wonder why we are cutting our
18 military back when they see a lot of bad things happening
19 around the world, more challenges than ever before. Matter
20 of fact, I think it is more challenging now than it was
21 when we had a full-fledged cold war going on. I have a
22 hard time explaining why we do this, and it seems to me
23 with a rapidly changing world that our military is not
24 changing with it.

25 So I guess I would ask, can you tell the subcommittee

1 what exactly are we sacrificing by now focusing more on
2 readiness than Army modernization? And does the Army have
3 the capability and force structure to confront our modern-
4 day threats? And can you discuss some of the differences
5 in force structure and capability between today's Army
6 considering today's challenges, Russian aggression, Syria,
7 et cetera, and the Army at the end of the Cold War? So,
8 you know, I guess hindsight being 20/20, what would we
9 change? What should we be doing different? So --

10 General McMaster: Sir, I thought I would maybe talk
11 about our projections in the future and then turn it over
12 to Joe and Mike who can talk more about --

13 Senator Manchin: Okay.

14 General McMaster: -- today and the demands on the
15 force today.

16 What we see is -- our organization is charged with
17 thinking about future conflict, learning in a focused,
18 sustained, and collaborative manner about the future under
19 our Force 2025 Maneuvers, analyzing what we are learning,
20 and then implementing changes. To exactly your point, we
21 cannot remain static --

22 Senator Manchin: Right.

23 General McMaster: -- if the risks are increasing and
24 the security environment is changing. And so what we have
25 determined and what we believe is that the trend that has

1 allowed smaller and smaller forces to have a greater and
2 greater impact over larger areas on land is reversing. And
3 so what allowed us to do that was air supremacy, the
4 ability to project power onto land. That is increasingly
5 challenged now.

6 Our enemies are becoming more and more capable based
7 on the technology transfer that General Williamson
8 mentioned. They are moving into restrictive and urban
9 terrain, and so it is very difficult to solve these complex
10 land-based political human problems from standoff range or
11 from offshore.

12 And so we believe that the demand for capacity, scale
13 of land forces is not only going up today, which Joe
14 Anderson will talk to you about, but in the future is going
15 to continue to go up. And so what we see, sir, are trends
16 that indicate that our Army in the future risk being too
17 small to secure the Nation.

18 You asked for a couple historical examples. One
19 example is after the end of the Cold War, 1994, we did the
20 bottom-up review --

21 Senator Manchin: Right.

22 General McMaster: -- to see what size the Army should
23 be. And remember, the world at the time -- I mean, the
24 Soviet Union had broken apart, was not a military threat,
25 the Chinese military was not modernized, North Korea was

1 not a nuclear power, there was no terrorist proto-state in
2 the greater Middle East, Iran was not the threat that it is
3 today, and the bottom line number for the active Army at
4 the time was 484,000. Now, the active force is going down
5 to 450,000.

6 Another example is during the height of the wars in
7 Afghanistan and Iraq our Army had 170,000 soldiers deployed
8 to both those conflicts. Of those, 53,000 were Reserve
9 components, so 117,000 in an active Army of 570,000. And
10 you will recall that some of the statements made at the
11 time were the Army is straining to the point of breaking.
12 Now, to go down to an Army of 450 with increasing
13 commitments that Joe is going to talk about, could we
14 sustain 170,000 soldiers overseas for contingency, which is
15 not really a historically high number for armed conflict?
16 I think we could not do it, sir.

17 And so I do believe that we are increasing risk for
18 modernization as we are talking about here, but to your
19 question, also, as we look to the future, increasing risk
20 in terms of the size of the total Army going down to the
21 980 number.

22 And Joe can talk to you about how today we are having
23 a harder and harder time for the smaller force to keep pace
24 with increasing demand to deter conflict and to respond to
25 and resolve crises overseas.

1 General Anderson: So the challenge, sir, as H.R.
2 talks about, is how do you fill all the requirements? The
3 COCOM demand is filled 64 percent by the Army, the emergent
4 demand is 46 percent of the Army, and that is on the rise,
5 while the COCOM demand is plateauing. But the problem with
6 the emergent demand in Iraq, Europe, they become enduring.
7 They do not become one-time-in like Liberia and out. They
8 become enduring requirements.

9 In an unclassified mode, though, here as we talk BCTs
10 is the simplest formation to use for comparison. The
11 bottom line --

12 General McMaster: Brigade Combat Team

13 General Anderson: -- Brigade Combat Team between
14 North Korea, between Russia, between the homeland and the
15 counterterrorism fight, that adds up to a 56 BCT
16 requirement, and that is exactly what is in the inventory.
17 I am talking that is both AC and Guard. So every single
18 piece, every particular unit under the Defense Planning
19 Guidance, deny, defeat, homeland, counterterrorism, there
20 is the math.

21 So all that simultaneity, you have to assume that is
22 the case, which is what the DPG tells you, the Defense
23 Planning Guidance tells you. There is the inventory. So
24 that is the challenge we have just in sheer end strength,
25 as H.R. gave you the 450 number, 335 in the Guard, 195 in

1 the Reserves. That is the math.

2 Senator Manchin: General Murray, I know you wanted to
3 --

4 General Murray: No, sir, I was just going to try to
5 answer the question you asked up front, and that is what do
6 we sacrifice to pay for readiness in FY '17, and it is
7 simple math. So it is the aviation modernization that one
8 of you talked about upfront, it is we will continue to
9 delay repair of critical infrastructure on installations,
10 which we have been doing for years, and our MILCON budget
11 is as low as it has been for a very, very long time. So
12 that is how we are paying for the upfront readiness. It is
13 really in the aviation portfolio, it is the sustainment of
14 facilities, and the MILCON account.

15 Senator Manchin: I am sorry, my time is up.

16 General Anderson: Senator, if I could just pile on
17 real quick, the readiness of installation affects the
18 training, one-station training, and that is also being
19 underfunded.

20 Senator Cotton: Senator Inhofe.

21 Senator Inhofe: You know, I just wish that the
22 general public could hear what you have been saying. You
23 know, one of the problems that we have is we have a lot of
24 politicians out there talking about how we have the best-
25 funded and the best-prepared talking about -- the general

1 public does not know the problem that we are having right
2 now. We know. Everyone around this table knows, and it is
3 disturbing.

4 And again, I point the finger at a lot of people are
5 just not -- a lot of people do not realize -- I often say I
6 looked wistfully back at the days of the Cold War, you
7 know. Things were predictable in those days. Now, we have
8 people, crazy people, North Korea, with capabilities that I
9 think are greater than our intelligence tells us they are.
10 So, yes, we are in the greatest and most threatened
11 position we have ever been in, in my view.

12 General Williamson, you and I have talked before about
13 this disastrous history of our ground fighting vehicles.
14 And remember, going back -- and I was actually in the House
15 when this first -- and speaking of how sometimes things are
16 not projected properly, the last year I was in the House on
17 the House Armed Services Committee, we had someone
18 testifying before our committee saying that in 10 years we
19 would no longer need ground troops.

20 Now, you do not know what you are going to have to
21 have in the future, but the chairman is right when he says
22 we have got to prepare right now for those kids who are 10
23 years old because this is what -- they are the ones who are
24 going to be paying for what we are not doing right.

25 But you remember very well, General Williamson, when

1 we went into -- they canceled the program after -- I think
2 it was an \$11 billion program, the Crusader program, but
3 they actually spent \$2 billion on it. And in 2002 they cut
4 it. And normally, I like to blame Democrats but this was
5 not the Democrats. This was -- and in fact, it was so
6 serious that J.C. Watts, a Congressman from Oklahoma,
7 actually retired as a result of that he was so upset with
8 that.

9 Then, along came the Future Combat System, you know,
10 the FCS. And, yes, this is going to replace it and they
11 started spending money on that, and we all know what
12 happened. They stopped that program in '09. Now, the
13 closest thing we have is going along well now called the
14 Paladin PIM, the PIM program.

15 Now, what I would like to extract from you, not that
16 you could control uncontrollable things in the future, but
17 that you would do everything in your power not to let that
18 program have the same fate as the other two programs before
19 that.

20 As this happens, we are now dealing with things --
21 sure, you have modernized some of these things. Some of
22 these are World War II vehicles we are fighting with now.
23 So I would like to have you tell this committee, General
24 Williamson, your evaluation of the PIM program, is it on
25 track now, and your thoughts on that program.

1 General Williamson: Senator, absolutely. So my
2 starting point would be some immediate history. I would
3 tell you there are two programs on the combat vehicle side
4 that I would tell you I think are outstanding programs.
5 The first one would be Paladin PIM, and I would like to
6 talk about that for a second. And the other one would be
7 JLTV.

8 So on Paladin PIM, as you alluded to, we made some
9 decisions in terms of reprioritization, which left us with
10 a critical gap, and what we were facing was really when you
11 canceled the non-line-of-sight cannon, you ended up not
12 having an ability to deliver fives. And so the investment
13 that was made in the Paladin PIM program, I think, was
14 significant because we were not only going to face that gap
15 but we were really pushed up against obsolescence of
16 existing systems.

17 And so today, that program, which went into
18 production, low rate, we have produced 18 of those systems,
19 both the support vehicle and the Paladin itself. We have
20 delivered 12 of those, and we have six awaiting delivery.
21 That program right now is in production qualification, and
22 all that means is that they are being produced on the line
23 and all we are doing is guaranteeing the performance, the
24 reliability, the repeatable processes. And to date, it has
25 gone so well that we are now looking at awarding the full

1 rate production contract so that that can take effect in
2 '17 where we will buy out the remainder, which is roughly
3 500 plus systems.

4 So, sir, if you remember in the beginning of my
5 opening statement we talked about some systems we buy new,
6 some we have to modernized and modify, and this is an
7 example where we have been successful in modernizing a
8 system, bringing additional capability, and filling a gap
9 for the Army.

10 Senator Inhofe: Okay. That is a very optimistic
11 answer. I appreciate that very much. And I think you go
12 on to say that you will continue to make sure that within
13 your power nothing is going to come and deliver a fate to
14 the PIM system.

15 General Williamson: Yes, sir. In fact, what I would
16 offer -- and it goes back to Senator Manchin's comment. So
17 what I would argue today is that the Army is modernized.
18 We are modern, and as you look at our '17 budget request,
19 it includes modernization. What really affects us is that
20 we have to slow down modernization, so as priorities come
21 up, whether it is readiness or something else, we end up
22 stretching out or delaying modernization, which adds cost
23 in the long run. And so our goal is to never let that
24 happen --

25 Senator Inhofe: Good. Good.

1 General Williamson: -- deliver to a schedule and to
2 reduce cost and find efficiencies where possible.

3 Senator Inhofe: Well, good. I appreciate that. I
4 know my time is expired, but let me just ask General
5 Anderson if he would, for the record, respond. The reports
6 show that some 250 vehicles are going to be needed for this
7 European program over there, and I would kind of like to
8 see a breakdown as to what they are for the record.

