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**ARMY FUTURES COMMAND:
WILL IT HELP?**

HEARING

BEFORE THE

SUBCOMMITTEE ON READINESS

OF THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

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ARMY FUTURES COMMAND: WILL IT HELP?

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON READINESS,
Washington, DC, Thursday, September 13, 2018.

The subcommittee met, pursuant to call, at 1:30 p.m., in room 2020, Rayburn House Office Building, Hon. Joe Wilson (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. JOE WILSON, A REPRESENTATIVE FROM SOUTH CAROLINA, CHAIRMAN, SUBCOMMITTEE ON READINESS

Mr. WILSON. Good afternoon. The subcommittee will come to order. I would like to welcome each of you to the hearing of the Readiness Subcommittee of the House Armed Services Committee on the new Army Futures Command.

Today the subcommittee will hear from the Under Secretary of the Army and the Commander of the Army Futures Command about the reasons the Army decided to establish a new major command, the most significant restructuring of the institutional Army since the 1970s.

Because this new entity will work within the existing Army structure, the subcommittee will be interested in learning how the Army Futures Command will work with other important players in the Army modernization process. Relationships with the Assistant Secretary of the Army for Acquisition, Logistics and Technology [ASA(ALT)], as well as those with the Army's Materiel Command [AMC] and the Training and Doctrine Command [TRADOC], will be critical. Indeed, it is difficult to envision how all these changes will synchronize in a smooth fashion.

We recognize that the Army's intent is to improve and speed the modernization process. As you are aware, acquisition improvement across the Department of Defense has been a committee focus for a long time, though discernible change is elusive.

We also are eager to understand how the Army intends to overcome the obstacles to improvement that have frustrated so many who have tried to overcome them. While I am hopeful, I am not yet persuaded that a new command is the right answer to the Army's acquisition challenges.

We welcome the witnesses' perspective on these issues and any recommendations you may have.

Before I introduce the witnesses, I turn to the extraordinarily distinguished ranking member of the Readiness Subcommittee, the gentlelady and wonderful individual from the beautiful territory of Guam, Madeleine Bordallo, for her opening comments.

[The prepared statement of Mr. Wilson can be found in the Appendix on page 31.]

STATEMENT OF HON. MADELEINE Z. BORDALLO, A DELEGATE FROM GUAM, RANKING MEMBER, SUBCOMMITTEE ON READINESS

Ms. BORDALLO. Thank you very much, Mr. Chairman. Your introductions get better by the day.

And thank you to the witnesses for being here to discuss the establishment of the Army's newest four-star command, Army Futures Command. And I want to congratulate the general on his appointment.

Up to this point much of the focus and attention has been placed on the selection of the Army Futures Command headquarters, and I understand that the Department has selected Austin, Texas. And I know some Members may still have questions about the process and the metrics used to make the final stationing decision.

Aside from location, as the Army proceeds with standing up Futures Command, the committee has questions on the roles and the mission of this new command. The Army has faced multiple challenges with its efforts to modernize and rebuild the service's full-spectrum readiness.

Furthermore, the Army's past attempts to change internal policies, command relationships, and organizational structures in an effort to improve the acquisition process has met mixed results.

So I look forward to hearing how you believe it will be different this time. And I hope you will also address three areas of concern. First is the risk of creating another massive bureaucracy. Second is duplicating the role of the Army Staff. And third is the long-term risk to civilian control of the acquisition system.

With regard to the bureaucracy concern, while I know the intention is to keep this new four-star command small, history shows that over time all such commands grow rapidly. No matter who is in charge, large administrative commands like this often develop internal processes that consume vast amounts of time and resources.

So in creating yet another large organization, I think it is fair to ask if the Army is, in fact, just creating more overhead that will further slow an already cumbersome process.

Secondly, many of the functions that the Army Futures Command is expected to address are already being performed somewhere else on the Army Staff, and I am concerned that the Army is standing up a four-star organization with up to three lieutenant generals as deputies without a clearly defined command relationship and an organizational plan.

I understand that as the Army separates staff roles and responsibilities there may be a period of redundancy and inefficiency. However, I look forward to hearing your plan to mitigate these inefficiencies.

And finally, I hope you will address how civilian oversight of the acquisition system will be maintained with this new command. In my view, the law is clear that the acquisition chain of command runs from program managers through the civilian Assistant Sec-

retary of the Army for Acquisition, Logistics and Technology, who derives his authority from the Secretary of the Army.

While the proposed structure appears to be consistent with the letter of the law, I am concerned that it comes close to violating the spirit of the law in that over time the civilian acquisition leadership will be eclipsed by the size and the weight of this new organization run entirely by general officers.

So I would like to hear today about how such a loss of civilian authority and control will be avoided.

As the Army has noted, the establishment of the Futures Command is a significant undertaking in a reorganization plan, and like with any major organizational change I am sure there will be challenges as the command is stood up and begins to influence decisions affecting modernization and readiness.

I support the Army's efforts to improve the acquisition process; however, it is our responsibility today to ask hard questions, especially while we are early in the development.

I look forward to your comments and working with you toward a successful conclusion.

And I want to thank you, Mr. Chairman, for calling this hearing, and I yield back.

Mr. WILSON. And thank you very much, Congresswoman Bordallo. We always appreciate your tireless service.

I am pleased to recognize our witnesses today. I would like to thank them for taking the time to be with us. They are the Honorable Ryan McCarthy, the Under Secretary of the Army, and General John M. Murray, Commanding General, U.S. Army Futures Command.

Before we begin, I would like to remind the witnesses that your full written statements have been submitted for the record, and we ask you summarize your comments to 5 minutes or less.

Secretary McCarthy, we would like to begin with you, and we look forward to your opening statement.

**STATEMENT OF RYAN D. McCARTHY, UNDER SECRETARY
OF THE ARMY**

Secretary MCCARTHY. Thank you, Mr. Chairman.

Good afternoon, Chairman Wilson, Ranking Member Bordallo, and distinguished members of this subcommittee and staff. I appreciate this hearing's acknowledgment of the importance and gravity of the Army's establishment of Futures Command and the impact it will have on our force.

First, I want to personally thank each of you for the 2-year defense budget topline increase of \$22.5 billion this past year. This generous amount in support has primed the pump to reenergize our Army's modernization efforts. Your confidence in our ability to maximize the utility of every dollar is not lost on us.

Today, I, alongside General Mike Murray, look forward to sharing why the Army is reorganizing, how the Army is institutionalizing a government structure to transcend personalities, and how the Army is establishing relationships to ensure modernization of our formations.

Dr. Esper and General Milley testified in April on the changing nature of warfare, increasing adversarial capabilities, and how the

Army is meeting the National Defense Strategy requirements. This reason underpins our reorganization and the establishment of Army Futures Command.

We looked across the entire Army enterprise to put all modernization tasks that generate a warfighting capability under one roof. These tasks include warfighting concepts, requirements, experimentation, and fielding of materiel and nonmateriel solutions.

By design, this is not your normal Army command. It can't be. To thrive in the Information Age we must operate in a fast-paced, dynamic, and evolving ecosystem. We will become comfortable being uncomfortable by partnering with nontraditional actors, operating with a lean organizational design, and sharing a connection to academia and industry we have never achieved before.

This change enables us to address problem solving differently and gain accurate customer feedback by incorporating the best of Army warfighters with the best of American academia and industry.

We are confident that Army Futures Command will address our past modernization shortcomings. This command will now drive accountability, provide agility and solution generation, and produce results, ultimately bridging the future and the fielded force.

This command will be painstakingly focused on the future fight. We are ensuring the lethality and survivability of our soldiers and the continued preeminence of our Army as the world's premier land fighting force. With the help of industry, academia, and Congress, we can produce what our soldiers need.

Two months ago we selected Austin, Texas, as the headquarters of Futures Command. Austin provides the necessary mix of STEM [science, technology, engineering, and math], R&D [research and development] investment, a mature incubator ecosystem, a top-tier university system to partner with, and a disruptive and welcoming culture that propels a vertical integration of our concepts through solutions, all within a few city blocks. We couldn't be happier with the reception and support from the City of Austin, the University of Texas, and the State of Texas.

Recently, I was asked by the Governor of Texas what success looked like and how I would know we made the right decision in 10 years. I told him the answer is simple: We will have next-generation capabilities in the hands of our soldiers in the next 3 to 5 years, as that is the only metric that matters.

Congressional support has provided the blueprint and resourcing for this endeavor, and we must produce the results that your trust requires. Anything less is not acceptable to the current Army leadership, to this committee, or the citizens of this country. We appreciate your unrelenting support and acknowledge the work remaining.

Thank you for your time and the opportunity to testify today. I look forward to your questions.

[The joint prepared statement of Secretary McCarthy and General Murray can be found in the Appendix on page 32.]

Mr. WILSON. Thank you very much, Secretary McCarthy.

We now proceed to General Murray with your opening statement.

**STATEMENT OF GEN JOHN M. MURRAY, USA, COMMANDING
GENERAL, UNITED STATES ARMY FUTURES COMMAND**

General MURRAY. Thank you, sir.

Good afternoon, Chairman Wilson, Ranking Member Bordallo, and distinguished members of the subcommittee. Thank you for the opportunity to testify before you today.

The world has changed significantly since our current ground combat systems were designed and built in the 1970s and 1980s. The rapid pace of technological change, coupled with the speed of innovation we see in the world today, demand that the Army makes changes in the way we develop and deliver concepts and capability for our soldiers.

I fully understand the weight of responsibility that now rests on my shoulders and accept that responsibility without hesitation. The stakes could simply not be higher.

I am personally and professionally invested to ensure that future soldiers have the concepts and capabilities they need when and where they need them to fight and win on a future highly lethal battlefield. We simply must change our linear sequential modernization process to create a flexible, agile, and innovative organization that adapts to a rapidly changing world and evolving threat.

This command will provide more than oversight on cost, schedule, and performance. It must also provide value—value to the American people, value to Congress, value to the joint force, value to our Army, and most importantly, value to the young men and women that will be defending our ideals and freedoms on a future battlefield.

I have four initial priorities to ensure the Army Futures Command succeeds.

First is to recruit, hire, and emplace talent throughout the organization. We are being very deliberate about aligning the right mix of talent, both military and civilian, against the complex problems the Army must solve.

Second, build relationships and establish our footprint within Austin's entrepreneurs, incubators, university system, and private industry. This is what led our leaders to the selection of Austin, and we must harness what the city has to offer. As our command gets established, we will start seeking to put small footprints into other incubator hubs across the U.S. to gain access to as much of America's talent as we possibly can.

Third, embrace the culture we need within our organization to transform from the Industrial Age to the speed of the Information Age. When you visit us in Austin you will not see us in uniforms. What you will see is us operating out of a high-rise, integrating on a daily basis with entrepreneurs, scientists, and businesses.

We will employ the entrepreneurial spirit of accepting the risk of failure early and cheaply in order to create the best solutions for our soldiers.

Fourth, integrate Army organizations and missions. I understand that change is hard, it will be disruptive, and building the team from existing organizations dispersed across the United States will take leadership and patience.

This is not about success of any one organization or individual. It is about delivering concepts and capabilities that ensure our sol-

diers and formations have overmatch on a future battlefield. We must stay focused on output.

Last October we stood up eight cross-functional teams, or CFTs, aligned with the Army's six modernization priorities. In less than 12 months the CFTs have validated our approach and produced solutions that will be rapidly delivered to our soldiers, in most cases cutting the traditional requirements and acquisition process in half or better.

