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IS THE ARMY READY FOR GREAT POWER COMPETITION?

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P R O C E E D I N G S

MR. O'HANLON: Good morning, everyone; and welcome to Brookings. I'm Mike O'Hanlon with the Foreign Policy program. Thank you for joining us today. It's my privilege to have the secretary of the Army, Mark Esper, here with us today. Secretary Esper will begin with some prepared remarks; and then he and I will have a conversation; and then we'll go to you.

Just a brief word of introduction -- I'm really delighted to welcome my good friend back to Brookings. He's now been in this position as secretary of the Army throughout a good chunk -- most of, virtually, all of the Trump administration; so, we're into the 2-1/2 year mark as we approach the summer of 2019. He's a soldier; served in Operation Desert Storm; graduated from West Point before that in 1986; has also served on Capitol Hill, including with Senator Bill Frist; and has also worked in industry. So, he really understands the U.S. national security establishment from every possible vantage point; and together with General Milley, incoming chairman of the Joint Chiefs of Staff -- we suspect Senate confirmation pending -- he has run the Army now in a remarkable way and really put a big imprint on it during these 2-1/2 years so far of the Trump administration, including with the creation of Futures Command -- the so-called night court proceedings -- that have really tried to streamline and prioritize the Army; six major concepts for technology, modernization; and all the while trying to build a strong, and stronger, all-volunteer force. And, so, we'll hear more about this today, and I want you to please join me in welcoming the Secretary of the Army to Brookings. (Applause)

SECRETARY ESPER: Good. Thanks, Michael; I really appreciate that introduction; and good morning to everyone. It's great to be back here at The Brookings Institution. You know, when I was here last in June, we had a great conversation about the Army vision of 2028, which General Milley and I had just issued; and so, here we are coming up on a year now. That vision really outlined the type of force needed to prevail against great power competitors in the future. And I know we're going to have a conversation about

that today.

Now, to get there, the Army vision proposes several bold changes in the way we do business. Things like developing unmanned combat vehicles and aircraft; writing new warfighting doctrine; training differently; and redesigning our personnel system. Now, less than one year later, we see the elements of our vision taking shape. We unified our modernization enterprise by standing up Army Futures Command, as Michael mentioned, down in Austin, Texas. Our cross-functional teams now report to General Mike Murray, the AFC Commander, and are laser-focused on the Army's six modernization priorities.

We published Multi-Domain Operations 1.5 as our new warfighting concept; and as we continue to experiment with our multi-domain taskforce, we are working to turn the concept into doctrine and, eventually, into a construct that will drive a redesign of our warfighting formations.

We have revamped our recruiting and accessions enterprise to better enable the Army to attract our nation's most qualified youth; our training is focused on high-intensity conflict against near-peer threats with modern capabilities; and we are reforming our personnel system to create a marketplace for talent that will allow us to better utilize our people while holding on to the best of them.

These are just a few of the items we are working on; and none of this would be possible without a solid strategy guiding our way. The National Defense Strategy has provided us with clear strategic direction needed to drive these reforms. Unlike previous strategies, the NDS has staying power and our Army vision and Army strategy fit right in with the direction the NDS is taking us. Any good strategy must first answer the why behind it; and for the NDS it's about the threat.

You are all well aware of the global security environment and the threats we face around the world. Our strategic competitors -- namely, China and Russia -- are rapidly modernizing their militaries. For almost two decades, we have been focused on the Middle East at the expense of preparing for the future -- China and Russia have not. The U.S.

militaries across the board overmatched that we held since the end of the Cold War has been steadily eroded; and traditional capabilities, such as combat vehicles, artillery, long-range fires, and air defense, we are still fighting with systems from the 1980s -- when I joined the service -- while our adversaries are prototyping, and in some cases, fielding new equipment.

In the emerging cyber and space domains, we find ourselves having to constantly defend our networks and systems against sophisticated competitors who carefully act below the threshold of armed conflict. To counter all this, we must modernize, and we must do so now. Failure to move beyond the status quo risks defeat in the first battles of the next war. Our hope, of course, is that we don't have to fight that war. As George Washington said back in 1790 "to be prepared for war is one of the most effectual means of preserving peace."