9 General Anderson: Sure. The breakdown --

10 Senator Inhofe: Oh, I mean, you could answer in the
11 record if you want to. I do not want to use up all the
12 time.

13 General Anderson: Okay. Okay.

14 Senator Inhofe: Good.

15 [The information referred to follows:]

16 [SUBCOMMITTEE INSERT]

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1 Senator Cotton: Senator Heinrich?

2 Senator Heinrich: Thank you, Chairman Cotton.

3 General Anderson and General Murray, I want to sort of
4 return to some of these tradeoffs that are being made
5 between modernization and readiness and sort of tell the
6 story of one particular facility and then talk more broadly
7 and ask you about just how far we are taking those
8 tradeoffs.

9 Last year, our 47-year-old communications center and
10 network hub that was built actually in 1962 at White Sands
11 Missile Range caught fire, and the facility is still relied
12 upon to provide critical support for modern missile
13 testing. The near meltdown and fire on July 2 of 2015
14 nearly cascaded into a full of electrical fire. And it is
15 symptomatic of the stress that we are seeing on aging
16 facilities and shortfalls in the Army's larger
17 modernization efforts that go with these funding levels.

18 Despite the urgency to replace that particular
19 facility, a MILCON project -- and you talked a little bit
20 about how we have been underfunding MILCON -- was not in
21 this year's budget, nor is it planned to be requested by
22 the Department until fiscal year 2019.

23 So more broadly, I want to ask you, how are we making
24 sure that Army test ranges are appropriately funded or at
25 least not pushed, you know, beyond what we can bear and

1 that modern infrastructure that is going to be necessary to
2 meet the Army's acquisition requirements is being met? And
3 how are we working to make sure that the workforce behind
4 that at our Army test ranges is being maintained as well?

5 General Anderson: What I was specifically talking
6 about, Senator, was the two parts of the installations,
7 base operations sustainment and then sustainment
8 restoration modernization, SRM and BOS. That is the stuff
9 that has been critically underfunded across all
10 installations. I cannot give the specifics of the test
11 range typically running through installation. I just
12 command about 50 percent for the last 3 years.

13 So the issue is how are you catching up and the test
14 facilities would fall on the same category. MILCON,
15 though, as you know, compete in a whole different --

16 Senator Heinrich: Right.

17 General Anderson: -- pot --

18 Senator Heinrich: Yes.

19 General Anderson: -- based on what the priorities are
20 from the readiness projection platforms, two test
21 facilities, two labs, et cetera. So I would have to get
22 back to you on how that was being broken out to compete --

23 Senator Heinrich: Yes.

24 General Anderson: -- but this is the rolling
25 reoccurring phenomenon we are dealing with now for the last

1 3 plus years underfunding in all these facilities and
2 capabilities --

3 Senator Heinrich: Right.

4 General Anderson: -- for a myriad of reasons.

5 Senator Heinrich: And I think that with MILCON in
6 particular, even though we are definitely making tradeoffs,
7 we tend to have a long-term plan that seems to be able to
8 mitigate a lot of that risk. I would just bring up the
9 issue of the question of, are we adequately sourcing and
10 providing for infrastructure at our test ranges? And
11 sometimes I think those particular issues do not get
12 addressed the same way that some of our other bases and
13 facilities do get addressed in the MILCON process.

14 General Anderson: I would say the operating force,
15 the guys that go and go do things, do get prioritized based
16 on what installation you are talking about.

17 Senator Heinrich: Great. That is great. I have got,
18 General Williamson, a question that is a little different
19 in that if you have been following some of the stories
20 coming out of the IAEA, some of the stories in the open
21 press regarding theft of nuclear materials, the IAEA
22 recently warned the international community about this
23 increased danger of potential nuclear incidents because we
24 have seen theft and misuse of nuclear materials worldwide.
25 We have seen some incidences in Mexico and Iraq.

1 Such an incident at home or abroad would have real
2 implications for servicemen and -women who would have to
3 respond who would be at risk for radiation exposure or
4 something where they do have to respond to that. So one of
5 the things that I think is essential is that all of our
6 soldiers have the most up-to-date dosimeter technology to
7 be able to deal with something in the case that they had to
8 detect and combat these sorts of threats.

9 Is it true that the majority of the devices that we
10 use to measure radiation exposure for our soldiers were
11 developed back in the Cold War with 1960s technology and
12 are lacking the ability to relay information the way that
13 modern information is typically relayed quickly and
14 precisely in a network sort of situation?

15 General Williamson: Sir, you are correct. The
16 technology that was employed in our existing systems -- and
17 specifically we have an ANPR 75 dosimeter, and that is what
18 we use within the Guard, the Reserve, and the Active Duty
19 forces. It is an effective system.

20 But I would tell you that after the disaster in Japan,
21 as we helped the Japanese Government, one of the things
22 that we discovered was I will call it a gap. So as you
23 looked at the ability to read the response, what we found
24 is that that was all kind of manual.

25 Senator Heinrich: Right.

1 General Williamson: And so the intent -- what we
2 learned there was we needed to automate that. And so we
3 did a joint program. We are engaged with the Navy to build
4 a new series of dosimeters. And if you are familiar with
5 within the Army we have something called the Nett Warrior,
6 which takes advantage of commercial technologies --

7 Senator Heinrich: Yes.

8 General Williamson: -- and it keeps you -- it gives
9 you situational awareness. And so the connection between
10 this new dosimeter will be to automatically send those
11 updates so that you can get some early warning and reduce
12 the threat of exposure.

13 Now, right now, that program, the path it is on right
14 now will get you to the deployment of new systems in the
15 '20 time frame, and so there is still some development work
16 that has to be done and testing, but we think we are on the
17 right path for a better dosimeter.

18 Senator Heinrich: I have exhausted my time so I will
19 yield back, Mr. Chair.

20 Senator Cotton: Senator Wicker?

21 Senator Wicker: Thank you.

22 Lieutenant General Williamson and Lieutenant General
23 Murray, on page 11 of your joint statement it says under
24 aviation "The Army continues to invest at a slower pace in
25 aviation." So let me ask you about the UH-72A Lakota. The

1 Army's budget request did not include funding for the
2 Army's only light utility class helicopter. However, the
3 Army subsequently published an unfunded requirement for 17
4 Lakotas in FY 2017.

5 When considering readiness as paramount, why did you
6 not include any Lakotas in your base budget request?
7 Should you lose your UH-72 production capability, what is
8 the Army's long-term plan to replace and/or conduct major
9 repair and overhaul of the Lakotas if there is attrition or
10 loss due to unforeseen accidents down the road? And absent
11 other budget considerations, do you support Congress
12 funding at least 17 Lakotas in FY 2017?

13 We will begin with Lieutenant General Williamson.

14 General Williamson: Sir, from a broader perspective
15 could I ask General Murray to start talking about the
16 budget and the readiness implications and I can talk
17 programmatic?

18 Senator Wicker: That will be very helpful.

19 General Murray: Thank you, Senator. So there were
20 none in '17 because we met our production requirement in
21 '16 of 427 aircraft. And as you are very familiar, we are
22 using the Lakota in a variety of administrative roles and
23 for pilot training. So there was none in '17. Basically
24 because we bought what we needed.

25 The 17 you are referring to in the UFR list -- it was

1 mentioned earlier -- is tied to the National Commission
2 recommendations. So if those recommendations were to be
3 enacted, we require an additional 17 Lakotas at Fort Rucker
4 for pilot training. And that was to increase -- that was
5 to account for the increased pilot training load at Rucker
6 based upon 72 aircraft, which equals four battalions
7 retained in the National Guard in the 11th Cav that has
8 been talked about. So that is the additional 17 in the UFR
9 request.

10 General Williamson: The only thing I would add, sir,
11 is that -- so for all of our production, whether it is
12 aviation or combat vehicles, we really have a test that
13 takes a look at criticality and fragility. So what is the
14 impact if I slow down/increase our ability to produce those
15 assets? So right now, because there are commercial
16 variants, we are comfortable that we could support a
17 smaller number of LUHs being procured this year.

18 I would go back to something that General Murray said,
19 and that is so you cannot do that year after year because
20 what happens is, is that -- if everyone focuses on the
21 primes, but the reality is, is what I am concerned about is
22 all of those small businesses that build parts, all of
23 those other things that go into the final system, if I do
24 not continue to buy certain critical platforms --

25 Senator Wicker: Right.

1 General Williamson: -- we start to lose that portion
2 of the industrial base. And it has to be a consideration.
3 I am seeing it on combat vehicles, I am seeing it in other
4 areas that we have to make sure we understand all of the
5 components and who manufactures those.

6 Senator Wicker: Okay. Well, let me say I am glad
7 that you made the last point about the industrial base.
8 And I know that it has been the position of the Army with
9 regard to other important assets that maintaining the
10 industrial base is a critical part of that. And so it
11 gives me some encouragement to hear your last statement,
12 and I appreciate that. I hope you will continue to work
13 with us on this important issue.

14 General Williamson: Yes, sir.

15 Senator Wicker: Thank you.

16 Senator Cotton: Senator Donnelly?

17 Senator Donnelly: Thank you, Mr. Chairman. I want to
18 thank all of the witnesses for being here with us today.

19 General Williamson, it is good to see you again. With
20 or without JLTV coming online, I have been told that the
21 Army plans to rely on Humvees to comprise the majority of
22 its tactical vehicle fleet for decades to come. Is that
23 accurate?

24 General Williamson: That is correct, sir. It is part
25 of our light tactical vehicle strategy.

1 Senator Donnelly: Knowing that we will continue to
2 rely on Humvees for another 20 to 30 years, would you agree
3 we need to make appropriate investments to sustain and
4 modernize our Humvee fleet, placing priority on those areas
5 that are most critical to the safety of our soldiers?

6 General Williamson: Yes, sir.

7 Senator Donnelly: Okay. And it has come to my
8 attention that the average age of the Humvee ambulance
9 fleet is more than 24 years, 10 years older than the
10 average of all other Humvee variants and more than a decade
11 beyond the point at which these vehicles are expected to go
12 without major overhaul.

13 While we are working to modernize the Humvee
14 ambulances for the Army National Guard, there has not yet
15 been any investment like that for the regular Army. Does
16 that concern you or is there any plan for that?

17 General Williamson: Sir, I am going to have to give
18 you two answers.

19 Senator Donnelly: Okay.

20 General Williamson: So one -- I would defer to
21 General Murray to talk broader in terms of the
22 modernization strategy, but what I would offer is that --
23 and I think, sir, in part with your leadership, the
24 investment that we have been able to make on upgrading
25 existing Humvees within the Guard and Reserve, it has been

1 a significant investment for us. I could kind of show you
2 the numbers of platforms that we have been able to address.
3 We still have more in the future.