Given sufficient resources and time, Army Futures Command and the CFTs will continue to produce similar results. It is those results that will ensure the Army retains overmatch, is ready for multidomain operations, and most importantly, will ensure our soldiers are ready to deploy, fight, and win on a future battlefield.

Let me close by saying we cannot succeed without congressional support. It is absolutely essential. I look forward to all of you visiting us in Austin and providing you updates on our progress on a routine basis.

Thank you for your time today, and I look forward to your questions.

Mr. WILSON. Thank you very much, General Murray.

For the benefit of each member of the subcommittee, we will adhere to the 5-minute rule for questions to the witnesses, and I appreciate the 5-minute rule will be strictly administered by professional staff member Tom Hawley. And we will begin with me under the 5-minute rule.

Secretary McCarthy, as you are aware, title 10 vests responsibility for the acquisition and budgeting to Senate-confirmed civilian officials in the Department of the Army. Given these restrictions, will the Army Futures Command have the authorities necessary to carry out its mission? On the other hand, are you concerned that the Secretary of the Army and Assistant Secretaries will lose visibility of programs they remain accountable for?

Secretary MCCARTHY. No, sir. Sorry, no, we are not concerned, sir.

Mr. WILSON. Okay. We appreciate the succinct response. That was clearly understood. And, in fact, the next question, I think you may have answered that, too, before I get to it, and that is, are there any further legislative initiatives that are needed by anyone here to back up your efforts?

Secretary MCCARTHY. Not at this juncture, sir, no.

Mr. WILSON. Thank you very much.

And, General Murray, can you describe how you will ensure your command will work with the Army Materiel Command and the Training and Doctrine Command? How will you ensure that the work of your command has influence in the annual program and budget cycle? How will you interact with that process? And your record of service is encouraging that somehow all of these challenges are going to be met.

General MURRAY. Yes, sir.

So simply what I said in my opening statement is none of us, whether it is TRADOC, AMC, or Army Futures Command, or FORSCOM [U.S. Army Forces Command], can be successful if we stay focused on output for our soldiers, delivering value to young

men and women that fight our battles. And so that is how you stay unified.

And it is not just those organizations. It is also, as you mentioned, the Assistant Secretary of the Army for Acquisition, Logistics and Technology.

So relationships will be exceptionally important in going forward, and I think as long as all of us remain focused on what we deliver to our soldiers, that is how you get to success.

Mr. WILSON. And a concern that we have all had is to be able to change to the rapidly ever-changing technology. Do you feel like this can be achieved?

General MURRAY. I do, sir, because we are going to rely not only on our traditional lab system, which we will continue to rely upon, but we are going to open our eyes to technologies that we didn't even know existed. So we are going to get out and we are going to find disruptive technologies that can either be incorporated directly through the acquisition executive or through our lab system.

Mr. WILSON. And Secretary McCarthy, you have already really addressed this, too. You are ahead of the curve. And that is the unique placement of all places Austin, Texas. And can you go through that again as to what were the determining factors of locating at Austin?

Secretary MCCARTHY. Sir, we started the process about 8 or 9 months ago where we got an outside firm to assist us in developing a quantifiable formula that had characteristics like STEM talent, R&D investment, density of entrepreneurs, skill sets like systems engineering, software development, and looked at the densities associated where these skills lied in the country.

Also had accessibility, how fast could we assume the location, our position in that ecosystem, as well as the cost of living.

So we started with 150 cities, narrowed it down all the way to 5. And then I personally went onto the due diligence visits. And then ultimately it came out that Austin scored the highest of the 5 cities that were our finalists, sir.

Mr. WILSON. Thank you very much.

And, General Murray, I think the American people would be interested in learning of the location of your command, which is quite unique.

General MURRAY. Yes, sir. It is on the 19th floor of the University of Texas Systems Building. Currently it is concrete floor, concrete pillars, and overhead water pipes. It will be built out over the next 6 months right smack in the middle of downtown Austin with a small cell operating in a place called the Capital Factory, which is an accelerator hub.

Mr. WILSON. We all think of military facilities as extraordinary acreage. And so to find out the centralized nature of what you are doing, it shows vision. And I want to commend you and thank both of you.

And we now proceed to Congresswoman Bordallo.

Ms. BORDALLO. Thank you very much, Mr. Chairman. And I hope you don't extract this from my 5 minutes, but there is a native of Guam in the audience today, and I am very proud of her. She is the military assistant to the Under Secretary of the Army, Mr. McCarthy, and she is seated right over there, Major Unpingco.

Would you raise your hand? You are a little bit short. Stand up. Stand up.

Mr. WILSON. Major, thank you for being here.

And that shall not be counted against—

Secretary MCCARTHY. Can I correct the record, sir? She is a lieutenant colonel promotable.

Ms. BORDALLO. Oh, all right, all right. And her father was the Speaker of the Guam legislature for many years, and I served as a senator under his leadership.

So welcome. Welcome to you.

All right, my question. Now we are starting the time, Mr. Chairman? Thank you.

Mr. WILSON. Now you can begin.

Ms. BORDALLO. Thank you, Mr. Chairman.

This question is for either witness. Given the rapid timeline for standing up this huge and complex organization that is expected to be fully operational by the summer of 2019—is that correct?—how are you going to measure success and progress? And more importantly, what is your plan if you are not seeing any value added?

General MURRAY. So, ma'am, like I said in my opening statement, the ultimate value is a value to the soldier. And so that is how we will ultimately measure output.

The organization will build between now and about March, is when I pick up my last organization, and fully operational in—July 31 is the target date.

I am currently working specific metrics in terms of the amount of time it takes us to deliver this capability, but like I said earlier, I think ultimately you will be able to measure the value of this organization. The ultimate metric is soldiers on the battlefield being able to utilize the equipment and the concepts we will produce.

Ms. BORDALLO. Secretary McCarthy, do you?

Secretary MCCARTHY. If I may add, ma'am, the work really began about 3 years ago, and it really started with a conversation between Senator McCain and General Milley right before his confirmation hearing. And his point of emphasis was that the Army needed to reorganize itself so that it could bring stakeholders together and move faster in this process, reduce the span time, get better-informed decisions.

So the work really began then with then-Lieutenant General Murray and Major General Jimmy Richardson, who was just recently promoted to three stars, as his deputy. So a lot of the work had been done over about a 2-year horizon.

And then timing worked out with this current leadership team's buy-in and really found another gear last fall when we made the announcement to pursue this. And so a lot of rigor and energy applied over a 3-year horizon.

Ms. BORDALLO. Thank you.

This next question is also for either witness. In creating Army Futures Command the Army is taking major elements out of two existing four-star commands, Army Training and Doctrine Command and the Army Sustainment Command.

So since these organizations are getting smaller, have the Army leaders considered making these commands three-star commands in order to reduce overall administrative overhead?

Secretary MCCARTHY. Ma'am, what we believe as the Army's senior leadership team is that it has provided much greater clarity and focus for all of our major commands.

So Training and Doctrine focuses—it hones in on assessing individuals and preparing them to send to the operational force. FORSCOM, laser focused on readiness. And with AMC, by taking out that S&T [science and technology], that research and development organization, they look solely at the sustaining of the force. The power of the RDECOM [U.S. Army Research, Development and Engineering Command] is really part of the nucleus that is behind the Futures Command.

So we see greater focus within the major commands, and we know it will improve performance.

Ms. BORDALLO. And I have one final question, Mr. Chairman.

Under Secretary McCarthy, I understand that the three-star deputy to the Assistant Secretary of the Army for Acquisition, Logistics and Technology will be answering in some capacity to both the Assistant Secretary of the Army for Acquisition, Logistics and Technology and the Commander of the Army Futures Command.

So in my experience answering to two bosses has never been very successful. I expect that at some point there will be diverging instructions or conflicts. Who will be the honest broker to ensure that civilian oversight for acquisition retains its lawful integrity without overriding the commander's authorities?

Secretary MCCARTHY. Ma'am, the purpose behind General Ostrowski's role as the MILDEP [military deputy] for ASA(ALT) being tied into the command is so that he can perform the oversight and management of the program managers that are matrixed into the command. They receive all of their instructions from Dr. Jette.

But this brings the acquisition community closer to requirements and our intent of improving planning, programming, budgeting, and execution. So this is an organizational format to bring us closer together so we can perform better. But his instructions are from Dr. Jette.

Ms. BORDALLO. Do you feel the same way, General?

General MURRAY. Absolutely, ma'am. So I see General Ostrowski as my primary acquisition adviser.

Ms. BORDALLO. Thank you.

And I yield back, Mr. Chairman.

Mr. SCOTT [presiding]. Thank you, Ms. Bordallo.

Mr. Secretary, you answered Chairman Wilson's question pretty succinctly with a "no" a minute ago. And I want to go back to one of the things that I think a lot of us have concerns about, is whether or not there will be challenges in harmonizing the authorities within retaining Army Materiel Command, the Assistant Secretary of the Army for Acquisition, Logistics and Technology, and the standup of Army Futures Command. Do you see any difficulties in the harmonization between the three?

Secretary MCCARTHY. Yes, sir. There will be cultural challenges. We have decades of ingrained behavior. So like all things, this will require a great deal of senior leadership focus, as well as in communication internally and externally to stakeholders.

Mr. SCOTT. Just briefly, how do you see a day in Army Futures Command? I mean, from start to finish. Can you walk us through how, General, you expect a day or a week or a month?

General MURRAY. I don't know that I can walk you through a time period, but I can talk you through what my priorities will be from the headquarters location. And it is really just the synchronization of efforts across the entire modernization enterprise and ensuring that that enterprise is focused on what is most important to the Army.

A lot of that is going to have to be worked through Dr. Jette as the Army acquisition executive. I think I have oversight of the entire acquisition process. So really from the beginning of a requirement through the divestiture of a piece of equipment, I don't have authorities across that spectrum.

So maintaining one person with oversight that can point out opportunities and arising problems so they can be solved quickly by whoever is responsible for that piece of it I think is one of my primary roles. And then synchronization, integration, and I would almost use the word orchestration of the entire force modernization effort.

Mr. SCOTT. So some things would seem pretty simple, like the selection and purchase of a new pistol. Other things are more complex, you know, what type of system replaces something like an Apache.

Will you deal with the simple issues as well as the complex issues? Will something like a pistol or a rifle purchase come through your command or will that be left?

General MURRAY. I think it depends on whether it is a future capability or a near-term capability, sir. So I doubt that whatever replaces the new pistol would come through my command, but I am focused on Next Generation Squad Automatic Rifle and Next Generation Squad Weapons.

So if it is the next evolution or the revolutionary breakthrough that the CFTs are focused on. But I expect that I will remain focused primarily on the Army's priorities.

Mr. SCOTT. I think most of my questions have been answered. So I yield the remainder of my time and recognize Mr. Courtney for 5 minutes.

Mr. COURTNEY. Thank you, Mr. Chairman.

Thank you, both witnesses, for being here today.

I get the logic and the intent of this initiative. The Army has struggled over the years in terms of new acquisition programs, and a lot of times it plays out in front of this committee—the Future Combat Systems program, which I think was terminated by Secretary Gates; the Ground Combat Vehicle, which I think was terminated by Secretary Hagel.

Again, the demise of those programs was something that the Armed Services Committee, and particularly subcommittees like Readiness, sort of had front row seats while that was all sort of going.

So again, I think that what you are trying to do, which is to reset the whole approach here in terms of acquisition, certainly makes a lot of sense.