Although said in the context of his era, Washington's message is timeless. In today's age of hyper competition, the Army's first role is to provide a conventional deterrent to our strategic competitors. For deterrence to work though, we must have the warfighting capability required to defeat our adversaries on the field of battle, if necessary. The Army's modernization is central to our ability to do just that.

Now, to bolster deterrents, the Army continues to deploy forces across our priority theaters -- Europe and the Indo-Pacific. In Europe, we keep an armor brigade combat team on heel-to-toe deployments to train with our allies and partners across the region. This past March, we conducted a no-notice deployment of more than 1500 soldiers from the 1st Armored Division who drew equipment from our pre-position stocks and conducted three weeks of training in Poland.

This is one example of how we are operationalizing the dynamic force employment strategy outlined in the National Defense Strategy. Additionally, we are planning a major division-level exercise -- Defender 2020 -- that will take place in Europe next year.

In the Indo-Pacific, we are increasing the duration of our Pacific Pathways exercise with our allies and partners throughout the region. We are also continuing to experiment with our multi-domain taskforce, and are learning a lot about the right mix of capabilities needed to fight in a multi-domain environment. As part of our latest evolution of the taskforce, we recently stood up the newly-created I2Q's Battalion. So, for whoever's reporting on this, I2Q stands for intelligence, information, cyber, electronic warfare, and space.

And in 2021, we are planning to conduct a division-level defender exercise in the Pacific. Our increased focus in this region is allowing us to contest the competitive space with China while improving interoperability with our allies and partners.

To ensure the Army remains capable -- a capable deterrent well into the future -- we need the budgetary predictability to sustain our readiness gains and to fund our modernization strategy. Last month, Under Secretary, Ryan McCarthy, was here to discuss the FY20 budget request. Now, I won't repeat the details of the budget; but as you saw, we are making a bold shift towards the future. To pay for these new systems -- things like long-range precision fires; a next generation combat vehicle; and future vertical-lift helicopters -- we cancelled, reduced, or delayed nearly 200 programs -- several of which are legacy systems that have reached the end of their life or are not well suited for the future fight.

As many of you know, cancelling a program is often harder than starting a new one. Understandably, many members of Congress focus on the local impacts to their districts; defense companies who are affected start to push back; some expect their programs to go on forever. But what is often ignored is the \$30 billion in new opportunity that will be available over the next few years.

You know, I meet with defense CEOs on a regular basis; and my message to them is to meet us in the future; help the Army modernize, rather than fight to hold on to the past. The Army needs a robust industrial base; and we too are concerned about preserving a skilled workforce; but we are also not running a jobs program. The best way for

our industry partners to remain healthy is by developing the systems we need to fight and win in the future.

It was evident to me during our recent posture hearings on the Hill that there is strong bipartisan support for the Army's reforms, and for our budget. I'm sure there'll be continued debate about the final DOD topline number; but by and large most members agreed with the path that the Army is on. What will jeopardize our momentum, however, is a failure to provide the funding we need, and to provide it on time.

For 9 out of the last 10 years, we've had to begin the year under a Continuing Resolution. We've spent a lot of time recently explaining to Congress the harm that CRs cause to the Army. For example, they prohibit planned new starts, and prevent us from executing any production rate increases. The longer we operate under a CR, the less time we have to efficiently spend our resources as well; and we can't ever get that lost time back. It's not as if you can surge resources into training or researching new systems, those opportunities have already been lost. It's like telling some members of your team to skip spring training; don't buy the new equipment, even though you know you have games ahead on your schedule. Even worst yet would be a relapse back into sequestration. This would be catastrophic for the Army.

The readiness gains we've made over the past couple of years -- with over a 55 percent improvement in our brigade combat team readiness since 2016 -- would be lost, and our modernization efforts would be halted. Training would be reduced to platoon level; combat training center rotations would be cancelled; and the vital work done by our CFTs would be put on hold. I think that everyone understands this would be a disaster.