4 I think what you will find, though, is that the mix
5 between the Humvee fleet, the projected JLTV fleet, and
6 then what you are going to see with the introduction of the
7 AMPV gives me a little less concern that we will not have
8 that kind of capability gap as you look into the future.
9 And I ask General Murray if he has any comment.

10 General Murray: The only thing I would add to what
11 General Williamson said, sir, is add in the MRAP ambulance
12 variant that we still have in the Army in quite a few
13 numbers.

14 So as we look at, you know, at the Brigade Combat Team
15 forward level, we are really looking at track solution in
16 terms of medical capability, and then really what you are
17 talking about is from the BCT back. And you are absolutely
18 right; we have not figured out exactly what that capability
19 will look like. We have several options. MRAP ambulance
20 is one, recapping in the AC, and we appreciate the support
21 of Congress with the National Guard in terms of their recap
22 for their ambulance or a track variant, and that is what we
23 are working through right now.

24 Senator Donnelly: Thank you. Generally Williamson,
25 you and I have spoken in the past about the Army's

1 assessment that the tank transmission industrial base is
2 particularly fragile and a critical area to maintain our
3 track vehicle capabilities.

4 On a related note, it is my understanding that if the
5 Army fields a new armored Brigade Combat Team in Europe,
6 this unit will require modernized Abrams tanks and Bradley
7 fighting vehicles that are not currently funded. Can you
8 tell us what those requirements are and what you require in
9 FY 2017 to begin this effort?

10 General Williamson: Sir, I cannot talk to the
11 specific numbers as the G-3 works their way through. I
12 would like to address specifically your comment about
13 transmissions both for Abrams and Bradleys. So I will
14 admit that I am concerned because, as a nation, we have
15 gotten to the point where we have really one manufacturer
16 of transmissions for our heavy combat vehicles.

17 Now, I acknowledge that there are people who build
18 transmissions, but it is different when you are putting it
19 in a combat vehicle that weighs 45 tons or 70 or 80 tons.
20 And so we are engaged with that manufacturer to ensure that
21 we have, one, enough workload to ensure that we keep not
22 only the skill sets employed but that we also have
23 transmissions to support whether it is this deployment in
24 Europe or whether it is to sustain our existing platforms.

25 Senator Donnelly: Well, I would like to stay in close

1 contact with you on this subject because, particularly in
2 this area we think in Indiana we have some extraordinary
3 transmission capability and the ability to make this
4 mission more successful.

5 General Williamson: Sir, I will do that. And again,
6 I really do appreciate your engagement. This challenge for
7 us on transmissions is really reflective of how we have to
8 look at the entire industrial base in terms of support to
9 our critical assets. And transmissions is one that we will
10 continue to stay engaged on.

11 Senator Donnelly: Well, thank you all for making sure
12 that our soldiers are safe, that they get to come home to
13 their families. And your hard work helps to make that
14 possible every day. So thank you very much.

15 Thank you, Mr. Chairman.

16 Senator Cotton: Senator Ernst?

17 Senator Ernst: Thank you, Mr. Chair. Gentlemen,
18 thank you for joining us here today.

19 I am going to tag on just something from what Senator
20 Donnelly said, and there has been a lot of discussion about
21 the ground combat vehicle program so I will not belabor it,
22 but we have a situation right now as well with the Marines
23 where they are short amphibious vehicles. And we certainly
24 do not want to see that gap increase with our war fighters
25 in the Army as well. So I do want to encourage you to keep

1 working on this issue, and we will certainly follow up at a
2 later date with that as well.

3 But I would like to go back to small arms
4 modernization. This has been kind of a point of issue for
5 me. In the NDAA fiscal year '16 the Army and Marine Corps
6 was required to jointly develop a 15-year small arms
7 modernization plan. And, General McMaster, if you can
8 address this and just maybe give us the status of the plan.

9 And the Army is really -- we have gone ahead -- we
10 have really moved ahead with respect to modernization of
11 our battle rifle. We have added objects to them, different
12 types of scopes. We have added other attachments for the
13 M4 components, floating barrels, you know, a longer rail,
14 but these are things that have been in the DOD's inventory
15 for quite a while. Our special ops folks have used those
16 for many, many years. So is that really weapons
17 modernization? You know, if you could just give us an
18 update there.

19 General McMaster: Yes, ma'am. And I know you are
20 familiar with all the upgrades that have happened to the
21 various weapons systems. You already sort of summarized
22 those. I mean, I think it is 90-some upgrades to the old
23 -- you know, the M4 today versus how it was, you know, 15
24 years ago or something like that.

25 So the weapons have improved tremendously, but as you

1 know, it is a combination of -- and you already alluded to
2 this as well -- the optics, the weapon, the ammunition, and
3 the training. And there have been tremendous improvements
4 across all of those areas.

5 But what we are doing now as we look for future force
6 development and we are working very closely with the Marine
7 Corps Combat Development Command on this as well. It is
8 called the Caliber and Configuration study because what you
9 do not want is just sub-optimized for an individual
10 soldier. Soldiers fight together as teams obviously so you
11 want the squad, upon contact with the enemy, to be able to
12 overmatch the enemy in close combat. So we are looking at
13 what are the configurations of calibers and types of
14 weapons systems for small arms, crew-served weapons, but
15 then also long-range capability and shoulder-fire
16 capability.

17 So that study will be done by the second quarter of
18 fiscal year '17, and that will help us layout the --
19 finalize the requirements and then begin to procure or to
20 pursue the capabilities associated with how we see the
21 future of squad fighting.

22 Senator Ernst: Okay.

23 General McMaster: And there are some new technologies
24 that are very promising, light-weight technologies, closed-
25 bolt technologies, for example, for automatic weapons

1 systems. We have an opportunity, I think, now to integrate
2 a lot of these new technologies into the future squad.

3 Senator Ernst: Well, I think it is important that we
4 remember we have a lot of modernized weapons that will go
5 into the special ops community. That is great. They
6 utilize those weapons, and they appreciate the advanced
7 features of those weapons. And why are we not able to push
8 those out then to our guys in the BCTs? You know,
9 Specialist Joe Snuffy would probably love to have a rifle
10 that is, you know, being utilized in special ops.

11 So I think they are great. They utilize the
12 technology that they have, and why do we not follow through
13 with that and make sure other infantry soldiers on the
14 ground are provided with those same advantages. That is
15 something to look at.

16 And as well if we look at, you know, the pistols that
17 we use, when is the last time that we upgraded with the
18 pistols? This has been a real big issue. It has been
19 bungled, I think, with the request for proposals and so
20 forth. General Milley recently said you give me \$17
21 million on a credit card and I will call Cabela's tonight
22 and I will outfit every soldier, sailor, airman, and Marine
23 with a pistol for \$17 million and I will get a discount on
24 a bulk buy, you know, great for General Milley. I
25 appreciate him being forthright.

1 Why is it so difficult -- and this is for General
2 Williamson and General Murray -- why is it so difficult for
3 the Army to buy a basic item like a pistol?

4 General Anderson: I agree.

5 General Murray: So I will start. I would like to be
6 part of the deal with General Milley if he can get that
7 many pistols at \$17 million.

8 But, ma'am, to be honest with you, I agree. I mean,
9 we had been down a torturous path on this. And so I think
10 we all know the history of it, and General Milley has been
11 very eloquent about talking about it.

12 But I would just tell you and hope it is reassuring
13 that, Senator Cotton, your letter and the authorities given
14 to General Milley in NDAA '16, I will guarantee you he is
15 involved in the testing, the requirements, concurrent with
16 the source selection when we get to that point, and every
17 intimate detail. I mean, General Anderson and I have sat
18 several very painful, long meetings with him in the last
19 week or two as we dug into how we got to where we are, how
20 we fix this. And I think you are going to see a pretty
21 good outcome coming out of it.

22 Senator Ernst: Okay. Well, I appreciate it. My time
23 is expired.

24 And, gentlemen, I do not mean to make light of this
25 situation, and I know General Milley takes this very

1 seriously, but I think it really gets to the basic root of
2 the problem that we have made this so complicated when it
3 should not be.

4 General Murray: Ma'am, if I could add one thing. So
5 special ops soldiers in Afghanistan -- which I was there 9
6 months ago -- are carrying the same rifle that our soldiers
7 and infantry squads are carrying. They are carrying the
8 M4A1.

9 Senator Ernst: Okay. Fantastic. Thank you very
10 much.

11 Senator Cotton: I am astonished that a meeting with
12 Mark Milley could be painful.

13 Senator Gillibrand?

14 Senator Gillibrand: Thank you, Mr. Chairman.

15 General Williamson, I understand the Army was required
16 to make tough choices for the coming fiscal year, and one
17 of the toughest was the decision to cut the funding for the
18 UH-60 Black Hawk program. Several of my colleagues and I
19 have asked the relevant committees to consider the plan to
20 significantly scale back on procurement and
21 recapitalization for the aircraft.

22 If the Army's aviation budget were to be implemented
23 as requested in the President's budget, what in your view
24 would be the operational impact on units that rely on
25 capabilities provided by the Black Hawk? And given the

1 decision to essentially swap out the Army National Guard's
2 Apache fleet in exchange for more Black Hawks, do you think
3 that impact will be felt particularly strongly in that
4 component?

5 General Williamson: So, ma'am, as the technician
6 sitting at the table, I can talk to the programmatic
7 impacts in terms of we have negotiated a multiyear contract
8 for the procurement. And so one thing I can tell you that
9 the Army worked hard to make sure that even though we had
10 to slow modernization down, we did not want to break that
11 multiyear and lose the savings associated with it.

12 I would ask General Anderson or General Murray to talk
13 about the operational impacts.

14 General Anderson: As you know, ma'am, the ARI program
15 kind of locked in concrete and gave us a way ahead in terms
16 of who had to transfer non-NFCA-related or just who had to
17 transfer what to maintain the base to pure fleet, divest
18 the Kiowa fleet, and make sure we had the appropriate mix
19 between all versions from the 64s, to the Black Hawks, to
20 the Chinooks and then how we do the unmanned team to make
21 sure our shadows link in our Apaches and help us with
22 aerial reconnaissance.

23 So the plans -- everything laid out by that plan is
24 being followed through. All transfers are occurring on --
25 this is multi-compo issue referred to. All the pieces from

1 the active transfers to the Guard, the 60s that are coming
2 out of 1st AD Cav and everything going for Drum and
3 Schofield are all on progress, are all on time, and so far
4 operationally. But as you know, the other components at
5 11th Cav, we are trying to build from the National
6 Commission for Korea to help reduce that rotational burn on
7 that peninsula to maintain our three-to-one ratio for all
8 of our requirements.