I guess what I would be curious to hear is that if this subcommittee 2 years from now held a hearing on sort of the before and after standing up, what would be the matrix—or metrics rather—in terms of what are we going to see happen in 2 years that would really be, again, a measuring stick so that we can see that real change is occurring here in a positive? And, again, I would open that to either one of you or both.

General MURRAY. Sir, you probably read this in a couple articles. I can't do miracles, so I am not going to deliver you a new tank in 2 years.

But what I do think you will see is some of the capabilities the cross-functional teams are working on will be in production and being delivered in the hands of soldiers within the next 2 years, not all of them but a couple key pieces of it.

And I do think that you will see a very deliberate effort to align, synchronize, and orchestrate across the entire modernization effort, and I think you will see much shorter timelines to deliver capability to soldiers.

Secretary MCCARTHY. Yes, sir. Very similar vein to what General Murray described is we will be able to show you the span time reduction in requirements development. And then moving towards experimentation and prototyping of the performance of—for procurement of weapons systems, very similar to the way manufacturing institutions measure return on invested capital, the speed at which and the performance at which you can put together a concept.

Mr. COURTNEY. So I am not proposing that you should just do stuff for the sake of doing stuff, but, I mean, you do sort of visualize that 2 years from now you will be able to present, again, real concrete sort of timelines and particularly priorities that you have identified for the command?

Secretary MCCARTHY. Yes, sir.

General MURRAY. Yes, sir.

Mr. COURTNEY. All right. Well, who knows we will be around 2 years from now, but I am sure, again, this subcommittee will be certainly very anxious to sort of watch if we have sort of figured out a solution to what has again been an unfortunate time for the Army over the last few years.

With that, I yield back.

Mr. SCOTT. Mr. Russell, you are recognized for 5 minutes.

Mr. RUSSELL. Thank you, Mr. Chairman.

And it is great to have the Under Secretary here today and General Murray.

And if I may, to my colleagues on the committee, you couldn't have a finer person in charge of this command. I have known General Murray since we were both captains. I served with him at Fort Irwin, Fort Benning, Fort Hood. We had overlap in operational combat deployments to Iraq and also in the initial entry forces into Kosovo. We were even on the Army's 50th anniversary dozen soldiers that were picked to do that commemoration team, and we served together in Schweinfurt and Fort Hood.

I know this general that sits before you, and he is a warrior. He is not a logistician that can't identify the muzzle end of a rifle or

something of that nature, not that we don't love our logisticians, we do. But I am speaking as an infantryman, so forgive me there.

We often say nothing is too good for the troops, and nothing is pretty much what we have given them since the 1980s. And all of the things that we were able to deliver to our forces in the 1980s and early 1990s were a result of technologies that were developed in the 1970s.

And if I might opine, I don't share the pessimism that some may share on our panel today. I actually have optimism for it. Because if you look at where our acquisition process has been, we have a long line of almost hall of fame type failures to show for what has not worked in the last 30 years: Future Combat System; Crusader; Comanche; Land Warrior; melting plastic rifles at Fort Benning that we almost adopted and thank God we didn't.

One bright spot was FBCB2 [Force XXI Battle Command Brigade and Below] and Force XXI, which really only came into its own when that was turned over to field commands and they made it work and then we used it in time of war. And the same could be said for the soldiers support things like communications UAV [unmanned aerial vehicles], night and thermal fusion. But that was largely driven by the special operations forces community that circumvented these traditional nonworking acquisition processes.

So ground troops closest to the ground. And my own opinion on this is the warriors know what they need, and this is an approach to try to get at it. And I applaud both the Secretary of the Army and the Under Secretary, General Milley, others that have taken this bold move. When we have seen the best developments in this age of information it is coming out of places like DIUx [Defense Innovation Unit Experimental], SOFWERX, other things that circumvent an archaic divided system that doesn't work.

So we have to try something new. Otherwise we will continue to fight in 1970s technologies well into 2050, and we can't afford to do that, but right now that is what our soldiers have. So I will get off my soapbox a little bit on that. But I am actually quite optimistic, but my blood type is B positive, so it is in my DNA.

So I would like to ask, General Murray, you laid out the four priorities: recruit the best talent; build the relationship with incubators and educators; embrace the culture from the Industrial Age to the Informational Age, I think that is a really key one; and then the integrating the Army organization and missions.

A lot of the concern from this panel seems to be on that last one, on the integration. But describe your colleagues' reaction to it in the other four-star commands. And by the way, I want to congratulate you again on the promotion to your fourth star and your command. But describe that relationship and the reaction to it from the field.

General MURRAY. Thank you, sir.

Start with the reaction first. So I have full support from the other four-star ACOM [Army Command] commanders.

I was on the phone with General Perna from AMC last night, and as you would imagine, with a 2-year budgeting cycle the money is going to be a little flaky for the first couple years. And that is specifically what we talked about. And he pledged to me he would support my priorities even though he is administering the funds.

I sat with General Abrams from FORSCOM a couple days ago. What I asked from him was basically what you described, said I need a partner so I can get soldier input and prototypes into the hands of soldiers so we can deliver what is important to soldiers first and focus on that.

And then General Townsend at TRADOC. Obviously, I am picking up a part of his organization. I have a free and open invitation to start work that I really pick up next summer from General Townsend. So the relationship has been exceptionally positive.

Mr. RUSSELL. Thank you for that.

And, Mr. Secretary, is there anything that—I mean, the OSD [Office of the Secretary of Defense] side of the five-sided building can often be almost contrary to the operational side. So how are you maneuvering these political realities with the need to build the future as you are trying to weave your own battles through there?

Secretary MCCARTHY. Sir, as an alumnus of OSD, I am fully aware of what you mentioned.

A lot of that is just the engagement, the investment of time of going up and down the E Ring and meeting with my teammates.

A lot of the authorities that have been delivered by this committee have really reset the balance so that the services do manage a lot more major defense acquisition programs than we have in the last couple decades. So like all things, it takes engagement and just a lot of effort on a daily basis, sir.

Mr. RUSSELL. Thank you.

And thank you, Mr. Chairman. I yield back my time. Thank you.

Mr. WILSON [presiding]. Thank you, Congressman Russell.

We now proceed to Congressman Salud Carbajal of California.

Mr. CARBAJAL. Thank you, Mr. Chairman.

And thank you, Under Secretary McCarthy and General Murray, for being here today.

The purpose of the Army's Futures Command is to streamline modernization efforts in order to get new technology and equipment to the soldiers quicker. The creation of this new command is a result of significant failures involving major combat systems and the growing concern that the U.S. is falling behind its adversaries, such as Russia and China, when it comes to our capabilities.

It is also a solution that could potentially address the notorious complaint that it just takes too long to do business with the military. I think General Milley explains it best, quote: What we have is essentially a linear process, going from an idea, writing up a big requirements document, and then vetting it through multiple steps. It takes years, and it is not going to be effective going into the future.

The whole idea behind this new command is to develop a system where we can ask questions and change requirements at the front end of the process, so that if we are going to fail we fail early and fail cheap, as Secretary Esper would put it.

Secretary McCarthy and General Murray, I would like to get a better understanding of how the current linear process will be changed? What improvements and changes should industry expect to see, and when, as they begin working with the Futures Command?

Secretary MCCARTHY. Sir, if you look at the formation of the cross-functional teams, and this is really the strongest element of the command, is you have a single belly button, if you will, point of entry to a portfolio, Long Range Precision Fires, for example. So as a vendor they go into one place and they can talk to all of the stakeholders associated with the process.

This team of teams concept brings a requirements leader with a program manager, sustainer, tester, all of those key stakeholders together, formalizes the relationships. Why it had taken 20 years to field weapon systems is the span time of moving from desk to desk, which historically these various stakeholders were in major commands, headquarters, Department of the Army, spread across a million-person organization.

Now we are bringing them all together and reducing that time it takes to move information, but also the clarity. If you know this teammate you can work the tradeoffs in real time between cost, schedule, and performance.

Our initial feedback from industry is they are very encouraged by this. They can go to one place and they can work through the various issues associated with an RFP [request for proposal], better understand a requirement that we intend to put on an RFP.

So it has created better relationships, but really more so than anything it has improved the timelines it takes to move information and formalize these teams to work better together.

General MURRAY. Yes, sir. And I would just add, so you mentioned requirements documents. So a part of this is experimenting, prototyping, putting it in the hands of soldiers, getting soldier feedback, involving a cross-functional team—scientists, testers, program managers, operators—to make sure that we understand what is possible before we write a requirements document.

That is what has led us to failure in the past sometimes, is we would write a requirement that was not feasible where it would take years and years to test; or it was just unaffordable. So costers are also a part of this.

And then I would just echo what the Secretary said in terms of the CFTs, cross-functional teams are showing us. So, for instance, in Air and Missile Defense we needed a mobile we call a SHORAD, short range air defense, to keep up with our maneuver brigades. The initial estimate was we could field one in 2025. We are now down to four battalions by fiscal year 2020. The requirements process for that was done in 90 days as opposed to the 3 to 5 years it was taking 2 to 3 years ago.

So I think there are some examples out there that we can tie into to really how this is going to work.

Mr. CARBAJAL. Just to follow up. Coming from local government we call that concept one-stop shop.

But let me ask you, what is the timing? I hear what you are telling us, but as we know the DOD [Department of Defense] is notorious for saying and characterizing this great concept. But if somebody is watching this hearing and is going to be on the receiving end, the other end of procurement, when are you going to start implementing these systems?

Secretary MCCARTHY. Sir, we have already begun with the cross-functional teams that we piloted last fall that are managing these six portfolio capabilities.

General MURRAY. If I can go over just a little bit, Mr. Chairman.

Mr. WILSON. Briefly, please.

General MURRAY. Yes, sir.

I think the key thing is with the relationships we talked about earlier. These are led by former brigade commanders, so these are coming out of armor and infantry brigades. There is a PM [project manager] on their team, and the relationship from that PM back through the acquisition channels has proven to be very, very solid.

Mr. CARBAJAL. Thank you.

I yield back, Mr. Chairman.

Mr. WILSON. Thank you, Mr. Carbajal.

We now proceed to Congressman Mike Gallagher of Wisconsin.

Mr. GALLAGHER. Thank you, Mr. Chairman.

And, General Murray, we would gladly accept any stories you have about our colleague here, having served with him for so long. Particularly afterwards, if you want to meet, I will gladly receive those.

Thank you for being here today for what is a really interesting discussion.

Just quickly, are all of the cross-functional teams, they will be housed physically together in Austin on a day-to-day basis?

Secretary MCCARTHY. No, sir. They are spread out all over the country. Our Long Range Precision Fires are located at Fort Sill, Oklahoma. The Ground Combat Vehicle is at Automotive Research Development Command in Warren, Michigan. The Future Vertical Lift is in Huntsville, Alabama. Our Network is in Aberdeen Proving Ground. Missile Defense is at Fort Sill. And the Soldier Lethality is at Fort Benning, Georgia.

We have two complementary efforts, Positioning, Navigation, and Timing and Synthetic Training Environment. The Synthetic Training Environment is in Orlando, Florida, with the PEO STRI [Program Executive Officer for Simulation, Training and Instrumentation], and the PNT, or Positioning, Navigation, and Timing, is also at Huntsville.

Mr. GALLAGHER. And then how many personnel will be physically present in Austin? And then what will be sort of the effort to sort of bring people together on a routine basis if the cross-functional teams are sort of the heart of this effort, right?