So, I would ask you for your assistance to help support the Army's message. I know change is hard, and not all will ever get on board, but we must make the transition. We must leave the past and rush to the future. We must follow the NDS and prepare for what could be the most challenging military showdown of the 21st Century.

The Army senior leaders have thought long and hard about the decisions

we have made, and I am confident they are the right ones. The world is a complex and dangerous place, and we're doing everything we can to be ready for it. We must stay ahead; we must retain overmatch; we must deter conflict and keep the peace.

With an on-time appropriations bill in FY20, we will continue to build readiness and start to modernize the force so that we are prepared to fight when our nation calls. Thank you; and I look forward to our discussion this morning. (Applause)

MR. O'HANLON: Mr. Secretary, thank you; and if I could, I wanted to pick up right where you left off on the issue of the potential budget impasse -- which there is no particular reason to get too worried about yet -- it's April 30th -- except that history tells us we should start worrying as early as possible; and we know that the configuration of forces in Washington is such that it's very hard to predict where this is headed. I know you spent a fair amount of the spring on Capitol Hill. Do you have a sense -- anything more you can tell us about ideas that -- recognizing confidentiality prevents, perhaps, telling us everything -- are there some ideas that are germinating about how a compromise could be fashioned between the Democrats and the Republicans on the 2020 budget?

SECRETARY ESPER: You know, my crystal ball doesn't work that well. We remain very hopeful. I think one of the things we've pushed for, of course, is, you know, the budget we proposed, naturally. It would be great to have a two-year deal; and to then get the bills done on time. As I said in my remarks, the impacts that a CR has on us is just devastating in terms of lost opportunities; and, particularly, when you're trying to start new programs, or if you have to change production rates on munitions, those simply are not available if you're under a Continuing Resolution. So, we continue to push and make the case on the need to get a budget agreement -- a deal done soon; and then, you know, obviously, the committees -- I think the defense committees are anxious to get that number also so they can move out; and, I think, they equally want to get bills done on time.

MR. O'HANLON: My understanding is -- and I've been trying to learn more about this -- but CRs even can affect maintenance in the sense that they -- you would think

well, a CR provides the same resources as last year; everybody believes in maintenance; it's not a new start -- so, couldn't that at least be unaffected. But I've come to appreciate that some of the longer-termed 6- and 12-month contracts that you might do with a private company are precluded under many CR kind of stipulations. Is that a fair way to understand the problem?

SECRETARY ESPER: I mean, I think, everything is bound by last year's budget because it is a Continuing Resolution, so if you have an uptick in maintenance demands, you may be unable because you don't want to violate the Deficiency Act or anything like that -- unable to purchase what you need in order to keep things running. So, yes; and, of course, if you have maintenance issues -- if you can't buy parts -- that is a direct factor into the readiness rate of your brigade combat teams -- is the equipment ready to roll out the door to combat.

MR. O'HANLON: So, I want to talk a little bit about modernization priorities, knowing how much that's been a centerpiece of your efforts. But before I do, I also wanted to talk briefly about recruiting and the state of the all-volunteer force; and a lot of people are aware that in 2018, the Army did not fully meet its recruiting goals. I know you're somewhat concerned about that, but you're not pressing the panic button -- if I understand correct. Could you explain a little bit more about how you see the state of Army recruiting and retention -- the overall, you know, health of the all-volunteer force?

SECRETARY ESPER: Yeah, I think -- just to start from last year, and General Milley spoke very eloquently about this during our appearances before Congress -- you know, first things first -- we had a very high mark to begin with, 76,500 soldiers; we came up short, if you will, at 70,000. Why; as General Milley would explain it, we had a stress goal. The stress goal was 76,500; we still came out at 70,000 soldiers, which is the highest number we've recruited in 10 years. So, still a great number. We did it with quality because in the summer I'd raised the standards in a number of different areas; and at the same time what also fell off the radar screen is the fact that I think we had one of our highest

retention rates ever -- 86 percent or so for the entire Army; and over 90 percent -- if memory serves me right -- with regard to the regular Army. So, what it tells you is those soldiers who are in are very satisfied with their careers in the Army; what we're offering; and have bought in, if you will.