9 General Murray: And ma'am, I would just add that out
10 of -- the Black Hawks were supposed to transfer to the
11 Guard as part of the original ARI plan. We are four short
12 right now. Those four will be done in June and so we will
13 be complete on that. We are still on track to take the
14 last UH-60 Alpha out of the National Guard in '23, the last
15 one out of the active component in '25.

16 And I have seen a lot of numbers about, you know, the
17 differences in Black Hawk production, and that was really
18 from '16 enacted to the budget request you saw for '17. We
19 had actually planned for less production in '17 based upon
20 requirements.

21 And the operational piece, I mean, the aircraft are
22 there. They are older, but we do not see an operational
23 impact based on that because we intend to account for some
24 of that reduction in production '18 and out as we build
25 those budgets, assuming that we are not back to

1 sequestration level in '18.

2 Senator Gillibrand: Okay. And another topic, in your
3 joint statement recognize the threat posed to our forces in
4 the electromagnetic domain, particularly from military
5 rivals with near-peer capabilities, for deployed Army
6 forces like those stationed on the Korean and Arabian
7 peninsulas, and Eastern Europe may be particularly exposed
8 to some of these capabilities. Examples of electronic
9 warfare could range from spoofing the unit's geolocation to
10 blocking tactical-level communications between command and
11 maneuvering units.

12 At the appropriate level of classification, can you
13 discuss how the Army is orienting itself to the rapidly
14 deployed electronic warfare capabilities of certain
15 competitor states? And in your view, do you believe the
16 Army is identifying and fielding new electronic warfare
17 technologies adequately enough to keep us up with the rate
18 of change in the operational environment?

19 General Anderson: Yes, ma'am. We have got a couple
20 of things in the works. I think you are familiar with
21 CREW, which is the Counter Remote. That is the first
22 evolution. That is the 32,000 platforms that are out
23 there. We do have this new multifunctional electronic
24 warfare platform coming along, and that is a next-
25 generation requirement. It has both an air and a ground

1 component. But right now the CSARs, which is the C-12
2 version, does the jamming in the air, and the GATR is a
3 ground jammer.

4 So, you know, it is the million-dollar question, how
5 do we make sure the technology we produce, the quantity we
6 get out there in sufficient scale, you know, but the CREW
7 has been very effective as the first whack, but now, again,
8 as we watch what is happening -- what Russia is doing, we
9 will see what North Korea is doing, the question becomes
10 getting the multifunctional one further along faster to
11 keep up.

12 Senator Gillibrand: Anyone else?

13 General McMaster: Yes, I would say, as we look to the
14 future, we are not keeping pace with the cyber
15 electromagnetic threat. We need to catch up to it. I
16 think it is been a real wake-up call, ma'am, in terms of
17 what is going on in Ukraine and really not that
18 sophisticated capabilities, and now they can challenge our
19 systems.

20 So what we are doing in the next 2 months is we have
21 convened a team of experts to figure out what can we do
22 now. And this is again, this relates to the modernization
23 budget. Again, our research and development budget has
24 been reduced about 54 percent since 2008, so we do not have
25 the flexibility we might like to have to be able to pile

1 onto these sort of problem sets. But this is something
2 obviously we can work with the joint community.

3 The problem is we rely -- we made the assumption
4 several years ago that we would be able to achieve and
5 maintain air supremacy, and what we have seen in Ukraine is
6 that Russia, with its tiered-air defense capability, is not
7 allowing -- would not allow our systems maybe even -- to
8 fly in a scenario. So we have to regain our competency and
9 our capability of terrestrial-based electronic warfare,
10 signal intelligence capabilities. And so that is one
11 aspect of it.

12 The other aspect, though, is mission assurance for us,
13 as you already mentioned, the threat to precision
14 navigation and timing. How do we assure our own systems
15 can degrade gracefully and operate in a contested and
16 congested cyber electromagnetic environment? So we have a
17 short-term effort that I mentioned. Joe Anderson mentioned
18 some of the long-term capabilities we are trying to
19 develop. But what we have seen broadly here is that we
20 cannot rely on maintaining dominance in any domain, and we
21 need synergistic capabilities across each of our services
22 so we can fight together as a team and pose the enemy with
23 multiple dilemmas and ensure we can protect our own ability
24 to operate.

25 Senator Gillibrand: Thank you. Thank you.

1 Senator Cotton: Senator Manchin has another
2 obligation, but one more question, so I will turn to him
3 for that question.

4 Senator Manchin: I am so sorry. Thank you for the
5 consideration.

6 By fiscal year '18 the Army projects its end-strength
7 levels to be at 980,000 uniformed personnel; 450,000 to be
8 regular Army; 335, Army National Guard; and 195, Army
9 Reserve. With all of the new challenges that we have
10 around the world, emerging threats and this and that, I
11 guess just cut to the quick, is the Army able to meet the
12 security needs of the United States with those figures?
13 And what do we need to do to change that so that we can
14 meet the needs?

15 General Anderson: Thanks, sir. I think, as you heard
16 our chief testify a while ago, we are at high risk to do
17 that. So as I rambled earlier about all the plans we have
18 to be prepared to defend against, the issue becomes again
19 how do you sustain and how do you build combat
20 capabilities. We talked about it takes about 3 years to
21 get a brigade built, but how would you be able to sustain
22 the operations I described earlier?

23 And again, the best categorization we use or the
24 numbers we are going to now are minimally sufficient. But
25 as the chief risk assessment to the chairman, it is a high

1 risk for us to support things around the globe.

2 Senator Manchin: General, the only thing I would say
3 is if, you know, if we do not listen to the people that
4 have the knowledge such as you on the expertise and we
5 start setting caps and different things that basically
6 sound politically correct and we can sell them back home,
7 it makes no sense at all because when things go to hell in
8 a hand basket, people want to make sure we are protecting
9 them.

10 And I will use basically Afghanistan. You know, how
11 do we get to caps of 10? Was that something was right --
12 you know, I am sure that there was -- and I am not going to
13 put anybody on the spot there, but if I am correct, I think
14 that figure was closer to be like 13, 13-5, 13-6, so we did
15 not repeat the sins of the past as Iraq. But we did not
16 adhere to that.

17 I think we are to the point now we want to cut through
18 the chafe and get the numbers and see if this committee and
19 this subcommittee can work towards getting you the strength
20 that is needed.

21 General?

22 General McMaster: As we look to the future, sir, we
23 think that that risk will become unacceptable to national
24 security in terms of the size of the force, and it is
25 because of what we have mentioned. We have been able to

1 have smaller forces have bigger impact --

2 Senator Manchin: Right.

3 General McMaster: -- because we were not as
4 challenged in the cyber electromagnetic domain, in the
5 aerospace domains. And so we see the demand for land
6 forces going up to do the things you have always wanted
7 land forces to do, to defeat enemy organizations, but to
8 establish control of territory, which is what all these
9 conflicts are about today.

10 But then what is really critical is to regard the
11 consolidation of military gains politically as an inherent
12 part of conflict. When we try to solve complex land-based
13 problems exclusively from standoff range, you get a
14 situation like we have seen in places like Libya, for
15 example, where you cannot consolidate those gains.

16 So I think the two big implications for land force as
17 we look to the future is the consolidation of gains, as I
18 mentioned, as an integral part of conflict, and the second
19 of these is the importance of land forces to deter enemies
20 and to deter enemies not by the threat of punitive action
21 later but by having the demonstrated capability to deny the
22 enemy their objectives, deterrence by denial.

23 And so these are -- as we look to the future and we
24 see the ships that have happened quite recently in the
25 geopolitical landscape where we see this probing by China,

1 by Russia, I think you make the argument by Iran at the
2 frontiers of American power, and as these revisionist
3 powers are trying to advance their interests at the expense
4 of U.S. interests, it is very important to have land forces
5 as a credible deterrent against a revisionist power waging
6 the sort of limited wars for limited objectives.

7 Senator Manchin: But 980, I am just saying, is there
8 a number? Is it going to be 1-1, 1-2, 1-3? Where do we
9 need to be as far as our personnel?

10 General McMaster: Yes, sir. Sir, we --

11 Senator Manchin: Three years out, you know, knowing
12 we have emerging threats. I know that is a tough one.

13 General McMaster: Sir, I think -- I mean, as we look
14 to the future that if you look at the -- as I mentioned,
15 484,000 in 1994 when the world was a much safer place, and
16 I would say we are going to 34,000 less in the active force
17 now, that the number is, I think, in the future is going to
18 be much larger.

19 The thing is, I think, from your perspective as well
20 -- not to be presumptuous about this -- but it is much
21 easier to retain a capability than to have to rebuild it.
22 It is much easier to maintain a deterrent than to have to
23 rebuild a deterrent capability and capacity once it is
24 gone.

25 Senator Manchin: Thank you.

1 Thank you, Mr. Chairman.

2 Senator Cotton: Senator Rounds?

3 Senator Rounds: Thank you, Mr. Chairman. Gentlemen,
4 thank you all for your service. It is appreciated and
5 sometimes we do not say it enough, but we appreciate what
6 you do.

7 I am going to follow up a little bit on what Senator
8 Manchin was working on. Just at the end of my time I would
9 like to lay this out for you over the next few minutes. If
10 you could, please, if there are just a few items that we as
11 policymakers are either doing or that we should not do that
12 would be helpful to you in you carrying out your mission,
13 would you just -- at the end of this would you give us the
14 one or two things that you think would be helpful to you in
15 your job, okay?

16 But let me begin by this: It seems that an important
17 consideration of the Army's modernization effort is its
18 cyber capabilities. I understand that the Army is
19 undertaking a number of significant initiatives in this
20 regard. These include the creation of 11 Cyber Protection
21 Brigades in the National Guard, a Cyber Center of
22 Excellence at Fort Gordon, Georgia, and a separate cyber
23 branch for offices in the same level in the Army as other
24 branches.

25 Could you share with me a little bit, what is the

1 current state of play for these initiatives, and are you
2 seeing any problems recruiting and retaining the cyber
3 workforce, both military and civilian?

4 General Anderson: Yes, sir, thanks. We are building
5 a COMPO 41 -- the cyber mission force, active component is
6 41 teams, 20 of which are Cyber Protection Teams and the
7 other 20 are Cyber Maneuver Teams. The Reserves are
8 building 10 teams, CPTs, and the Guard is building 11
9 teams, sir, CPTs.

10 The issue is the timeline, very extensive training. I
11 think one of your concerns was the Guard piece. Selecting
12 these folks and making sure they can pass all the
13 prerequisites to get to the program remain a challenge for
14 both COMPOs. And the length of training it takes, we are
15 not going to be all fully operational, capable until the
16 end of '18, FY '18, so it is a very long pipeline for the
17 '17 to build that force.

18 The good news is, as you referenced Gordon, the Cyber
19 Center of Excellence, great programs, and the synergy they
20 get between being co-located with the NSA makes it very
21 powerful from an operational perspective.