General MURRAY. Yes, sir. They were. And I have to pass on your offer. He has got more stories on me than I do on him.

Mr. GALLAGHER. It is mutually assured destruction, I would imagine, yes.

General MURRAY. So the real function, it will end up being a fairly large organization when you look at what is now RDECOM at Aberdeen Proving Ground, part of ARCIC [Army Capabilities Integration Center], which is at Fort Eustis, Virginia, plus the cross-functional teams.

The headquarters in Austin is capped at 500. My goal is to keep it below 500 and even with contractors not grow much above that.

And you really unify, I think, and I think that is the key premise we are trying to get at, is these various stovepipes in the past had

no central oversight, had no central person kind of establishing priorities, creating visions, driving discipline and accountability in the system, and that is the role the headquarters in Austin will play.

Mr. GALLAGHER. And I am sorry to be obtuse about this, but so who then is the belly button that the cross-functional teams loop into within just the team that is in Austin?

General MURRAY. They link directly to my one and only Deputy Commander, Jim Richardson, and ultimately to me.

Mr. GALLAGHER. Got it. And, obviously, TRADOC is probably losing the most responsibility in this reorganization, particularly when it comes to materiel and equipment planning. And if you look at the history of military innovation, successful militaries are not just those that acquire new technologies first, they are the ones that incorporate those new technologies into their doctrine, which in some ways is just as difficult, right?

So could you walk me through your process a bit to understand how ultimately you decided that it would be best to split these TRADOC functions across commands?

General MURRAY. So I think what you are referring to, sir, and I am sure you are familiar with the term, we call it DOTMLPF [doctrine, organization, training, materiel, leadership and education, personnel, and facilities]. So the integration of doctrine, training, leader development, materiel. There is a defined handoff between Army Futures Command and TRADOC, who remains responsible for that DOTMLPF integration.

So what I will focus on is the future operational environment. What would a battlefield look like in 2035? I am just picking that year. Is it in a major city? Where could it possibly be? What focus do we want? What peer competitor do we want to focus on to develop concepts, organizational structures, to identify gaps that can either be modified through doctrine, organization, TTPs [tactics, techniques, and procedures], in some cases materiel.

Everything other than materiel gets handed off to TRADOC in about—just outside—let's just call it just outside the FYDP [Future Years Defense Program], to do that integration, along with the concepts and requirements for the materiel solutions.

Now, the materiel solutions themselves ultimately get handed off to the acquisition community and ASA(ALT) to deliver the materiel. What I am really delivering is concepts, organizational structures, and materiel solutions to be integrated by TRADOC.

Mr. GALLAGHER. Yeah. And then just to end, as my time is running out, where I began. The reason I am sort of asking sort of simplistic questions about physical presence is it seems like we are placing a huge bet on the necessity of being in physical proximity to an innovative culture, right? I mean, that is the whole reason for relocating to Austin and entailing some costs therein.

I guess I just would have some concern that given the importance of the cross-functional teams, if we are still operating a scenario in which those are spread all across the United States and only sort of on a loose or semi-routine basis coming back to the heart of the effort in Austin, are we really achieving that sort of synergy that comes from physical presence?

Because I quite agree, I think there is some value to sort of being near ideas and discussions that don't often happen within the Pentagon or at Fort Eustis or wherever.

And so I don't know, Mr. McCarthy, if you just want to briefly address that concern.

Secretary MCCARTHY. It could be potentially a concern, sir, but what we see with the value of the command group being in an ecosystem like that of Austin is that we can tap into a lot of commercial technologies that have not really been afforded to the Department of Defense in recent years and forge our relationships with academia and business and improve our ability to do business with them.

The incorporation of the CFTs is to get them as close as we can to all of the elements of DOTMLPF, as well as the program management, and it is dependent upon the life cycle as well.

Mr. GALLAGHER. Thank you. My time has expired.

Mr. WILSON. Thank you, Congressman Gallagher.

We now proceed to Congressman Anthony Brown of Maryland.

Mr. BROWN. Thank you, Mr. Chairman. And I want to thank the Secretary and the General for being here today.

And, Mr. Secretary, looking forward to our visit to Aberdeen Proving Ground next week.

My question has to do with funding. So Maryland is the home of two significant research, development, test, and evaluation activities; Aberdeen Proving Ground, you have the networking cross-functional team, and then the Army Research Lab at Adelphi.

The cross-functional teams, as I understand it, are supervised by the Army Futures Command. There is some other reporting that happens to other at least directorates or commands, but you are supervising the cross-functional teams.

It is my understanding that the cross-functional teams within that RDT&E budget get their funding from the Advanced Technology Development account. The Army Research Lab, which is basic and applied research, gets their funding from those accounts.

So my concern is, how are we going to fund the CFTs, and will that funding come at the expense of funding for basic and applied research?

General MURRAY. So the first answer is, sir, that, yes, the CFTs report directly to me, and only for the last 3 weeks. Prior to that a lot of the success I credit to Mr. McCarthy and the Vice Chief of Staff, General McConville. They had direct access to senior leader decision makers, so they are not going through layer after layer after layer of bureaucracy to get a decision.

And that contributed a lot and that is what we are trying to replicate with a direct report to me. Obviously, the Chief, the Secretary, the Under, and the Vice still have access to them and will get periodic updates.

To answer your question on really the basic science moneys that the Army has versus the more traditional research and development moneys, there will be no impact to the basic science moneys. What I am counting on ARL [Army Research Lab] and other labs to produce, basic science labs to produce, is the future technologies that will be incorporated by the labs and CFTs at some point in the future.

Mr. BROWN. Just to clarify, you don't see the funding for the CFTs impacting the funding for basic and applied research?

General MURRAY. We have been very, very consistent in maintaining our funding in basic research and applied research for many, many years, and we see the value of maintaining that funding, because what that really addresses is the breakthroughs and the knowledge we are going to need 20 years from now.

Mr. BROWN. Great.

My next question is a followup to Congresswoman Bordallo regarding how do you measure success. You mentioned value to the warfighters, you said that you are developing metrics, so it seems to me that you are not able to put a finer point on that now, and I appreciate that.

But can you at least characterize what those metrics might look like a year from now, 5 years from now? What are some of the things that you are looking at when you talk about value to the warfighters, what those metrics might look like?

General MURRAY. In terms of value to the warfighters, I think that is going to be a very hard one to put metrics against. I think we are going to get a lot of that back from soldier input. So once we deliver it.

We have a history of delivering a capability after a 3- to 5-year requirements process, a 10-year development process. We have a history of delivering even the programs that were successful, something that is almost obsolete by the time it is delivered. And you get the most response from soldiers is, "This is nice, but I have seen so much better in many other places."

So I think that direct feedback, not only through the process but at the tail end, and really can a soldier apply this on a battlefield and does it enhance their chance of mission success, I think is, like I said, the ultimate metric. That is going to be really hard to put specific metrics on. That is probably why I can't pinpoint specific things.

There are things, and I hate process, although process is sometimes necessary. You know, one of the metrics that has been established is no more than 12 months to develop a requirements document, and that was a process that took anywhere between 3 to 5 years just a year ago.

Mr. BROWN. My last question. Before I ask it, I will say also that I share Mr. Russell's optimism for the Army Futures Command.

My last question. I know, Mr. Secretary, that one of the criteria in terms of siting the command was that it be near a leading academic institution, leading commercial institutions, University of Texas. That is great.

This committee in the recent NDAA's have increased research and development programs that support the work being done at historically black colleges and universities. So it is maybe half question, half comment.

I would hope that you would look to the historically black colleges, at least in Texas, Texas Southern, which is in Houston, Prairie View, to develop partnerships with those institutions as well as you are sort of building out your ecosystem of innovative and diverse views on how to bring value to the warfighter.

Secretary MCCARTHY. Yes, sir, we will.

Mr. BROWN. Thank you. I yield back, Mr. Chairman.

Mr. WILSON. And thank you, Congressman Brown.

We now proceed to Congressman General Trent Kelly of Mississippi.

Mr. KELLY. Thank you, Mr. Chairman.

And, General Murray and Under Secretary McCarthy, we really appreciate you-all being here, and I appreciate the time you spent with me in my office prior to this.

One of my greatest concerns that you are addressing, and I am a huge fan of doing this, is we have got an acquisition system that is set up for 40 or 50 years ago, and we expect it to work today. And today technology moves in minutes and weeks and months at the slowest, and we have got an acquisition system that is built for decades or quarter centuries. And so I appreciate this undertaking.

I think we have to be careful, and people are always resistant to change. I think we have the right people in the right places to do this. We rely on you to be honest brokers and to do this in the right way.

There is going to be a lot of gnashing of the teeth and, "We have never done this and it will never work." And you guys have gone through this before. So I think we have the right leadership team in place both at your level and above your level and then your peers so that we can do this.

One of the things I kind of want to talk a little bit about is from the time I have been in the military, almost 33 years ago, we have always had—our opponents have had better long-range artillery. They outdistance us or they had more guns, and there was a lot of different things. And I know that we are working on some of those solutions.

And so, General Murray or Mr. McCarthy, whichever one would like to answer this, tell me kind of what you are doing to address that. Not, obviously, classified stuff. But tell me who you are working with and who are the key players in addressing this issue that has been an at least 33-year problem in our military.

General MURRAY. Yes, sir. We have broken it down into the three bins that you will be very familiar with. So from a tactical fires perspective, we are going through basically a two-step upgrade to our current Paladin. We are going to the M109A7, which is a new chassis. And then the next step is coming very quickly; we call it the ERCA. So it is the Extended Range Cannon Artillery. So it is a different caliber. It is a .58 caliber cannon. And we have already shot a ram round out of that, out of that tube, and more than doubled the range of our current artillery. And the goal is to get that out even further.

The next one is our operational fires. It is a new missile; we call it the Precision Strike Missile. It has a range of approximately—will have a range of approximately 499 kilometers, and it is only limited by the INF [Intermediate-Range Nuclear Forces] Treaty. Our current missile that it is replacing has a range of 350, so we are extending that by about 150 kilometers.

And then for our operational—I am sorry, our strategic fires, we are looking very hard and starting down the path of hypersonics, and then also looking at what we call the Strategic Long-Range

Cannon, which conceivably could have a range of up to 1,000 nautical miles.

So we are looking across all the three echelons of fires. And then we are also, a more near-term thing we are doing is we are adding back in both cannon and rocket artillery into our formations. Very graciously, we have been allowed to grow over the last 2 or 3 years, and a large piece of that growth is focused on artillery.

Mr. KELLY. And one thing, I know both of you guys have led soldiers at all levels, and we as leaders sometimes think we have the best ideas. But you guys both know that a lot of times you don't tell them—you tell them the capabilities or you tell them what you want and you let them figure it out. Sometimes they surprise you with an answer that is much greater than anything you ever anticipated. I ask that you not lose that.

And I ask that you also not lose the ability when you have something developed but a different civilian organization maybe comes up—with all the tech guys you are going to have around you—with a better idea, let's not be immune from just saying, we are breaking this other one, this is better, it is ready to field, let's do this. So I hope you will do that.

My final concern a little bit is we have some places like ERDC [U.S. Army Engineer Research and Development Center], which do some of our greatest research in the world. And so there is a little bit of fear that some of that money is going to go to Futures Command, and they are going to be shorting on their budget some of the greatest research and doctors and people that we have.

What can you tell me or why should these people not be worried about maybe losing their budget and it going to Futures Command and them losing their budget? What would you do to make sure they understand that is not going to happen?