That said, we took note of the miss; and what we did was look at our entire recruiting and accessions enterprise; put a single 4-Star general in charge; and then, through a number of initiatives with a new commander -- U.S. Army Recruiting Command -- we did everything from add hundreds of recruiters to the force; we were updating our websites; our back-office software; how we messaged in terms of social media. I mean there were about two dozen initiatives we've done. How do you upgrade your storefronts -- in some cases, move them; and probably the biggest thing we've done is we adopted a new approach called Our Focused 22 Cities where we are going back to America's largest 22 cities and going to speak to kids -- reach out to them where they are, and really expand the aperture. So, I've been to Cleveland, and Pittsburg, and L.A.; and just last week I was in Atlanta talking to governors, and mayors, and school superintendents about how we can open more doors; get into more schools; and talk to kids. Because if we don't go to where the young men and women are, all the services can continue to find ourselves in a shortfall.

Why? Because the bigger trend out there is the fact that only 29 percent of America's youth -- age 17 to 24 -- qualify in the first place for service because of either cognitive, behavioral, medical, or physical fitness issues. And then if you look at that same cohort and you apply also the factor of qualified; and number two, have a propensity to serve, your number is less than four percent. So, we have a small pool. So, we've got to get out there and talk to kids; make sure they understand who we are and what we are; and because of the country of 330 million people, we should be able to fill the ranks of the all-volunteer force, with quality.

MR. O'HANLON: I wanted to ask about, you know, if you do in the future get those additional recruiters in a greater proclivity to serve somehow; or if there's some

other partial breakthrough that increases your ability to add numbers, how big do you want to get? And the reason I ask is that we know from recent speeches, and doctrine, and other kinds of articles, that the Air Force and the Navy are still very ambitious, at least in theory, about how much bigger they want to get. By the way, I don't say that necessarily with approval because I think that going for much greater quantity can run counter to going for a quality or for modernization, as Jim Miller and I have written. But the Air Force and the Navy both, technically, want to grow their force structure about 25 percent. The Air Force came up with a plan last year to go from 312 to 386 squadrons; the Navy still is aiming for 355 ships when they're around 285 now, I think. And so, these are big expansions. Now, the budget doesn't actually get them very far -- the 2020 proposal.

Your budget seems more in line with, frankly, reality; but I'm putting all this on the table to ask you to comment. If you could get bigger, how much bigger do you want to get; and how much is a larger force structure a real vision or a goal of the Army longer term?

SECRETARY ESPER: Very good question. So, first of all, we need to be able to meet the needs of the National Defense Strategy; and number two, we need to do it with a quality force. Again, we're not going to sacrifice quality for quantity. In the vision that we put out last year, we said that we want a force of greater than 500,000 soldiers, with associated growth in the Guard and Reserve. I'm very comfortable with that number because I know we need to be above 500,000. But the answer to your question will not be really known for about another year or year and a half. And why is that? Because what we have now, Futures Command is doing, is working through all the scenarios of future warfare; what the environment may look like in 2030; what potential adversaries may field; how they may field it; and then what have we planned on fielding -- and we know what they are -- long-range precision fires; next generation combat vehicles, all those things; and then we fight them; we run war games.

And that entire process when you inject it underneath the construct of multi-

domain operations, it's going to spit out a new warfighting construct; and that will really inform us whether in the future we fight as BCTs; we fight at the division level; maybe we fight at some new level of command that we just haven't thought of yet. And that will also tell us, you know, so how many companies, or battalions in each; and so, I think, at that point in time we'll have a better sense of what we need to fight and win a future conflict against a strategic competitor looks like; and how we will fight that by formation. And then from there, we'll know how many people we need to fill out those formations.

And then, of course, you have to put in a dose of reality in terms of well, what can you afford to do with quality soldiers; can you acquire the quality soldiers you need to fill that force; and what will the budget allow? And so, I think, again, I think we're another probably 18 months away from understanding what that number is. It could be 500,000; it could be 504,000; it could be 540,000; it could be 580,000; we just don't know yet. We want to do the math and make sure we have a really good understanding of what it will take; and then we'll proceed from there.