22 But twice a year now, EW cyber, heavily focused NTC
23 rotation January and June. Every rotation has a red team
24 and then the hardest challenge we are having now is how do
25 you operationalize cyber down at the tactical level? How

1 do you help commanders figure out how they can shoot things
2 like unmanned aerial systems down with these cyber guns? I
3 mean, the technologies are out there, the capabilities are
4 out there, but how do we get those deeper in our formations
5 than what we have currently now from the teams that operate
6 here at Fort Meade and the teams down at the Cyber
7 Protection Brigade down at Fort Gordon?

8 But it has come a long way, and the Army is now the
9 executive agent for the Department of Defense on cyber
10 offensive ranges. We are very defensively focused. Now,
11 we are working that capability at the Joint Readiness
12 Training Center and how that enables skill sets in that
13 function down at Fort Polk, so some pretty good things.

14 Senator Rounds: I understand that some of the
15 individuals and the competencies that you begin with and
16 the built-ins that we have got in some cases you may find
17 the competencies that you want in some unusual places.

18 General Anderson: Right.

19 Senator Rounds: And in doing so, that it may not fit
20 necessarily the traditional individual that you would
21 expect to be the next young person you would recruit into
22 the Army. I am just curious. What are the challenges in
23 finding the talent that it takes with regard to
24 cybersecurity, and how do you approach that differently, if
25 you do, than what you what in terms of looking for the

1 right people that you would normally find in the Army
2 today?

3 General Anderson: The problem is they are another one
4 of these low-density enabler categories. So you are
5 typically robbing Peter to pay Paul. So, for example, the
6 forensic CID agents that do all -- that can dig into
7 computers and find all the stuff in there to figure out
8 what you did, we have taken guys like that and brought them
9 into cyber, and then you have this criminal investigation
10 command complaining because we have taken their high
11 technical experts.

12 So the problem is, sir, it is competing resources
13 between a very limited gene pool. How you recruit, so like
14 the Army Cyber Institute that the military academy does and
15 now that we actually have an officer commissioning source
16 that actually screens those kind of students you are
17 talking about and figures out which ones are the better
18 ones to be vectored into this highly technical field, that
19 is starting to be one of our feeders.

20 But it is going to take us a generation to build a
21 capability from, you know, the officers that lead the teams
22 to the warrants. The warrants, as you can well imagine,
23 are very experienced, and the NCOs are typically coming out
24 of the intel pool. So you are typically grabbing intel
25 analyst-type people, and that is the guys and gals you see

1 on these teams. So it is a nut-and-shell game until we get
2 more capacity.

3 Senator Rounds: Well, my time is just about up, but
4 with the chairman's indulgence, I would just really like to
5 know is there something out there, gentlemen, that we can
6 do as policymakers that we are not doing or things that you
7 would like to share with us that you would like us to do?

8 General Anderson: Long-term, predictable, sustainable
9 funding.

10 General Murray: I would just echo that, sir. So, I
11 mean, the inability to plan budgets year-to-year based upon
12 threat of sequestration, continuing resolutions, that
13 really makes, from my perspective, the most difficult
14 thing.

15 General McMaster: I would say, sir, just recognizing
16 the synergy of the joint force and recognizing that
17 investments to ensure that we can overmatch the enemy in
18 close combat is as important to the investments that we
19 make in the maritime and aerospace domains.

20 General Williamson: Sir, I would just echo the
21 stability in funding, but what I would add is this notion
22 of risk. And so if you want to operate in an environment
23 where we are leading and causing our potential adversaries
24 to react to us, it means you have to be able to take some
25 risk. That is risk on the science and technology, and that

1 is risk in terms of modernization. So how do we find those
2 things and have the agility and the ability to incorporate
3 them very quickly that causes the enemy to have to react to
4 us as opposed to us waiting to find out a new capability
5 that the enemy has and forcing us to react?

6 Senator Rounds: Thank you for your service,
7 gentlemen.

8 Thank you, Mr. Chairman.

9 Senator Cotton: Senator Sullivan?

10 Senator Sullivan: Thank you, Mr. Chairman.

11 Gentlemen, good to see you all again. I want to go
12 back to Senator Manchin's questions about end strength and,
13 you know, General McMaster, you mentioned that we could be
14 approaching a point at which this is unacceptable, the risk
15 level. But it seems to me it is a pretty dramatic
16 statement that the chief and the senior leadership in the
17 Army is saying that we are at a high risk. I do not know
18 how many other service chiefs or how often the Army chief
19 of staff has previously said high risk.

20 And if you look at just the recent testimony of
21 Secretary Carter and General Dunford in front of the SCAS,
22 they all talked about these emerging threat environments,
23 all of which have increased. If there is one common theme
24 that we have heard in the last year is how much the threat
25 environment globally has increased. And yet, the glide

1 path to 450 has been straight down.

2 So there is a number of us -- I think it is a
3 bipartisan sense that 450 Active Duty force is unacceptable
4 risk. So, again, General McMaster, you said high risk.
5 You said it is getting to unacceptable. My view is high
6 risk from the senior Army leadership when they are saying
7 that that is unacceptable risk. So do you all agree that
8 450 then is high risk for the country?

9 General Murray: If I could, sir, and just in terms of
10 the -- so it is high military risk is what General Milley
11 said, and then he specified that that does not apply to
12 enemies like ISIL or the Taliban, the enemies we are
13 currently fighting right now. That is high military risk
14 against the near-peer --

15 Senator Sullivan: Correct.

16 General Murray: -- state-type actors. And I
17 absolutely agree with the high military risk
18 categorization.

19 Senator Sullivan: Do you think that -- so I would
20 assume since General Milley thinks it is high risk, that
21 all four of you would agree. Do you think that is
22 unacceptable risk?

23 General McMaster: Well, sir, from my personal opinion
24 it is. I think that it is unacceptable risk because of a
25 combination of factors. And this is not a criticism of

1 policy to say that it is time to make a reassessment.

2 I think you have already recognized, and I think we
3 all recognize, that the threats to national and
4 international security are increasing. Many of those
5 threats are interconnected. It is impossible to remain
6 insulated from a lot of these threats.

7 And, as you mentioned, our Army is going to a historic
8 low. In terms of active force strengths, the smallest it
9 has been since before World War II. And we have not been
10 modernized. And so we did spend a lot of money for Iraq
11 and Afghanistan against those enemies, but it is not the
12 kind of modernization we will need to fight the threats
13 that we see emerging.

14 And so in the recent CSIS report, they called this,
15 you know, the triple whammy, you know, of really, first of
16 all, taking a huge cut that is bigger than previous cuts in
17 a postwar period. By the way, it is -- I am not sure -- I
18 do not think it is a postwar period. I mean, we are still
19 obviously fighting in Afghanistan and in Iraq and across
20 the greater Middle East.

21 But the second point is that this previous draw-downs
22 that happened after the Cold War, after Vietnam, happened
23 after the Army had been modernized considerably. So the
24 old Big Five had been largely bought out before the end of
25 the Cold War. We have not done that, so we are not

1 recently modernized, plus we have a big cut.

2 And the third thing is that the RDT&E money has also
3 taken a cut that is at a historic high as well. So I think
4 the threat is -- I think primarily the thing that I would
5 personally be most concerned about is the size of the total
6 force, but it is that in combination with the modernization
7 of resources.

8 Senator Sullivan: That is a great answer. Again, I
9 think there is a lot of agreement on this committee that
10 450 is an unacceptable risk, and I think a number of us are
11 going to start to work to try and reverse that.

12 Let me ask just two quick questions. One is kind of
13 operational, one is much more strategic. You know, General
14 McMaster, you talked about how long it takes to actually
15 stand up a unit once you have cut it. How long does it
16 take to stand up an airborne unit once you have gotten rid
17 of it?

18 So I was recently down at JRTC and watched one of our
19 finer airborne BCTs do their initial forced entry
20 operation, over 800 soldiers, middle of the night jumping
21 into an airfield, pretty awesome instrument of American
22 military power. You cannot grow that overnight. How long,
23 if you got rid of an airborne BCT, would it take to
24 regenerate that kind of expertise in capability?

25 General Murray: Sir, we do not have experience

1 rebuilding, but, I mean, we do have experience in terms of
2 an Armored Brigade Combat Team recently when we grew the
3 Army. So when we grew the Army to 45 BCTs. We only really
4 grew from scratch one BCT, and it was an armored not an
5 airborne, and that was a 31-month ordeal to grow a BCT, so
6 somewhere in that order of magnitude.

7 And I would just like to clarify one thing that may
8 have come off differently. So when we collectively say
9 high military risk and individually said high military
10 risk, whether that is unacceptable or not it is not our
11 position to --

12 Senator Sullivan: No, I got that. I said it was
13 unacceptable.

14 General Murray: Okay.

15 Senator Sullivan: And I know you did not say that.
16 At a certain point I would imagine you would all agree that
17 it is unacceptable. I know you did not say that today. I
18 said that today, though. Yes, sir?

19 General Murray: I mean, all I am saying is basically
20 we are happy to identify the risk and then, you know, it is
21 up to our civilian leadership to determine whether that is
22 acceptable or unacceptable.

23 Senator Sullivan: Hearing that the uniformed military
24 leadership of the U.S. Army says high risk at 450, in my
25 view from this committee's perspective is unacceptable

1 risk.

2 Thank you, Mr. Chairman.

3 General Anderson: Sir, can I make one comment,
4 though? An Airborne Brigade Combat Team is much more
5 lethal effective than an Armored Brigade Combat Team, so
6 chances are it is probably about 6 years to build one.

7 Senator Sullivan: That is what I was thinking as
8 well, but I did not say that.

9 General Anderson: I knew you would.

10 Senator Cotton: Especially if it is based in Alaska
11 according to the father protector of the 4th through the
12 25th.

13 Senator Sullivan: Probably the most important
14 Airborne BCT in the entire U.S. Army, but we can debate
15 that another time.

16 Senator Cotton: General McMaster, to build upon
17 Senator Sullivan's comments about 450,000 being an
18 unacceptable risk in terms of end strength, there are some
19 ideas in this Congress to mandate a higher level than that,
20 say 480, 490, what have you. What would be the
21 implications if Congress took that step but did not
22 increase funding any?

23 General McMaster: Sir, from a historical perspective
24 and then, you know, they could answer that from a -- it
25 would be disastrous in terms of Army readiness. It would

1 be disastrous in terms of really -- it could be -- talking
2 about unacceptable risk, it could result in very high risk
3 to not only the mission but to soldiers who would not be
4 prepared for combat because they have not had the proper
5 training work or could be overmatched by an enemy because
6 they had rudimentary equipment.