General MURRAY. Yes, sir. I would say that the effort in all the labs across the Army is to get them focused on Army priorities. It is not to cut workforce, it is not to take money. It is to streamline and focus on what is most important to the Army. And that is what we have basically failed to do, in my opinion, since the mid-eighties.

And you are right, the labs do incredible work and we have got some incredibly bright people. I think the value of Futures Command is we don't have all the really incredibly bright people, to go back to a point you made earlier. So I think we can learn a lot. It is not designed to cut away work from the labs or to take people from the labs; it is to learn from other really bright engineers, scientists, data scientists, et cetera.

Mr. KELLY. And just very briefly, Chairman, it is not just having the right idea. Sometimes it is reinforcing and patting guys on the back and letting them know they are going to be okay. You have to do that part; that is part of leadership and change. People don't like change.

With that, I yield back.

Mr. WILSON. Thank you, Congressman Kelly.

We now proceed to Congresswoman Stephanie Murphy of Florida.

Mrs. MURPHY. Thank you.

Secretary McCarthy, General Murray, thank you for being here today. And, Secretary McCarthy, it is nice to see you again.

I was really encouraged by the comments in your written testimony and what you said here today, that the Army must generate a culture that embraces and embodies agility in the pace of the private sector, and to do so the Army must tap into the spirit of American entrepreneurship by operating in innovative hubs and academic institutions in our country.

And that is why I am just so pleased that the Army selected Orlando as the new location for the Synthetic Training Environment cross-functional team under Army Futures Command. And, as you know, the STE/CFT will merge live, virtual, and gaming domains into a single state-of-the-art training environment for soldiers. And my district in Central Florida is really ideal for this kind of work. Orlando is the center of gravity for gaming. It is home to a thriving tech ecosystem and has a dynamic and diverse higher education system.

Just a couple of questions, and I will toss them all out at once. Would you describe the benefit that the Army will receive by locating this STE/CFT and other CFTs in and around innovation hubs in the United States? How do you envision that the CFTs will interact with these hubs and academic institutions and the overall Army Futures Command headquarter, as well as what can we do here in Congress to support the success of these entities?

Secretary MCCARTHY. I think we can both comment on this, ma'am. We are tapping into commercial talent that we have not utilized in recent times. So that is the first thing. And being closer to the innovators and allowing us to talk through our challenges helps us create solutions faster and more effectively. So we are trying to get as close as we can. I think of the Allen curve of the 1970s, bringing the innovator closer to the customer ultimately.

And you can talk through all of the requirements, to General Murray's points earlier, about the development of a requirements document. So we are excited about that opportunity, in particular with Orlando. And over time, it is a cultural change for us. We are putting the requirements leader right in there with the PEO STRI organization. But it has improved our definition of requirements and in the movement of information, like we have illustrated before.

General MURRAY. Yes, ma'am. I think you heard over and over again about how we believe the real power of different ideas, sitting around the table and talking, really from different perspectives, how you come to a better solution. Entrepreneurs, private industry, big business, small business, we just see them as another valuable team member that we can absolutely learn from and come up with better solutions because of it.

Mrs. MURPHY. Great. Thank you. And then what do you think the new command's role will be in training and sustainment for future Army systems?

General MURRAY. So sustainment is part of every requirements document, and AMC, Army Materiel Command, will maintain a leading role in helping us develop, as part of the requirements document, the sustainability we are looking for, the operational readiness that we are looking for.

The training piece of it will belong to TRADOC, where it traditionally belongs. So as we hand over materiel solutions or new concepts, they will develop the training strategy to go with it, and then FORSCOM will actually execute the training.

Mrs. MURPHY. Thank you. I will yield back the rest of my time. Thank you.

Mr. WILSON. Thank you very much, Congresswoman Murphy.

We now proceed to Congresswoman Vicky Hartzler of Missouri.

Mrs. HARTZLER. Thank you very much, Mr. Chairman.

Thank you, gentlemen. This is very exciting and has so much potential. And I just am trying to hone in a little bit in how this all ties together. And I appreciated your explanation, General Murray, earlier of how you are going to have—your job is to take the concepts and then come up with the materiel solutions, and then pass that off to materiel acquisitions, and then pass the training materiels off to TRADOC.

Can you just expound on that a little bit and what your role is and then how it ties in with the other divisions in the Army and their responsibilities?

General MURRAY. Yes, ma'am. Thank you. So, I mean, you basically read it back to me, so—you know, Army Materiel Command 6 months ago did all the logistics and sustainment for a 1.1 million-man Army. They do all the foreign military sales work, and they were doing research and development and S&T 6 months ago.

Training and Doctrine Command does accessions. They do initial entry training. They do advanced individual training. They do officer education. They do noncommissioned officer education. And they produce the Army's doctrine.

And FORSCOM is probably the easiest to explain. They have all the operational units, and they focus solely on the readiness of those operational—readiness, those operational units. And that is part of the streamlining, and it was identified before as creating another bureaucracy.

I actually see it as streamlining the bureaucracy, because if you look at—and nothing against my fellow four-stars, but there is bureaucracy in AMC and there is bureaucracy in TRADOC and there is bureaucracy in HQDA, the Headquarters Department of the Army, and there is bureaucracy within the acquisition community. All four of those communities all had a “no” vote. Very few people had a “yes” vote.

So what I see this as is really taking those four communities, when you look at the acquisition of materiel, the development requirements and the acquisition of materiel, by establishing oversight, that authority to install that, is you have actually streamlined four bureaucracies into one. And there is somebody in place that can say yes.

Mrs. HARTZLER. So how will what you do differ from what DARPA [Defense Advanced Research Projects Agency] is doing?

General MURRAY. So parts of what we do will be similar to DARPA. DARPA will be one of our key partners. DARPA is one of our key partners right now. We fund a lot of the work that DARPA does through the Army, and we will continue to do that.

So the goal will be not to duplicate the efforts that DARPA is doing, but to have the synergy with DARPA to achieve the same

result I have talked about earlier, delivering capability as quickly as we can.

Mrs. HARTZLER. So we have Dr. Jette now, the Assistant Secretary of the Army of Acquisition, Logistics, Technology. What is his role versus your role?

General MURRAY. His role has not changed. Since the day he was sworn in to today, his role has not changed. So he remains solely responsible to the Secretary of the Army for Acquisition, Logistics and Technology. He is the Army's chief scientist. PMs. He is responsible for the development of the Acquisition Corps, both the uniformed and the civilian part of it; and he is ultimately responsible for the delivery of a materiel solution once a decision is made to go down that route, that it can't be solved by anything else, can't be solved by a doctrine change or an organizational change.

I will have to work very closely with Dr. Jette. And like I said earlier, I have oversight. We are building systems right now to give me oversight of the entire system. So if it is a problem prior to a milestone decision authority or a materiel development decision, usually associated with milestone A, I have the authorities to fix that, because it is a requirements issue or it is a prototyping issue or it is an experimentation issue.

If it is past the decision to build a piece of equipment to solve that problem, the responsibility really lies with Dr. Jette, so I have the obligation to work with him to solve those problems.

Mrs. HARTZLER. So it will start with you.

You mentioned hypersonics. So are you taking over the development of hypersonics and the research on that?

General MURRAY. Up until the point that we decide to build it, yes, ma'am.

Mrs. HARTZLER. So who is working on that now and you are going to take that responsibility?

General MURRAY. Well, currently the limited amount of work we are doing, which is expanding, is being done at a place called SMDC, the Space and Missile Defense Command.

Mrs. HARTZLER. So you will be taking that over under your command and your development, your concept stage. What other projects will you be assuming that are currently somewhere else?

General MURRAY. So all the CFTs' work. There are about 21 individual programs that are within the CFTs. So Future Vertical Lift, so future helicopters; the network, some of the work that is going up at Aberdeen Proving Ground; the Assured Position, Navigation, and Timing; the air and missile defense portfolio; the soldier lethality portfolio, so the next-generation rifle, next-generation automatic rifle, next-generation night vision devices; the synthetic training environment that was mentioned; directed energy; the hypersonics we mentioned. And we are in the process of standing up an artificial intelligence task force, so machine learning and artificial intelligence.

Mrs. HARTZLER. A big portfolio. Thank you very much. I yield back.

Mr. WILSON. Thank you very much, Congresswoman Hartzler.

We now proceed to Congresswoman Tulsi Gabbard of Hawaii.

Ms. GABBARD. Thank you, Mr. Chairman. Thank you, gentlemen.

As you are looking at what the Futures Command is taking on, how are you assessing the personnel needs, what skills, educational background, and experience that you will need to bring these teams together, and where do you plan to build them from?

General MURRAY. I am relying pretty heavily on the gentleman sitting to my right. So this will be very nontraditional. And I like to tell people I walked into, I think, my first meeting here in Crystal City, because of the status of the headquarters down there, and I was very comfortable because there was a lieutenant colonel wearing a Combat Infantryman's Badge and a Ranger Tab. And then I quickly found out that he is an operational research specialist with a Ph.D. in data analytics.

So that is the type of skill set we are looking for. We are very close to hiring a chief technology officer that Mr. McCarthy can talk about, but he is a leader in the field. Experts in the area of artificial intelligence, machine learning.

So this will be very nontraditional to what I am used to walking into. And if I have been successful in my career, it is because I think I have been fairly successful finding the people with the right talents to surround myself with that can help me make the right decisions over time.

Secretary MCCARTHY. If I could expound on that, ma'am. So if you look at the three major pillars that make up the command: Futures and Concepts, Combat Development, and Combat Systems. Futures and Concepts is kind of where you look at the skill sets of the Skunk Works and Net Assessment which we have in the Department.

We need to be thinking about our operational design in future years as well as leaders that understand future technologies. So being in the proximity of an ecosystem filled with entrepreneurs, we look to either hire these folks organically or as a consultant basis to help us understand what technologies are out there that could affect our operating concept to make us more lethal. So those will be research scientists, people of that nature.

The Combat Development, to the point that General Murray made before about a chief technology officer, we are recruiting a dean of a very prestigious engineering school to be his chief technology officer, so have someone who is world class in systems engineering to help us look at our architectural designs. Because like the programs I mentioned before, Future Combat Systems and others, a lot of that was the systems architecture associated with the weapon system.

So if it wasn't clean on the operating concept and we didn't have a clean architectural design, that is why we had catastrophic failures. A lot of this talent had been divested from the Department over the last couple of decades, so we are out recruiting people with those types of skill sets.

And to General Murray's, one of his primary tasks of building this technical bench as well as world-class warfighters like the ones he has got in his senior leadership team.

General MURRAY. Ma'am, if I could just add, part of this is also harnessing the talent we already have. So identifying and harnessing talent that exists in a lot of the organizations that will fall under me pretty soon.

Ms. GABBARD. Are you looking at all in the Guard and Reserve and folks who may be doing this job already in their civilian sector?

General MURRAY. I have a good tie-in to the Army National Guard, and I have a one-star general officer that is really a direct liaison to the entire Department in the National Guard.

And then in direct support to me is the organization called the 75th Innovation Command out of Houston, Texas. It used to be the 75th Training Command. And I have met with the two-star commander that is in direct support to me, and he has some amazing talent that he is harnessing all over the country.

Secretary MCCARTHY. A couple of the officers that are going to serve on our artificial intelligence task force are coming from the Reserves. They are really going to be the nucleus of that organization in particular.

Ms. GABBARD. And then my last question is just about the technical oversight for your command in making sure that the investments that are being made are actually achieving realistic goals and objectives and realistic timelines of things that you are setting out as very clearly your objectives. Where will that kind of technical oversight come from?