MR. O'HANLON: When General Goldfein was here at Brookings a few months ago -- he did a public event with us as well -- and I asked him to explain more -- as well as he could, publicly in an unclassified forum -- what drove the National Defense Strategy and National Military Strategy in terms of pressing scenarios; and you just talked about the analysis you're doing. But he laid out a list where we needed to protect the homeland, including with missile defense.

SECRETARY ESPER: Right.

MR. O'HANLON: We needed to sustain a strong nuclear deterrence with all the capabilities like refueling aircraft on standby -- even if we're doing something else with the conventional force. We need the conventional overmatch against Russia or China -- being able to defeat either one of them --

SECRETARY ESPER: -- but not both simultaneously in an all-out conventional fight. So that was the third piece -- homeland, nuclear, conventional fight; and

then he said maintain deterrence of North Korea -- presumably, also maintain deterrence of the other super power; but he didn't say that explicitly -- and then sustain momentum in the war on terror.

SECRETARY ESPER: Right.

MR. O'HANLON: So, it's that five-point list. Is that essentially where the Army is coming from as well, or do you have a somewhat different way of phrasing it?

SECRETARY ESPER: No; that sounds like, basically, my recollection of what the National Defense Strategy tells us, and you rightly put out that we have to maintain a competence in irregular warfare. And, I think, the other thing we all have to factor in too is leveraging the strength of the United States military and that is fighting as a joint force. And for the Army, we also fight as a total army; so, it's not just a regular army going to war; it's the regular Army, the Guard, and Reserves.

So, we have to think about how we fight in the future as a total army in a joint force. And when you think about multi-domain operations and what that means for us is how can we support the Navy in a naval fight, right; with long-range precision fires; with our very capable air defense systems; or how do we also support the Air Force -- which we've done before under air-land battle which is the doctrine when I came into the Army in 1986 was first introduced where we used the suppression of enemy air defenses was a critical role for our long-range fires. And so, we need to think then how do we also leverage in the future; the Army cyber capabilities, to fight in the domain called cyber; and then how do we fight in space, all that. So, I think, we have to look at all of that together to make sure that we got the right force we need for the future fight.

MR. O'HANLON: I want to ask a question about training and then get to modernization; but first, you mentioned multi-domain operations just now and in your opening remarks; and I think a lot of people are sort of impressed by the concepts, but may be a little hazy on exactly what this concept means. It seems to be fairly broad; it's pretty inclusive. Air-land battle was, I think, a little more specific -- and maybe that was the luxury

we had in the late-70s, early 80s, focused on one Warsaw Pact threat to Europe as our main concern -- but today you've got a lot of things to worry about. Can you explain both -- at a conceptual level -- how you would give a short answer about what is multi-domain operations, and also some people wonder is this something that the Army is driving, primarily. To what extent are you getting really strong support and interest from the other services; or do they see it as primarily an Army or Army/Air Force thing?

SECRETARY ESPER: So, it's a good question. I'll kind of do the best I can and contrast it with our land battle. So, air-land battle which was introduced in 1986, which was, you know, our warfighting doctrine to take on the Soviets in Europe at the time -- specifically, Germany -- air-land was two domains -- air and land. Now, we've added multi-domain which has added three more -- so, air-land; but then also sea; and then cyber; and space.

Now, you know, my recollection from my days in the Army, we didn't think much about how do we support the Navy in a maritime operation; but now, particularly when you look west towards a future fight or potential fight in the Pacific, we have to think about that. How would we fight in the western Pacific; how do we support that fight. And, of course, you know, 30 years ago, we didn't have cyber. Clearly, that's evident now. The Army has put a lot of money into its cyber soldiers; cyber officers; our cyber abilities; and we're actually are, you know, running offensive and defensive operations today. So, clearly that's a place where our adversaries will go -- and have gone, right -- they're operating currently below that threshold of armed conflict. So, cyber's there in space. Again, 30 years ago, I don't think space was nearly contested as it is now. So, we have to support the United States. We have to make sure we can defend across all those domains and support our sister services. So, that's where it's practical.