7 As you know, there are a lot of big armies in the
8 world. There are some big armies in the world, and many of
9 those armies I would welcome -- I mean, I would not be
10 really fearful of engaging them in close combat because
11 they are not sufficiently modernized. They do not have the
12 kind of training and leaders necessary to be effective.

13 So, sir, I would say that really what is necessary for
14 an army is to have the balance that Joe Murray talked about
15 earlier.

16 General Murray: And, Chairman Cotton, so the Army
17 will never give up the readiness of its formation. So if
18 you increase the number of soldiers without an increase in
19 top line, we will ensure the readiness of our soldiers. So
20 will you will do is modernization will take another hit.

21 So at this point, I mean, we cannot stretch out things
22 much more than we are to have. We would have to go in and
23 start canceling programs like we do not want to do and
24 slowing down production across probably every portfolio to
25 the minimum sustainment rate. I mean, so we would further

1 decrement installations, MILCON, and modernization to make
2 sure that higher force level was trained and ready.

3 Senator Cotton: So mandating a higher end-strength
4 without increasing funding would mean a hollow force unless
5 you borrowed more money from modernization to pay for
6 readiness, therefore, further undermining the
7 modernization-readiness balance we discussed earlier?

8 General Murray: It makes the problem we have right
9 now even worse.

10 Senator Cotton: And, General McMaster, roughly how
11 much does it cost for, say, 10,000 troops?

12 General McMaster: I want to ask Joe Murray about
13 this, but the rough figure is typically \$1 billion for
14 every 10,000 soldiers. So I think sometimes that -- I
15 mean, that sounds like a lot. Obviously, it is a lot. But
16 I think when you compare that to some of the higher-ticket
17 weapons systems and so forth, you know, really what the
18 Army is is soldiers, right, and so that is really what
19 gives us the capacity that we need to help defend our
20 nation.

21 Senator Cotton: So before this Congress considers
22 moving forward with mandates on end strength, we need to
23 consider how we might pay for that to ensure both readiness
24 and modernization.

25 Senator Blumenthal?

1 Senator Blumenthal: Thank you, Mr. Chairman.

2 I am very concerned about the level of procurement of
3 Black Hawks, which have been serving the United States Army
4 for more than 35 years, as you observe in your testimonies,
5 the workhorse of the Army's aviation force, and it is not
6 only used by us, America, not only by you, by our services,
7 but by our partner nations across the globe. And there
8 have been continuous modifications to modernize it, to make
9 it more capable, and to implement technology and capacity
10 and efficiency that make it increasingly valuable.

11 And I am very, very concerned that the level of
12 request for the FY '17 budget is inadequate. In fact, I
13 have written a letter joined by 13 of my colleagues and 21
14 Representatives expressing concern regarding the need for
15 additional Black Hawks in the FY '17 budget.

16 Right now, my understanding is that the requested
17 level is 36, which is substantially below the projection of
18 last year, 24 below last year, roughly half of what the
19 Army itself seems to believe is necessary to continue with
20 modernizing and keeping capable our aviation capability.

21 So I invite you to comment on the -- I ask you to
22 comment on the level of the procurement request in the FY
23 '17 budget and focus particularly on how we are raising the
24 cost per unit if we lowered the level of procurement and
25 how we may lose the defense industrial base that produces

1 these helicopters, specifically, the men and women who are
2 highly skilled and efficient who may leave because they are
3 in fact laid off, particularly in light of the drop-off in
4 commercial production. As you know, the commercial side of
5 this industry is very challenged at the moment.

6 So you know this subject better than I. I have
7 suggested some questions, and I invite any or all of you to
8 comment.

9 General Murray: So I will start off, and I am sure
10 General Williamson can answer, sir. So -- and I am sure
11 General Williamson will say this. So we did not violate
12 the multiyear contract. So when we took it down to -- and
13 your number is correct; 36 is in the budget of Black Hawks.
14 That is in accordance with the multiyear, and that applies
15 to the Apache and the Chinook as well. So we will maintain
16 the multiyear contract, maintain the workforce.

17 And you are also correct, a difference of 24 between
18 what was enacted in '16 and what you saw in the best
19 request. When we built the '17 budget before the BBA hit
20 and we understood what our top line was going to be, we had
21 actually planned to reduce it to 50, so it is actually 14
22 between what we planned and what we put into the budget
23 request based upon the BBA.

24 It is going to have an impact, but fundamentally, to
25 pay for the increase in readiness that the chief's number

1 one priority is the near-term readiness, we had to go
2 someplace to find that money. It is about a 5 percent cut
3 in procurement, about a 5 percent increase in readiness.
4 It is almost a direct proportion in terms of what we cut.

5 We have protected the aviation portfolio for the last
6 3 or 4 years based upon our plan originally, the ARI. And
7 I just remind you that this budget did not account for the
8 National Commission's recommendations. This budget was
9 built around ARI. The recommendations came in after we had
10 turned in our budget, and that is why you see some of the
11 things in our UFR request.

12 So this year, to find that kind of money for the Army,
13 there was about a \$2.6 billion bill. We had to go to
14 aviation to find that type of money to pay our decrement
15 based upon the BBA. We do have plans in the out years, and
16 they are plans, until we see what the '18 budget is going
17 to look like, whether it is closer to PB levels or BCA
18 levels. We do have plans in the out years to try to buy
19 back some of that divot we would be taking in '17.

20 Senator Blumenthal: General Williamson?

21 General Williamson: Sir, I just wanted to add a
22 couple comments and start by acknowledging at least two of
23 the things that you said, and the first is this notion of
24 the Black Hawk being a workhorse for us. As you know, at
25 any given time we have had over 220 helicopters deployed in

1 support of operations in combat, millions of hours of
2 flight in support of our troops, and so that helicopter is
3 critically important to us.

4 I would echo something that General Murray said in
5 terms of we went into this with an awareness of what was
6 that minimum, and in this case it was 36. But this is
7 where I would have to acknowledge your other point is that
8 when we negotiate those kinds of deals, any multiyear, it
9 is with an awareness of what gives us some efficiencies in
10 the plant, what affords us the opportunity to meet
11 production numbers, all of those things in line with the
12 needs of our service.

13 But the point that you made about the commercial side
14 is really important. So on the other side of the table
15 when they are negotiating those rates, when they are
16 negotiating that price with us, it is in anticipation of
17 understanding what they are going to get from commercial
18 sales and also -- and this is a factor that is not often
19 considered is other sales to our allies as an example. And
20 so as we have seen the stress, if you will, in military
21 budget, along with these new pressures on the commercial
22 side, that has to be a factor.

23 We try to work very closely with our vendors, with our
24 partners with an understanding of what happens to their
25 vendors and the agreements that they reach with their subs

1 in order to give us that price.

2 And so to just finish with something else that General
3 Murray said is that as we are continuing to engage with our
4 vendors on the aviation side, as well as on the combat
5 vehicle side, we are trying to give indications of what
6 goes beyond '17 so that they can think through not only
7 their workforce but also things like capital investment or
8 their plant and their facilities and also for their
9 machinery. It is not something that we take lightly, sir,
10 and we will continue to stay engaged.

11 Senator Blumenthal: I appreciate the very articulate
12 points that you have made, and I can well understand that
13 you appreciate that production of helicopters, production
14 of most anything that is so essential to our Army and our
15 military cannot be turned on and off like a spigot. It
16 takes planning, it takes training of a workforce, it takes
17 capital investment, and I am grateful to your sensitivity,
18 and I would like to pursue some of these questions.

19 This is a very complex and developing situation, and I
20 know that we have a common interest in making sure that
21 procurement is at a level that we look beyond this fiscal
22 year to what is available and at what cost in future fiscal
23 years. And I think these are all very, very important
24 points.

25 Thank you, Mr. Chairman.

1 Senator Cotton: Senator Sullivan?

2 Senator Sullivan: Thank you, Mr. Chairman.

3 Gentlemen, I just wanted to end with kind of a broader
4 question on how the Army is thinking about broader strategy
5 and how we should be thinking about broader strategy. You
6 know, General McMaster, you have written about this. You
7 and I have both had the opportunity to serve under General
8 Abizaid, who has thought a lot about these issues and, you
9 know, when he was one of the first military leaders,
10 started talking about the long war and thinking about how
11 to address that, he has even talked recently about a raid
12 force concept in the Middle East.

13 But a lot of that came out during the time when we
14 were not also having to think about conventional near-peer
15 situations like we do today. So how is the Army thinking
16 about kind of broader strategy, you know, the long war or
17 whatever else we are -- that you are thinking about in
18 terms of looking at 2, 3, 4 years from now, and then how
19 should we be thinking about that as well? And I open that
20 up to everybody.

21 General McMaster: Sir, first of all, I think what we
22 are seeing is really the value of forward position, joint
23 forces and Army forces in particular, and deterring
24 conflict against determined enemies and capable enemies.
25 Obviously, we --

1 Senator Sullivan: You mean in foreign countries?

2 General McMaster: In foreign countries, sir, so --

3 Senator Sullivan: So the value of allies is pretty
4 important in our --

5 General McMaster: Yes, sir.

6 Senator Sullivan: -- broader strategy. You know,
7 whether it is the President in his recent, you know,
8 Atlantic interview or some of the candidates on the
9 campaign trail, remarkably, there seems to be almost a
10 dismissive attitude towards allies. I think it is
11 incredibly shortsighted. The President's comments in his
12 recent interview were very shortsighted. I think some of
13 the comments coming out of the campaign trail are.

14 So allies are critical to forward deployment, correct?

15 General McMaster: Yes, sir, and our engagement with
16 those allies is what can bolster their will and their
17 capabilities. And obviously, we want to deter conflict,
18 and we have succeeded in doing so for over 60 years on the
19 Korean Peninsula, over 70 years since the hit of World War
20 II in preventing great power conflict.

21 I think as we look at the way that threats to U.S.
22 security are evolving, especially with, you know, the four-
23 plus-one construct for state actors, these are the
24 revisionist powers of Russia and China, along with North
25 Korea and Iran who have been taking bellicose and hostile

1 actions, and the plus one is transactional terrorist
2 organizations, ISIL but also al Qaeda and associated groups
3 and so forth.

4 When we look at what is required to deal with those
5 threats, it is a joint force and in particular it places a
6 very high demand on ready land forces. I mean, I do not
7 mean to sound snide, but, I mean, ISIL does not have a navy
8 or an air force, and they are doing okay. And so the need
9 for ready land forces that have the will and the capability
10 to close with capable and elusive enemies, enemies that
11 operate in and amongst populations and restrictive terrain,
12 who avoid being classified as a target from standoff range,
13 and now you combine that with enemies that now are
14 demonstrating sophisticated long-range capabilities, cured
15 air defense capabilities, creating this so-called anti-
16 access/area denial threat.

17 So what we need is we need to maintain ready land
18 forces that can deploy rapidly, they can be forward
19 positioned, but then also deploy rapidly and then
20 transition quickly into operations. And those land forces,
21 I mean, those land forces have to have mobility. They have
22 to have protection. They have to have lethality.