General MURRAY. Primarily from the chief technical officer and the resources I align with him. So before you establish a timeline, it is good to have a good understanding of what is reasonable. And to be honest with you, I can't do that by myself.

So it is really the people I hire, the people I surround myself with, get multiple opinions from outside agencies, independent assessments, before we launch down a path to where we are committing resources against something we can't achieve.

Ms. GABBARD. Thank you.

Mr. WILSON. And thank you, Congresswoman Gabbard.

We now proceed to Congressman Subcommittee Chairman Mike Rogers of Alabama.

Mr. ROGERS. Thank you, Mr. Chairman.

Thank you all for being here and for your service to our country.

While I was disappointed Huntsville was not selected, I don't know that much about Austin, but I am sure it is a fine innovative community.

But I am real interested. I am still trying to understand mechanically how you plug into that ecosystem that you made reference to, Mr. Secretary, and how they interact with this new command. Can you tell me more about that?

I understand the public-private partnership dynamic that we employ in the depot systems, for example. How do you interact with these innovators that you have located nearby?

General MURRAY. So, sir, there is—and Austin is just one example of hopefully what will become a lot. You have heard of the organization formerly called DIUx, now called DIU, no longer experimental. The Air Force has a similar organization called AFWERX. I am standing up a thing called the Army Application Lab, which is a very similar concept to DIU and AFWERX. They will actually be collocated in a place called the Capital Factory in Austin. It is completely contrary to anything I have experienced in my military career, but it basically is an accelerator hub where young innovators bring ideas and they match up with venture capitalists. And

we will be in there scouting and researching technologies, potential technologies that we may want to accelerate or bring into one of our programs of record. And that is just—I mean, those exist all over the country.

And so, ultimately, as I said in my opening statement, the goal would be to reach out, primarily through the 75th Innovation Command, to get into these types of things and bring us things we would not normally experience if we were sitting on a military installation someplace.

Mr. ROGERS. I heard you make reference to the fact you-all will be working on directed energy. I am very interested and excited about this capability and seeing us be able to employ it in more ways, but I have been frustrated that we are doing this research and development across several offices rather than concentrating in one area.

So I have talked with Secretary Mattis about it and Mike Griffin, and both have indicated they intend to centralize that, but it sounds like that we are going the other direction. Is what you are going to be doing inconsistent with that centralization of effort?

Secretary MCCARTHY. Sir, if I may, like hypersonics, the Department is looking at a similar type of joint interest program, not a joint program office like the F-35 or some of these other programs, but joint interest.

So we work on programmatic timelines that are suitable for us to implement these capabilities into our formations, but we share the information and we establish nodes where we can work better together, really cultivate a supply chain to support these efforts, because there are only a handful of companies at present that are really expressing interest to work with us on this. So I think you will probably see a similar effort like we are doing with hypersonics today, sir.

Mr. ROGERS. Thank you-all. I appreciate your service.

And I yield back, Mr. Chairman.

Mr. WILSON. And thank you, Congressman Rogers.

And I want to thank our witnesses for being here today. And also, I want to thank, of course, Tom Hawley for his leadership on maintaining the 5-minute rule. And, of course, we want to appreciate again our ranking member, Madeleine Bordallo, for her bipartisan leadership on behalf of national security, a proven record, as she is certainly such a promoter of the strategic location of Guam and the beautiful beaches of Guam for tourism that has been—I don't want Tulsì to hear this, but Hawaii copied Guam.

Ms. GABBARD. Mr. Chairman, I object.

Mr. WILSON. And, hey, it has also been a great honor for the subcommittee today to meet in the Sam Johnson Room of the Rayburn House Office Building. Congressman Johnson is a beloved Member of Congress, but he is a hero, having survived as a POW [prisoner of war] of Vietnam, a person that we all—just we are humbled to be in his presence any time.

And so, with this, we are adjourned.

[Whereupon, at 2:50 p.m., the subcommittee was adjourned.]

A P P E N D I X

SEPTEMBER 13, 2018

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

SEPTEMBER 13, 2018

Statement of the Honorable Joe Wilson
Chairman, Readiness Subcommittee
“Army Futures Command: Will It Help?”
September 13, 2018

Good afternoon. The subcommittee will come to order. I welcome each of you to this hearing of the Readiness Subcommittee of the House Armed Services Committee on the new Army Futures Command.

Today the subcommittee will hear from the Under Secretary of the Army and the Commander of the Army Futures Command about the reasons the Army decided to establish a new major command, the most significant restructuring of the institutional Army since the 1970s. Because this new entity will work within the existing Army structure, the subcommittee will be interested in learning how the Army Futures Command will work other important players in the Army modernization process. Relationships with the Assistant Secretary of the Army for Acquisition, Logistics and Technology, as well as those with the Army’s Materiel Command and the Training and Doctrine Command, will be critical. Indeed, it’s difficult to envision how all these changes will synchronize in a smooth fashion. We recognize that the Army’s intent is to improve and speed the modernization process. As you are aware, acquisition improvement across the Department of Defense has been a committee focus for a long time, though discernable change is elusive. We will be eager to understand how the Army intends to overcome the obstacles to improvement that have frustrated so many who have tried to overcome them.

While I am hopeful, I am not yet persuaded that a new command is the right answer to the Army’s acquisition challenges.

We welcome the witnesses’ perspective on these issues and any recommendations they may have.

Before I introduce the witnesses, I turn to the distinguished Ranking Member of the Readiness Subcommittee, the gentlelady from Guam, Madeleine Bordallo, for her opening comments.

RECORD VERSION

STATEMENT BY

**HONORABLE RYAN D. MCCARTHY
UNDER SECRETARY OF THE ARMY**

AND

**GENERAL JOHN M. MURRAY
COMMANDER, ARMY FUTURES COMMAND
UNITED STATES ARMY**

BEFORE THE

HOUSE ARMED SERVICES COMMITTEE

SECOND SESSION, 115TH CONGRESS

THE UNITED STATES ARMY FUTURES COMMAND

SEPTEMBER 13, 2018

**NOT FOR PUBLICATION
UNTIL RELEASED BY THE COMMITTEE ON ARMED SERVICES**

Introduction

As the 2018 National Defense Strategy (NDS) states, the U.S. faces a return to great power competition as well as threats from terrorism and regional adversaries. Over the last two decades, the Army made the difficult and warranted choice to defer modernization to support combat operations. During that time, adversaries made intellectual, organizational, and materiel investments designed to give them advantage in future wars against our demonstrated strengths. Simultaneously, the world is experiencing faster rates of innovation coupled with increased rates of social and economic change. Today, we believe that our warfighting dominance is increasingly challenged and we can no longer afford to delay modernization without risking overmatch on future battlefields. Thanks to Congressional support, the Army has the means to modestly increase investments towards the future and organize properly for force modernization with Army Futures Command.

To maintain overmatch and continuously adapt our force to retain the advantage requires a unified, highly responsive, efficient modernization enterprise; a clear modernization strategy; and aggressive implementation. Army Futures Command is the vehicle the Army will use to break free of the current industrial age business model to move at the speed of the information age. Changing our underlying business model for modernization will allow the Army to adapt, innovate, and integrate technology at speed and scale, ensuring continued battlefield supremacy for our warfighters.

Army Futures Command: Modernizing our Army

As part of the Army's reform efforts, establishing Army Futures Command changes the core of our Army's institutional structure and challenges our organizational culture. The command's purpose is to set priorities for resource investment against all solutions to meet requirements found in the concept of how the Army will fight. Its focus is on the *future*, bridging the gap between the future force and the fielded force.

The command will address intellectual and materiel transformation by changing processes and organizations, but also the knowledge, skills, abilities, and culture of the people within them. The transformation upon which we have embarked will be the most significant since 1973, when the Army last reorganized to improve overall effectiveness against a peer competitor. Now, as then, time is of the essence.

Our antiquated processes are out paced by the technology refresh rate of the information age. Army Futures Command will lead the Army in the way we conduct force modernization from concept through solution. We will assess and integrate the anticipated operational environment, emerging threats, technologies to develop and deliver concepts, requirements, future force designs, and solutions. The command will set the strategic direction by integrating the Army's future force modernization enterprise, aligning resources to priorities, and maintaining accountability for modernization outcomes.

To accomplish these objectives, we are realigning modernization activities and relationships from Training and Doctrine Command (TRADOC), Army Materiel Command (AMC), and Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASA(ALT)) to Army Futures Command. This allows one command to lead the Army modernization and prioritization for concept development, requirements, research and development (R&D), combat capabilities development, and combat solution acquisition. Unity of command enables continuity through processes, flattens the organization, and drives results.

Changing internal processes and restructuring is only part of the solution in the establishment of Army Futures Command. We must also address our culture by going back to our roots of entrepreneurship with the American people. This requires the fusing of the United States Army with industry and academia by inserting ourselves into innovation hubs and academic institutions to pursue opportunities and shape culture not currently found in the Army. Injecting focused Army leaders into the private and academic sectors, through partnership, to solve our most emerging and complex problems, creates a unique ecosystem of critical thinkers, innovative developers, commercial investors, venture capitalists, scientists, and engineers. We expect to

generate a culture within the Army that embraces and embodies agility and pace of the private sector.

Current Army processes and organization do not effectively support the speed, culture, or integrated solutions needed for our warfighter. Integrating ourselves into industry and academia, while streamlining our processes for effectiveness and speed will ultimately reduce risk to our warfighters and maintain battlefield dominance.

Army Futures Command: Structure

Army Futures Command is a non-traditional command with a lean design that enables improved interaction with industry and academia, fostering a culture of innovative ideas and solutions with a focus on speed of solutions.

As a major Army command, it allows one command to function as the driver of major acquisition and materiel programs, while also addressing solutions to make combat formations effective on the battlefield. Equal footing with the other major Army commands establishes clear delineation of priorities and continuity within modernization efforts. Synchronization can occur at the Department of the Army level, vice the current way of doing business that requires adjudication at the Department of the Army level.

Futures Command will consist of three subordinate elements, each housing the core functions of force modernization and led by leaders hand-selected by the Secretary of the Army and the Chief of Staff of the Army:

- Futures and Concepts will describe the future operating environment and blueprint of the future Army force. They will identify and prioritize capability needs based on threat and technology and will publish a modernization strategy across the Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and Policy (DOTMLPF-P) Enterprise.
- Combat Development will identify requirements and develop solutions for critical capability shortfalls.
- Combat Systems and Solutions will refine, engineer, and develop material and non-materiel solutions.

The statutory acquisition authorities delegated to the ASA (ALT) will remain within ASA (ALT) as the Army identifies ways to accelerate the process within legal boundaries. To ensure integration of acquisition functions, Program Executive Offices will support the Army Futures Command and will continue to report through the acquisition chain of program management. The Army Acquisition Executive (AAE) will retain milestone decision authority and continue to be responsible for the overall supervision of the acquisition, logistics, and science and technology matters of the Army, and serve as the single office with sole responsibility for acquisition related functions for the Secretary of the Army.