I tell you we're working very closely with the Air Force on this; we discussed it with the other services as well; and, I think, there's a lot of buy-in as we use that concept to inform our war gaming and, again, eventually, what our force will look like in the future.

MR. O'HANLON: One question on the threats that you've alluded to that we have to worry about as we plan; and then as I say, I do want to segue into training, and then get back to modernization. I realize that you have a lot on your plate -- mostly recruiting, retaining, training, sustaining the Army; but I know you're watching threats, and you just alluded to them. In the last 12 to 24 months, anything that you would say of particular note that struck you about the evolution of Russian behavior in Europe, or Russian military modernization; and then to some extent also, of course, North Korea. But anything that's particularly instructive to you as you think about the future threats. We all watched what happened in 2014, 15, 16 -- seizure of Crimea; China's greater assertiveness in the South China Sea -- a lot of development seemed to happen in those years. And then the last couple of years, obviously, the worlds remain chaotic and tense, but we haven't seen a fundamentally new aggression, and since the 2018 mini-détente with North Korea, things seem a little calmer there. But I wondered how you looked at the overall set of threats -- and, especially, Russia and North Korea?

SECRETARY ESPER: Well, you know, we study them carefully; and there's, you know, stuff that we've talked about in the open, and there's much more in a classified realm; but we study adversaries -- and not just what they're doing, but where they're going; and what they're researching; and, you know, you've heard others say before about how much adversaries are putting into -- or potential adversaries -- are putting into hypersonics and artificial intelligence, and things like that -- and in some areas we are behind, so we're playing a game of catch up.

When you look at what the Army's investing in -- if I'd to name a few technologies, it would be artificial intelligence, robotics, hypersonics, and directed energies -- things that just jump off the top of my head. So, we watch them while we study. We want to make sure -- as I spoke earlier about war gaming; we can project forward where they might be; and, therefore, where do we have to be in order to maintain that overmatch.

And all the lessons we've seen from, you know, Russia, and Ukraine, and

elsewhere we incorporate back into our training center -- the National Training Center and others scenarios. So, our forces now operate on high-intensity conflict against what we might see from a near-peer competitor in either a battle that could take place tomorrow, or in 10 or 15 years. And, at the same time, it's not just a doctrinal, but how do we develop again the tools, the training to make sure we can deal with that.

MR. O'HANLON: And that leads to my question on training, which I've been promising; so here it is. You know, when I first started to see -- I think in the latter Obama years -- the Army getting focused -- and when General Milley was a new chief at that time -- getting focused on going back to the National Training Centers and doing the sort of classic maneuver warfare kinds of exercises that we hadn't been doing in the previous 10 to 15 years. I had this image of going back to the kind of training that, let's say, you did when you were a new Army soldier in the late 80s; but then as I've appreciated from your comments under Secretary McCarthy, others, I realize, actually, you're doing things much differently than you were in the late 80s, early 90s, given the nature of all these different technologies. Can you highlight a couple of things that are different about what you ask your forces to do in those training rotations to make the exercises realistic and responsive to the threat environment of today?

SECRETARY ESPER: Yeah; sure thing. I mean first things first. Much credit goes to General Milley for leading the Army, kind of moving us back toward a stronger readiness posture focused on high-intensity conflict. And, you know, the NDS just came out last year this time -- January of last year -- so, the NDS was easy for us to embrace. We already believed that was where we should be and had already begun moving there. So, that's why you see we're such enthusiastic supporters of it, and we're certainly willing to make big choices (inaudible) to do that.

But, you know, yes, I'd been to the training centers a couple of times when I was an officer. I've been there now twice to the NTC, to GRTC, and to our site in Hohenfels; and I will tell you if you go out there right now -- what I didn't see 30 years ago, for example -

- is our soldiers either defending against enemy drones or imploring our own drones to do anything from surveillance to direct fire -- so you see that. We also challenged them to move much more frequently.