23 I mean, we cannot -- a lot of times you will hear the
24 terms, you know, light and nimble. Well, you know, Richard
25 Simmons is light and nimble, but we do not send him to go

1 do harm to somebody or to defend our nation. So we need
2 forces that can get there and fight once they get there.
3 And for us, that is a combination of Airborne and Infantry
4 Brigade Combat Teams, Stryker Brigade Combat Teams, and
5 Armored Brigade Combat Teams.

6 But what we see, to your question about the future,
7 what do we see in the future for Army forces? Army forces
8 will have to do, as I mentioned, when they have always had
9 to do: defeat enemy organizations on the ground, secure
10 territory to deny its use to the enemy, protect
11 populations, but now increasingly, project power outward
12 from land into the maritime aerospace and cyberspace
13 domains in part to help ensure freedom of movement and
14 action for maritime and aerospace forces.

15 Russia has established air supremacy over Ukraine from
16 the ground, for example. China is building landmass in the
17 South China Sea to project power outward from that landmass
18 into the maritime and aerospace domains.

19 And so what our Army has to do is develop some of
20 these new capabilities that allow us to support the joint
21 force better, but I think when we see how technology is
22 evolving, threats to our security from the shifts in the
23 geopolitical landscape, the kind of missions we are going
24 to have to conduct, and the sort of -- you know, what we
25 have learned from history and what is happening today, we

1 see the demand for ready land forces going up, not going
2 down.

3 Senator Sullivan: Anyone else? Gentlemen?

4 General Anderson: I think, sir, the whole -- back to
5 your Allied peace, that is the whole thing behind the
6 regionally aligned forces concept. So you know based on
7 the global demand we have for all things Iraq, Afghanistan,
8 Kuwait, and the whole GRF piece, but the bigger issue
9 becomes how do we appease, and it is all about the
10 assurance, deterrence. And we watch this in Europe every
11 single day, as we watch and let it resolve, as we work all
12 those nations, and from where we are stationing equipment
13 to where we are storing equipment to where all the
14 exercises are. But when you run a 55-exercise activity
15 over the course of a fiscal year, a lot of effects in terms
16 of our partners. And we are having equal success in the
17 Pacific with specific pathways.

18 So when you look at those two models and the
19 differences it makes from Balikatan, Foal Eagle, all the
20 different exercises, Cobra Gold, the different exercises
21 that are just going on, it is a huge enabler, and we do
22 build some good partner capacity.

23 Senator Sullivan: Well, I appreciate the emphasis on
24 allies because if you look at our potential adversaries,
25 they all seem -- whether it is North Korea or Iran or China

1 or Russia, they seem to have a hard time collecting any
2 allies, and yet we have most of them and yet we are at this
3 interesting period where some of the leadership in our
4 country seems to be -- right at this moment when allies
5 matter more than anything and they are part of Army
6 strategy and doctrine, we are being dismissive, which I
7 think is shortsighted for our leadership in this country.
8 So thank you, gentlemen.

9 Thank you, Mr. Chairman.

10 Senator Cotton: General McMaster, in light of the
11 comments you just made, what is your opinion of the
12 Reconnaissance Strike Group from recommendation 22 in the
13 Commission report?

14 General McMaster: Sir, I think this is a really
15 important initiative, and so what we think is -- you know,
16 we have some opportunities now. If we would have the
17 resources, you know, to be able to pursue some of these
18 capabilities, we can integrate them into formation.

19 So the problem we have now that is on the topic of
20 modernization is we see some technologies that are very,
21 very mature, for example, some new combat vehicle
22 technologies, new power train capabilities, demand
23 reduction in terms of, you know, hybrid and power and
24 energy capabilities, light weight band track, independent
25 suspension, active protective systems, improved lethality,

1 but we do not have a place to put those now in terms of a
2 prototyping program that is well-funded or a combat vehicle
3 program. So we need to develop these technologies, apply
4 them, combine them so we developed a real no-kidding
5 capability but then put them in organizations.

6 So we think that the trend is combined arms at lower
7 levels. The trend is toward longer-range weapon systems.
8 The trend is toward integrated air and ground formations.
9 And so we want to build formations that are capable of
10 operating widely dispersed with combined arms-air-ground
11 capabilities over wide areas but can maintain mutual
12 support, right, because we do not want those to be, you
13 know, a bunch of Little Bighorns that occur simultaneously
14 across a large area.

15 We have to be able to fight together as a team, as
16 part of the joint team, and we think this kind of a force,
17 a force that can project power at greater range, combine
18 arms-air-ground at lower levels, can essentially elevate
19 the tactics of infiltration to the operational level.

20 And so this is the kind of ideas that are consistent
21 with Reconnaissance Strike Group. We are undergoing a
22 force design effort now looking at the Army of 2030 as part
23 of our Unified Quest war game. By the end of this calendar
24 year, we are going to have some proposals about what we
25 would like future Army organizations to look like and how

1 those organizations would fight together under realistic
2 conditions and under contingencies that we think are
3 plausible in the 2030 time frame.

4 General Murray: And sir, H.R. was basically talking
5 -- I mean, so the concepts that General McMaster described
6 apply really to all four recommendations in -- you know, it
7 was not just the Reconnaissance Strike Group. And there is
8 no arguing with the concepts. So the chief is still -- we
9 are about a week or two out from offering up where the
10 chief is on his thoughts on all 56 recommendations after
11 the Sec Def, and then we should have something over here
12 very shortly after that.

13 Senator Cotton: Okay. We have had a good discussion
14 so far. I need to close out with just a few specific
15 programs that have been touched on earlier but we have not
16 gone into at length. First, DCGS: There was a January
17 2016 DOT&E report about DCGS Increment 1, Release 2,
18 concluding that it was operationally effective,
19 operationally suitable, and not survivable.

20 I have some doubts about the testing parameters that
21 were used, also, the inability to get the data that would
22 allow us to quantifiably test against critical needs like
23 intelligence, fusion, targeting, data synchronization. I
24 also have some doubts about the size of the data set, had
25 191 different entries, which are several orders of

1 magnitude about what you would see on the combat terrain,
2 and some reports that the system had to be rebooted every
3 20 hours, which is not suitable for an operational
4 environment.

5 General Williamson, as I mentioned in my opening
6 statement, you had said last year that you thought the
7 value of the system would be shown by May. Where do you
8 stand on that now on the value of the DCGS-A program?

9 General Williamson: So, sir, I go back to some of the
10 comments you just made. So both, first, ATEC, the Army
11 Test and Evaluation Command, their assessment was also
12 suitable, effective, and survivable and DOT&E's report in
13 terms of operationally suitable.

14 But I would like to set those aside for a second. So
15 having gone out and seen the system and obviously working
16 very closely with the PM, we understand that there are
17 additional capabilities that are required in that system.
18 On the ground what I saw was that the brigade level, that
19 system with trained soldiers provides the capability to
20 commander. I think what we have seen is that lower
21 echelons we probably -- not we probably -- we have to do
22 more to reduce the complexity of the system and the ease of
23 use. And I think that is what you are going to see in
24 Increment 2 of DCGS.

25 We have reached out to industry to include three

1 requests for information so that we could understand what
2 industry believe they could provide in a capability. We
3 had 80 one-on-one sessions, and we included two industry
4 days where we brought in over 240 vendors who said here is
5 what we think you need to do. And so we think we have a
6 path forward on improving the usability of that system.
7 From an operational standpoint, I pass to General Anderson.

8 General Anderson: Yes, sir, we had a mission command
9 summit last week. The issue is what does the field want?
10 So the field is frustrated, as you very much know, and of
11 course the bigger challenge is fixed site, static, DCGS,
12 much less challenge, deployable, small unit, much more
13 difficult, and battalions are having a hell of a time.

14 So the issue was to try and get a balance between the
15 129 app version that has been developed, down to something
16 between the DCGS-Lite, which the SOF has, which is four
17 apps, and we think we have come to about 20, so that is
18 what we laid out last week at Leavenworth, and now it is
19 back out to the field to say did we pick the right apps to
20 give you the COP so your analysts have the tools they need.
21 And then the question becomes how do we work the intel-
22 sharing from a brigade platform that is less challenged by
23 this, or a battalion platform is extremely challenged.

24 And when I was out at the interview in the fall, not
25 one of the six battalion commanders out there underground

1 said that they wanted DCGS in their TACs but they knew they
2 needed the common operating picture tools, and that is --

3 Senator Cotton: And that is why we hear reports of
4 using workarounds like the old pencil and paper --

5 General Anderson: Right.

6 Senator Cotton: -- and PowerPoint --

7 General Anderson: Analog, right.

8 Senator Cotton: It sounds to me like it is not
9 working very well.

10 General Anderson: I am going to --

11 Senator Cotton: I mean, it works fine if you are an
12 O4 NMI and you live it day in and day out. It works less
13 fine if you are an E4 in a battalion TAC.

14 General Anderson: That is the key, sir --

15 Senator Cotton: Expeditious --

16 General Anderson: -- the training. So the bottom
17 line, the young E5 who was operating that system -- now,
18 1st AD is a little bit separate from the brigade
19 modernization command, but it is the big C2 facility there
20 right at Bliss, the sergeant E5 intel analyst had not
21 touched that machine until the first day of the exercise.
22 So that is a huge piece of -- part of the problem.

23 General Murray: This time last year, Chairman Cotton,
24 and this is differently than obviously a brigade, but I had
25 E4s in my division headquarters to section using DCGS in

1 Afghanistan. Now, it was not moving every day, but I do
2 agree that we still have some issues to work through. But
3 I think one of the biggest issues we have to work through
4 is the training piece because we are not giving these kids
5 time to train on this system before asking them to operate
6 them.

7 And there are ways that we can get after that. So
8 there is a facility at Fort Stewart called the IROC which
9 has DCGS up and running every day. And I just mandated my
10 DCGS operator. That was their place of duty. They were
11 not pulling guard, they were not going -- they would go to
12 the range and qualify, they would go right back to that
13 facility. So they knew DCGS in and out, and they were
14 operating it each and every day in a garrison environment.

15 And that is the other effort besides the effort to
16 make things simpler is to make sure we understand that
17 DCGS is a weapons system, and it is just not something you
18 are going to pick up like a smartphone and jump on it and
19 get on it. It has got to be trained day in and day out
20 whether you are in garrison or in a deployed environment.

21 Senator Cotton: Okay. I want to move on to the next
22 topic. I have to say that I still have my doubts about
23 that. Active protection systems for vehicles, I will
24 direct this towards General Williamson and maybe General
25 McMaster as our armor expert.