The Army is reinforcing the momentum of the eight Cross-Functional Teams (CFTs) by integrating these organizations into Army Futures Command and aligning them with the six modernization priorities for the Army: Long Range Precision Fire, Next Generation Combat Vehicle, Future Vertical Lift, Army Network, Air Missile Defense, and Soldier Lethality. For continuity, the CFTs will continue to follow a developmental operations methodology and champion solutions across all three-subordinate elements of Army Futures Command. This methodology is defined as warfighters and developers working together to prepare sound capability documents to inform programs of record and enable the rapid and timely delivery of capabilities to the warfighter. The CFTs will develop requirements informed in appropriate cases by experimentation and technical demonstrations through teaming, agility, and rapid feedback. This process will ensure mature capability requirements using an iterative "design, build, test, and fix" construct, enabled by constant Soldier feedback.

Army Futures Command: City Selection

To achieve the purpose of Army Futures Command, we moved from behind the walls of traditional posts and forts and establish ourselves in the middle of an urban community. This is where collaboration, chance contact, and innovation happen daily at rates that cannot be duplicated on an Army post or in an industrial park. The Army sought to find the least distance between innovators, academia, industry, and the potential workforce. Following the theory developed by Dr. Thomas Allen, the Allen

curve, shrinking the distance between the workforce and innovators is important to increase communication, drive change, and increase the speed at which an organization can achieve its objectives. This is why we executed a nationwide search to seek out the best city to match our command's purpose and immerse Army Futures Command in the talent, potential, and culture needed to increase both our effectiveness and the speed at which we develop solutions.

Placing the Army Futures Command Headquarters in an entrepreneurial incubator hub of an urban community fosters the relationships we seek, around the best, brightest, and most innovative people in academia and industry. We believe this will make an immediate impact on achieving our modernization priorities. We seek to embrace a culture of disruptive innovation and collaboration to change Army culture. We are putting ourselves in an eco-system that is evolving and progressing at the speed of technology and striving to achieve the art-of-the-possible.

We do not have time to build this eco-system; it had to be ready now and that is what drove our final city site selection criteria. Density of industry and academic talent within an urban community allows us to quickly integrate innovation centers vertically within Army Futures Command to improve our operating concepts and potential solutions. To compete, we have to be in an environment that is fast, innovative, and will foster exponential growth.

The Army selected Austin, Texas to be the home of our Futures Command Headquarters because this city has a ready eco-system with the requisite density of talent, private sector innovation, strong academic science, technology, engineering, and mathematics (STEM) research and development, superb quality of life attributes, low costs, and strong local civic support. Austin demonstrated the mature entrepreneurial incubator hubs and a dense academic system supported by the entire state that aligns to our modernization priorities that we can imbed ourselves in now. The choice was very difficult, but we ultimately had to make a decision that we believe is best for our Army's future.

Establishing an Army Headquarters outside an Army post with a diverse mission to interface with industry and academia is outside our comfort zone. This move to Austin, Texas will force the Army to leverage American ingenuity and business entrepreneurs of Austin to teach and lead us through rapid innovation, to challenge our status quo, and to immerse us in a collaborative community of people that live to solve complex problems through innovative solutions.

We appreciate the local governments of each city we visited for their time and support in helping us understand what is best for our nation over the last several months as we searched for the right home for the Army Futures Command Headquarters.

Army Futures Command: Modernization Pathway

This approach to modernization and business is revolutionary for the Army. This move is disruptive and will certainly affect how we build the future force.

Over the past month we have had our advance team on the ground to begin working to integrate and build relationships with the City of Austin, the universities, local business leaders, and innovation hubs. Since the activation of Army Futures command on 24 August, we have begun to establish our physical footprint at the University of Texas Systems Building in Austin, the University of Texas at Austin, and local incubator hubs. The command will reach full operational capability by the summer 2019, with all subordinate organizations realigned and the command headquarters fully manned and established. The subordinate elements within Army Futures Command discussed previously will remain in their current physical location, executing their duties enabling the integration between the other Army Major Commands and Army Futures Command.

Finally, as Futures Command matures we will reform our Future Years Defense Program (FYDP) to ensure we invest in the Army's six modernization priorities. Futures Command will take lead on developing and then implement the Army's Modernization Strategy to develop and support delivery of new warfighting capabilities faster and more cost effectively.

Where Congress Can Help

As we change our process we may find the need to ask for the help of Congress to navigate unforeseen constraints to enable us to modernize our force at the speed of industry and have access to small business, academia, and entrepreneurs.

The Army is on a path to invest billions of dollars in FYDP into our six modernization priorities. However, we require fiscal stability to reassure the private sector that Army investments will not stop after only a few years. We believe we have the right six modernization priorities that will focus the Army to achieve the Army Vision by year 2028 in support of the 2018 National Defense Strategy.

Conclusion

Understanding that the success of Army Futures Command will be judged over the next generation, we believe this course of action and dramatic shift in business practices will allow our Army to successfully achieve our six modernization priorities despite budget uncertainties and the changing nature of the environment in which the Army must be prepared to operate. The only metric that matters is the ability to get next generation equipment into our formations to make Soldiers and units more lethal to deploy, fight, and win our Nation's wars.

We are intimately familiar with our challenges and our past failings and are investing heavily in Army Futures Command to address our modernization shortcomings. Army Futures Command postures the Army for the future by setting strategic direction, integrating the Army's future force modernization enterprise, aligning resources to priorities, and maintaining accountability. With the help of industry, academia, and Congress we can accelerate timelines and move at the speed of the information age.

Congressional support started the Army on this pathway of change, with particular emphasis and leadership by this committee. Your support enabled our Army to re-energize our Army's modernization efforts, capitalizing on the generous top line increases in FY18 and FY19. Your confidence in our ability to maximize the utility of every dollar is not lost on us. We are grateful for the continuing support.

Mr. Ryan McCarthy
Under Secretary of the United States Army

Ryan D. McCarthy was unanimously confirmed by the U.S. Senate and appointed as the 33rd under secretary of the Army, Aug. 1, 2017. He served as the acting secretary of the Army from his appointment until Nov. 16, 2017. The under secretary of the Army is the secretary of the Army's senior civilian assistant and principal adviser on matters relating to the management and operation of the Army, which includes development and integration of Army programs and budget. He is responsible for the effective and efficient organization of the Army's operations and initiatives for the business transformation of the Army.

Prior to his confirmation, McCarthy worked for Lockheed Martin Corporation in sequential vice president roles responsible for the sustainment, customer solutions and program integration of the F-35 Joint Strike Fighter program and the company's global security policy.

McCarthy previously served as the special assistant to the 22nd Secretary of Defense Robert Gates, under Presidents Bush and Obama, where he advised as the secretary's representative to the White House, Congress, National Security Agencies and other Foreign Governments. He also served as the special assistant to the under secretary of defense for Acquisition Technology and Logistics and was responsible for policy development and coordination with the joint staff and uniformed services acquisition leaders on procurement and supply chain management policies. He also served as a professional staff member in the U.S. House of Representatives Committee on International Relations. Prior to his legislative experience, from 2002 to 2005, he worked as the vice president of Commercial Financing for the Hongkong Shanghai Banking Corporation.

McCarthy proudly served in the U.S. Army from 1997 to 2002 and was involved in combat operations in Afghanistan in support of Operation Enduring Freedom with the 75th Ranger Regiment, U.S. Special Operations Command.

He holds a Bachelor of Arts in History from Virginia Military Institute and a Master of Business Administration degree from the University of Maryland's Robert H. Smith School of Business.

McCarthy and his wife have been married for over 10 years and have one daughter.

General John M. Murray
Commanding General, Army Futures Command

General Murray was commissioned as an Infantry officer in the U.S. Army upon graduation from the Ohio State University in 1982. Throughout his career, General Murray has served in leadership positions and commanded from Company through Division, with various staff assignments at the highest levels of the Army.

General Murray has held numerous command positions. His command assignments include: Commanding General Joint Task Force-3; Deputy Commanding General – Support for U.S. Forces Afghanistan; Commander Bagram Airfield; Commanding General 3rd Infantry Division at Fort Stewart, Georgia; Commander, 3rd Brigade, 1st Cavalry Division, at Fort Hood, Texas while serving in Operation IRAQI FREEDOM; Commander, 1st Battalion, 18th Infantry, 1st Infantry Division, United States Army Europe and Seventh Army, Germany; Commander, C Company, 1-12th Infantry Battalion, 4th Infantry Division (Mechanized), Fort Carson, Colorado.

Previously, he was the Deputy Chief of Staff, G-8, in the Pentagon; Director, Force Management, the Pentagon; Assistant Deputy Director for Joint Training, J-7, Joint Staff, Suffolk, Virginia; Director, Joint Center for Operational Analysis, United States Joint Forces Command, Suffolk, Virginia; Deputy Commanding General (Maneuver), 1st Cavalry Division, Fort Hood, Texas; Deputy Commanding General (Maneuver), Multi-National Division-Baghdad OPERATION IRAQI FREEDOM, Iraq; G-3 (Operations), III Corps, Fort Hood, Texas; Chief of Staff, III Corps and Fort Hood, Fort Hood, Texas; C-3, Multi-National Corps-Iraq, OPERATION IRAQI FREEDOM, Iraq; G-3 (Operations), 1st Infantry Division, United States Army Europe and Seventh Army, Germany; Chief, Space Control Protection Section, J-33, United States Space Command, Peterson Air Force Base, Colorado; S-3(Operations), later Executive Officer, 1st Battalion, 5th Cavalry, 1st Cavalry Division, Fort Hood, Texas; Chief, Plans, G-1, III Corps and Fort Hood, Fort Hood, Texas.

General Murray's awards and decorations include: the Distinguished Service Medal w/ Oak Leaf Cluster, the Defense Superior Service Medal with Oak Leaf Cluster, the Legion of Merit with two Oak Leaf Clusters, the Bronze Star Medal with three Oak Leaf Clusters, the Defense Meritorious Service Medal, the Meritorious Service Medal with two Oak Leaf Clusters, the Army Commendation Medal with Oak Leaf Cluster, the Joint Service Achievement Medal, the Army Achievement Medal with Oak Leaf Cluster, the Ranger Tab, the Combat Infantryman Badge, the Expert Infantryman Badge, the Parachutist Badge, the Air Assault Badge, the Joint Chiefs of Staff Identification Badge and the Army Staff Identification Badge.

General Murray hails from Kenton, Ohio. He and his wife, Jane, have three lovely daughters and seven grandchildren.

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

SEPTEMBER 13, 2018

QUESTIONS SUBMITTED BY MS. STEFANIK

Ms. STEFANIK. General Murray, I commend the U.S. Army for making tough decisions regarding the modernization of the Army's future force. I also appreciate the hard choices that you have had to make to insure adequate funding across your top six modernization priorities. However, I am concerned that given the current priorities of the Army and the support that Congress has given the Army for long range assault helicopters, the Army's shift toward Capability Set 1 will infringe upon the success of a quick acquisition of the Capability Set 3 aircraft, and possibly even jeopardize the program. Can you tell the committee that you are still planning to procure the long-range assault aircraft (Capability Set 3) on the same or faster schedule than the future armed reconnaissance aircraft (Capability Set 1)?

As the Executive Agent for the JMR-TD and with FVL as a high priority for modernization, please assess the joint risk associated with fielding a Capability Set 1 aircraft ahead of a Capability Set 3 aircraft, and any impact to the acquisition schedule for the Capability Set 3 aircraft program. Specifically, can you comment on your coordination with the Marine Corps and your assessment on the prospects of continued cooperation?