1 As I mentioned at the outset of my opening remarks, as
2 part of the Army's FY '17 budget proposal, the Army
3 reportedly plans to experiment in commercially available
4 active protection systems as part of Abrams, Bradley, and
5 Stryker survivability enhancements, to put it simply,
6 systems that would be able to intercept something like a
7 rocket-propelled grenade could you briefly describe the
8 efforts that are planned for FY '17?

9 General Williamson: Sir, I will start out by talking
10 about the path to '17, and then I will defer to General
11 McMaster to talk about the capability itself.

12 So, as indicated, sir, by yourself and by others on
13 this panel, the need to take advantage of these
14 technologies is critical, and we are seeing our adversaries
15 start to take advantage. So we are not unfamiliar with the
16 capabilities of active protection systems. We have made
17 choices that we wanted those systems to mature from a
18 safety standpoint, from a reliability standpoint, and
19 therefore had not employed them.

20 What we have seen over the last, I would say, 24
21 months is some advances made both on the commercial side
22 but also by our allies in the employment of those systems,
23 and so we have reached out to them.

24 So we have taken two paths, sir. So, first of all, we
25 started on a science-and-technology path with a modular

1 active protection system. That system really has three
2 pieces, the first one being how do we develop a modular
3 system that gives me, first, the ability to sense. How do
4 I detect that something is being fired at me? And then the
5 first part will be can I provide an obscurant to make it
6 more difficult for something to hit the system.

7 The second point is the soft-kill capability. So
8 today, if you look out at about 90 percent of the weapons
9 that would be fired against a platform, those can be
10 deterred by some sort of electronic means. And then the
11 third is kinetic. It is directly intercepting a system
12 that has been fired at you. That is force on force.

13 What we know is that some of those technologies are
14 more mature than others, and so what we want to do is reach
15 out, and we have started out today. We have started that
16 in FY '16 to take advantage of existing systems. And there
17 are roughly four out there that we have considered, and we
18 are now doing the integration work on a Bradley, a Stryker,
19 and an Abrams.

20 The FY '17 request allows us to complete that. We are
21 coming an above-threshold reprogramming to help us get
22 started sooner and to start that effort with our vendors.

23 Senator Cotton: General McMaster, do you have
24 anything to add?

25 General McMaster: Sir, I think you are highlighting

1 an immensely important capability. As General Williamson
2 said, we have seen these technologies before and we have
3 seen them employed.

4 I think there are just a few quick points on this is,
5 first of all, a lot of times we pose ourselves with a
6 false dilemma of either waiting for the perfect capability
7 later or doing something now. And I think this is a case
8 where we have to do both. We need the capability for hard
9 kill, soft kill target location, and then we have to
10 integrate that into the formation as well. So you want to
11 protect an individual vehicle, but you want the formation
12 to be protected.

13 It is a ground problem, but it is also an air problem
14 now with rotary-wing aircraft. So advanced protection
15 systems for aviation and for ground and then tied to
16 counter UAS and C-RAM, or counter-rocket artillery and
17 mortar capabilities. We see these technologies having a
18 lot of commonality, and it could be tied as well to
19 directed energy, electronic warfare capabilities.

20 So we have to really work hard on a concept to
21 integrate a lot of these emerging technologies longer term.
22 But there is an immediate threat that we can see now from
23 enemies who possess this capability and we do not. We see
24 that with Russia, for example.

25 Senator Cotton: Given the programs you described, if

1 successful, when might we actually see vehicles commanded
2 by the next generation of H.R. McMasters downrange in
3 Eastern Europe and Middle East with these systems?

4 General Williamson: So, sir, on the expedited
5 version, taking advantage of commercial existing systems,
6 we will do that characterization this year, integrate those
7 onto existing platforms. Early next year, we will be able
8 to make a decision, essentially a go/no-go that says this
9 adds more value and more protection than not having it.
10 And at that point in '17 we make the decision to start
11 outfitting, equipping systems, and I believe that in '18
12 you have formations equipped with a measure of protection.

13 Senator Cotton: Good. I think, as we have discussed,
14 as Senator Ernst raised in her questions, this fits in with
15 the theme of modernization and readiness. Some of these
16 items, because of their availability off the shelf, sit at
17 the intersection of readiness and modernization that can be
18 done so quickly, that they can actually contribute to
19 readiness today for the force as opposed to readiness for
20 the force 10 years from now.

21 I want to turn to a third topic, activity sets and
22 pre-positioned stock. I am getting into great detail.
23 These are obviously platforms that are designed to support
24 rotational troops that are in contingencies in places like
25 Eastern Europe, South Korea, so forth. I will throw it up

1 there for whoever wants to take it. Activity sets and pre-
2 positioned stocks are very equipment-intensive
3 undertakings. We are expanding them worldwide. Where do
4 the vehicles and other associated equipment in the sets and
5 stocks come from?

6 General Anderson: A variety of means, sir. So the
7 Europe piece first, the European activity set is going to
8 be the first set to be converted to start building the
9 first ABCT APS set for Europe. So starting first quarter
10 '17 we start deploying heel-to-toe brigades. The next
11 brigade to do that is 3rd Brigade, 4th ID out of Carson.

12 They will bring their equipment from home station with
13 them, and when that gets delivered to Europe, that EAS
14 stuff will get harvested to build the first set of that
15 APS, and then the second APS set will get built from the
16 conversion 225 when Hawaii converts from a Stryker to a
17 Lite. The Strykers from Hawaii will go to the West Coast,
18 the 81st between Washington, Oregon, California, that
19 ABCT's kit will get modernized, and that will get sent over
20 to be the second set.

21 The stretch will be based on what we do with
22 additional force structure now based on Korea and
23 elsewhere, where would you harvest -- how could we possibly
24 harvest based on the Korean equipment set on the peninsula
25 based on taking potentially somebody's home station set if

1 we have to build more, or do you harvest within the APS
2 sets? Like APS-5's kit right now is all -- the next
3 rotation to Kuwait is also going to be the entire brigade
4 comes with all of their kit, and then the kit that is being
5 used now in Kuwait for Spartan Shield, that will get
6 harvested to get reset back into APS-5. So it is kind of a
7 -- again, between APS and what you may have to pilfer now
8 here at home station based on what we do structure-wise or
9 other set-wise.

10 General Murray: I would just add, sir, so we have
11 plenty of tanks and we have plenty of Bradleys, and it is
12 based upon force structure reductions we have had, and we
13 have really lightened the force over the last 10 years, so
14 we have many fewer armored brigade combats.

15 The problem is they are not modernized, and so if you
16 go down to Anniston down in Alabama, I mean, we have yards
17 of tanks, but it takes money to bring them up to the most
18 modern configuration. We have enough Bradleys. Where you
19 get into issues is primarily with wheeled vehicles,
20 recovery vehicles, engineered, low-density equipment. That
21 is where we have equipment issues that you are talking
22 about, new production. And the way General Anderson kind
23 of laid it out is exactly right.

24 And the fundamental thing we are kind of struggling
25 with right now is how many unmanned sets of ABCT equipment

1 do we really want to have? And you talked about the value
2 of pre-positioned stocks, and I do not disagree with that,
3 but there is also the value of having a manned ABCT, and so
4 we are getting to the point now where we are going to have
5 to start making some decisions about how many unmanned
6 equipment sets we can really afford.

7 And I would just add, General Williamson was pretty
8 specific with APS and AT, and I would say that it is going
9 to depend upon funding levels. So if, for instance, we
10 were back at sequester levels, I would be less confident
11 that we were going to be able to do APS and AT and start
12 fielding.

13 Senator Cotton: It seems like a challenging balance
14 to get back to the pre-positioned activity set. On the one
15 hand, if that equipment is needed, you need it to be the
16 most capable equipment we have. On the other hand, you
17 might have it sitting idle for years at a time.

18 General Murray: Yes, sir, and an earlier question was
19 about the next generation of Bradleys and tanks, and that
20 is actually in the ERI OCO request, and so the 81st
21 equipment that General Anderson talked about, the intent is
22 to turn that into the SEP A3 and the Bradley V4 -- other
23 way around -- the SEP V3 and the Bradley A4 for that second
24 set of ASP stock in Europe.

25 Senator Cotton: One final topic, General Murray,

1 obviously, aviation has been a main recurring topic of
2 conversation here. That is in part because it is pretty
3 expensive, I think 20 percent of RDT&E, 20 percent of our
4 procurement, but also, as we look at some of the
5 capabilities our adversaries have that General McMaster has
6 cited, you know, are our rotary-wing aircraft able to
7 support troops on the ground given the kind of tiered air
8 defense you see from the S300 or S400 systems in places
9 like Ukraine or Syria or wherever else Russia might
10 position them or sell them?

11 General Murray: And I will let H.R. kind of tag onto
12 this, too, Chairman Cotton, but, I mean, you know, if you
13 have those type of active air defense systems, we would
14 have a difficult time operating rotary -- we would have a
15 difficult time operating fixed-wing. And I think H.R. will
16 kind of say that is the requirement for ground forces
17 because we have always operated -- so, for instance, we
18 have also taken a lot of artillery out of our force
19 structure because for the last 15 years we have operated
20 under the assumption that we would always have air
21 supremacy from our Air Force. And we have got a great Air
22 Force, but here recently within the last year or two, we
23 have got to challenge that assumption. So in that type of
24 threat environment, no, we could not operate our rotary-
25 wing aircraft.

1 And you talked about protection, and we have talked
2 about APS. APS, as H.R. said, also applies to air. And we
3 are probably further along with the APS for aviation, our
4 rotary-wing aircraft than we are for ground, and we have
5 continued to invest in that as well.

6 General McMaster: So I would just say it would put a
7 premium on really operating low level for rotary-wing
8 aircraft. Anything that is medium or high altitude is
9 extremely vulnerable to the long-range systems. So then as
10 you are operating at low level, you really have to ensure
11 mutual support, as you know, between ground and air forces
12 and aviation forces. And this is where the 11th Aviation
13 Brigade comes in as very important because we have to train
14 as air-ground teams, develop that common understanding of
15 how we provide that mutual support.

16 Ground forces clearing, for example, shoulder-fired
17 air defense systems so then attack aviation can operate
18 above or maybe even slightly behind those ground forces and
19 pose that enemy with multiple dilemmas. We want,
20 obviously, our enemies to respond to multiple forms of
21 contact simultaneously, indirect fire, aviation, ground so
22 that they cannot respond to everything that we are doing to
23 them in close combat.

24 And so in those kinds of tiered air defense areas, it
25 put a premium on air-ground operations at the lower

1 tactical level and ensuring mutual support between our
2 aviators and our infantry armored cavalry team.

3 Senator Cotton: All right. Gentlemen, thank you very
4 much for your time. Thank you very much for a productive
5 conversation. And most importantly, thanks for your
6 service to our country.

7 This hearing is adjourned.

8 [Whereupon, at 4:34 p.m., the hearing was adjourned.]

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