General MURRAY. There is low risk associated with fielding a Capability Set 1 aircraft ahead of a Capability Set 3 aircraft. Capability Set 1 and Capability Set 3 are two complimentary programs that are not in competition against one another for resources or prioritization. The Capability Set 3 schedule remains unchanged and is executing in accordance with the October 2016 Material Development Decision. Capability Set 1 (Future Attack Reconnaissance Aircraft) is a U.S. Army program led by the FVL CFT, whereas the Capability Set 3 Future Long Range Assault Aircraft is a multiservice program. The U.S. Army and U.S. Marine Corps are the two services participating in the Capability Set 3 Analysis of Alternatives. Both services are working together to field the required vertical lift capability to their respective service. The FVL CFT strategy is to begin fielding the FVL Family of Systems circa 2028, including both Capability Set 1 and Capability Set 3.

QUESTIONS SUBMITTED BY MR. CARBAJAL

Mr. CARBAJAL. At \$3 million per year, the Peacekeeping and Stability Operations Institute (PKSOI) plays a critical role in capturing lessons learned and developing informed doctrine, training, education and operations for complex peacekeeping and stability operations. It's also the only approved NATO Partnership Education Training Center. It has recently been reported that the Army is eliminating the Institute potentially as a "pay for" for the Army Futures Command. Is PKSOI a "pay for" for the Army Futures Command? If so, how will the functions of PKSOI be retained? Is the elimination of PKSOI supported by the Joint Staff and OSD Policy?

Secretary MCCARTHY. No, the Peacekeeping and Stability Operations Institute (PKSOI) is not a "pay for" for the Army Futures Command. Recent Army decisions regarding PKSOI were aimed at consolidating the Army's diverse Irregular Warfare (IW) enterprise to bring greater unity of effort and more focus consistent with the National Defense Strategy. The focal point of this effort is that the U.S. Army Training and Doctrine Command (TRADOC) will establish an IW proponent office at the Combined Arms Center, Fort Leavenworth, KS. This approach was informed by a TRADOC study to determine the most appropriate means to oversee the IW enterprise. The functions and structure of PKSOI and 12 other related Army organizations were assessed during this study. The proposed plan is to realign components of PKSOI currently at Carlisle Barracks, PA: a. Assign and move PKSOI's Army Stability Operations Force Modernization Proponency to the new IW office at Ft. Leavenworth to improve doctrinal synergy. b. Assign PKSOI's current mission at Carlisle Barracks for collecting, archiving, and disseminating Joint Peacekeeping and Stability Operations (P&SO) lessons learned to the Center for Army Lessons Learned at Ft. Leavenworth. c. Retain an office and personnel at Carlisle Barracks to continue the Joint doctrinal development and assessment functions specific to P&SO, with oversight from the Combined Arms Center at Ft. Leavenworth. This will enable the continued engagement and interaction with the broader P&SO com-

munity including the Department of Defense, Department of State, other agencies, and international partners. This approach to realigning responsibility for Peacekeeping, Stability Operations, and Irregular Warfare has only recently been finalized. We are currently in the process of informing and gaining Joint Staff and OSD Policy support for these efforts.

QUESTIONS SUBMITTED BY MR. BROWN

Mr. BROWN. Who was the final source selection for this decision with the Army? And, did this final decision track with what the internal Army process recommend?

Secretary MCCARTHY. Secretary Esper made the final selection. Yes, the final decision aligned with the recommendation of the AFC Task Force (TF). The AFC TF followed a rigorous data-driven approach to systematically narrow the list of viable locations, eventually resulting in the five very best candidate locations, which were visited by both a working team as well as Under Secretary of the Army McCarthy and LTG Wesley. Those five were then analyzed further using more data to determine which location would provide the best return on investment for the Army and the Nation.

Mr. BROWN. What happens after these CFTs have completed their jobs? Will you stand up new CFTs?

Who will decide what that next modernization priority will be? Is the Defense Intelligence Agency integrated into the AFC? If not, what is informing the requirement development? Is it threat based?

What metrics are the Army using for "success" for the AFC? How will we know this is better than the old model?

The Army has indicated that the Purpose of the AFC is to bring together new and emerging technologies. Specifically, how will these new and emerging technologies be integrated into the "big 6 priorities"? Does the Army plan to act as the lead systems integrator? If so, what experience does the Army have in this role, and what success stories can the Army share?

Assistant Secretary McCarthy has stated publicly that 80% of S&T will be prioritized against 18 weapons systems. What projects will the other 20% fund? Which Army research programs currently funded by the 80% will the Army cut?

General MURRAY. The CFTs will likely deactivate once their missions are completed. We will assess the need for new CFTs based on emerging requirements. We do not anticipate the Army's modernization priorities to change. The Defense Intelligence Agency (DIA) is a critical partner in AFC efforts. Further, AFC has and will continue to personally brief the DIA Director (currently LTG Ashley) on AFC efforts. Additionally, AFC routinely partners with DIA, including the National Ground Intelligence Center (NGIC) and other service centers that are federated parts of DIA. The AFC approach is threat-based; threats drive AFC's description of the Future operational environment and provide the baseline for future modernization efforts. AFC is developing metrics to gauge progress along five areas of emphasis: Unity of Effort, Overmatch, Innovation, Solutions Development, and Engagement. Ultimately AFC's success will be measured by improving our ability to equip Warfighters with the tools they need, when they need them, to fight and win. AFC will continue to identify, assess, update, and refine metrics to ensure the Future Force Modernization Enterprise effectively delivers Warfighting capabilities. New and emerging technologies are being integrated into the Army's 6 modernization priorities as these represent the focus of Army modernization. Moreover, the CFTs have the responsibility for integrating these technologies under the direction of AFC. AFC will be the orchestrator of the Future Force Modernization Enterprise working closely with the other services, the AAE, and the other ACOMs. The Army has learned from past experiences with lead systems integrators and continues to learn from initial successes with CFTs. Dr. Jette, Army Acquisition Executive, has stated that 80% of Budget activity 6.3 dollars should be aligned to the needs of the eight CFTs. The focus of the CFTs are near-to-midterm, therefore the remaining 20% will resource the evaluation of disruptive technologies that do not directly align with the CFTs. S&T efforts that are not directly tied to the CFTs will be the first efforts to be evaluated based on importance to the Army warfighter. These efforts may ultimately be cut or moved to the 20% non-aligned funding.

QUESTIONS SUBMITTED BY MS. MCSALLY

Ms. MCSALLY. Under Secretary McCarthy, you have been quoted as saying that Army Futures Command (AFC) will have a staff of around 500. I also understand that the Army plans to staff Futures Command, at least partially, by reallocating

people and positions from other Army organizations, such as the Army's Intelligence Center of Excellence (USAICoE), located at Fort Huachuca. Has the Army identified whether any functions will be reallocated from Fort Huachuca/USAICoE as a result of the establishment of Futures Command? Has the Army identified where the personnel positions, both military and civilian, will come from for Futures Command? Does the Army anticipate pulling any personnel positions from Fort Huachuca/USAICoE?

Secretary MCCARTHY. Portions of the Capability Development Integration Directorates (CDIDs) and Battle Labs resident in Training and Doctrine Command (TRADOC) Centers of Excellence transfer from TRADOC to Army Futures Command. This includes the CDID and Battle Lab at Fort Huachuca/United States Army Intelligence Center of Excellence (USAICoE). Currently this is a Command transfer only, with the function remaining at Fort Huachuca. Regarding identifying personnel positions for Army Futures Command and Fort Huachuca/USAICoE, the Army is in the process of defining which personnel positions will transfer from existing Army Staffs and Commands to Army Futures Command, and while the functions described above transfer to Army Futures Command, currently the personnel positions remain at Ft. Huachuca. The Army established the Futures Command Headquarters from within existing personnel structure, offering a no net growth solution from the Army Management Headquarters Account (AMHA) to achieve synergy among concept development, modernization, and acquisition initiatives.

Ms. MCSALLY. Under Secretary McCarthy, there have been press reports which quote you as saying that the Army plans to restructure or terminate a number of acquisition programs and research and development programs in the next budget submission. Can you explain the process the Army is using to determine which programs to terminate and restructure? Can you also address how the future requirements for Army systems not covered by the six cross functional teams are being addressed by the R&D community—for example, will there be funds for future intelligence systems or do you anticipate some sort of allocation of cuts?

Secretary MCCARTHY. The Secretary and Chief of Staff of the Army personally led a program-by-program review of all Research and Development, and Procurement efforts. Guided by the National Defense Strategy and the Army Vision, they prioritized funding for the Army's modernization priorities, to include those efforts under the purview of the Cross Functional Teams, while assessing manageable risk across all other battlefield functions. In answer to your question concerning future intelligence systems, some intelligence-related investments fall within the Network Cross Functional Team and enable lethality across all domains. The development of survivable sensors to improve long range and precision target acquisition, and advanced analytics to expedite threat analysis, is needed to improve the lethality and survivability of Army formations in contested environments. Additionally, the Assured Positioning, Navigation, and Timing CFT efforts are focused on providing commanders with critical Positioning, Navigation, and Timing (PNT) capability to ensure mission command and electronic warfare situational awareness, in a PNT contested environment, for accurate and timely decision making. Proposed changes to investments were not simply allocated, but were the result of close scrutiny by the Army's most senior leaders. This review is ongoing within the Department of Defense and final decisions will be reflected in the Fiscal Year 2020 President's Budget Request.

Ms. MCSALLY. General Murray, I understand that AFC will be focusing funding on six priorities. How is the Army planning to ensure that systems that are not assigned a cross functional team are developed and fielded? Will Futures Command have a role in "everything else" and, if so, what is that role? (These items include everything from uniforms, parachutes, to the intelligence systems that allow the Army to provide warfighters with timely and useful intelligence.)

General MURRAY. The Army will ensure that systems that are required (e.g., intelligence systems that allow the Army to provide warfighters with timely and useful intelligence) but are not assigned a cross functional team are developed and fielded by several means. The first is by utilizing the current governance, processes (e.g., Joint Capability Integration Development System-JCIDS) and organizations within the Future Force Modernization Enterprise (FFME). The second is through the AFC Fusion & Integration Center (FIC), which will have empowered representation from across the FFME to ensure that all required systems are receiving funding needed to develop and field those systems. AFC's role in this process will be to develop the concept, define the requirements, execute research & development, and identify solutions that our partners in the acquisition community will field for the Army.

Ms. MCSALLY. General Murray, as you know, TRADOC's Centers of Excellence perform much of the intellectual work on the doctrine, equipment, and skills needed for the future. It is not clear what changes, if any, the establishment of AFC will

make to Centers of Excellence, such as the Intelligence Center of Excellence (USAICoE). Can you explain anticipated changes to the missions and structures of TRADOC Centers of Excellence resulting from the establishment of Futures Command? I am also concerned about the command and control relationships between Futures Command and the Training and Doctrine Commands Centers of Excellence. What are the Army's proposed changes to the TRADOC Centers of Excellence, including USAICoE? What command relationship will they retain with the Centers' commanding generals? What will be the command relationship between Centers of Excellence commanders and their elements, and organizations that shift to Futures Command?

General MURRAY. The AFC principle of Unity of Effort focuses on leveraging efficiencies across disparate, but complementary elements of the Army Future Force Modernization Enterprise. This includes identifying and accounting for synergies between both AFC sub-elements and partners such as TRADOC. TRADOC's primary mission is to recruit, train and educate the fielded force, while AFC's mission is dedicated to the future force. The Capability Development Integration Directorates within the Centers of Excellence, to include the Intelligence Center of Excellence (USAICoE), will be assigned to Army Futures Command, while maintaining a general support relationship with TRADOC. The remaining components of the Centers of Excellence will remain the same and remain assigned to TRADOC.