So, this concept of staying in a fixed spot for four, or five, or six days is gone. It's now, they have to what we call jump their operations centers every 12 hours or so, and even that, it's not quick enough. So, we see the need for -- in order to be survivable on the battlefield, they have to be able to move much more quickly around the battlefield; they have to be also able to either mask or obscure their electronic signals; and then by the same token, be able to use electronic warfare to detect or jam the enemy.

That's something we largely took out of our formations for the past 20 years; and then we mentioned the drones. And there's more we could talk about, but those are just three good examples of when you go out to the National Training Center what you would see today that is different than 30 years ago.

MR. O'HANLON: And in terms of what's different from maybe three or four years ago, have we started to mitigate any of these most severe vulnerabilities in terms of cyberattack, electronic warfare -- many of the things that I know you and the General have been concerned about in terms of a high-end fight, especially against Russia and Europe. Have we gotten the forces accustomed -- either improved their resilience in the cyber system so that they're less vulnerable to hacking; or improve their ability to operate with some of those systems malfunctioning, and just expecting that some of the CQ (inaudible) could be taken down, and commanding control won't work as well. Have we mitigated some of those vulnerabilities over the last three or four years?

SECRETARY ESPER: Yes. I think we're making good progress; and depending on the system, some better than others. But we do need to keep investing in those technologies. But at the same time there are other ways to mitigate that. We have tactics, techniques, and procedures as we like to say. So, as I've gone around to -- you know, I was at Fort Sill a couple months ago, at the artillery school. I was at Fort Benning

last year at the infantry school; and at Fort Sill I said, you know, are you guys able to shoot your cannons, run fire missions, without using your computers. And they said yes, sir, we practice all the time; and I said spot on because, you know, in future warfare chances are the best you will have are intermittent communications.

Same thing with the infantry -- you know, can you navigate without having a GPS; do you know how to pull out your compass and go from point A to point B; and the answer, again, is yes. And that's what our vision emphasizes in making sure that you can also, you know, optimize the technology we have available, but still function in a world where you don't have access to that. And, by the way, it's not just, you know, being jammed, it could be you run out of battery power -- simple things that you don't want to neutralize your own force because you haven't prepared for it. So, that's why the training piece becomes very difficult.

MR. O'HANLON: I wanted to just touch on a couple of the modernization priorities in your six areas -- your six cross functional teams. And maybe, if you don't mind, we could start with vertical lift. And I'm just curious -- we've seen the Marines, of course, get the V-22 Osprey working pretty well. I know that there are some concepts for how the Army might move in a similar kind of direction for at least some elements of future vertical lift; but I wanted to just hear you talk about the promises; the perils; you know, where we stand in this broad zone of technology?

SECRETARY ESPER: Yeah; sure. It's a very good question. In fact, I'll use your earlier question to tee-up my answer. So, you said if we were to go back in time to the 1980s, what would the National Training Center, and exercise, look like there compared to today. And the one thing I would say, it hasn't changed. If you were to go to the NTC today and stand on an overlook and watch a fight, you will still see Abrams tanks; and Bradley fighting vehicles; and Blackhawk helicopters; and Apache helicopters; and Chinooks; and the whole rigamarole. And it just talks to you about how old our systems are. That doesn't mean they're not capable, it just means that we need to get to the next

generation, right; and some systems are in better shape than others. But, to an untrained eye, you would see 1986 would look similar to 2019. It's just that simple. So, yes, on aviation -- so, it's a great example.

When you think about the National Defense Strategy and what we face, we know that we need to upgrade our aviation capabilities, our portfolio. So, our number one priority -- what we need first and foremost -- is an attack reconnaissance capability. That's an aircraft that has the speed, the range, the survivability to penetrate robust air defense systems, get deep behind the enemy; and to do a number of things -- either employ drones; or call for fires; or direct other aircraft -- but to clear the airspace, if you will. And that's why - - what we call FARA -- the Future Attack Reconnaissance Aircraft -- is our number one priority.

The second is what we call FLORA -- Future Long-Range Assault Aircraft -- that's the replacement for the Blackhawk, if you will -- same characteristics. I need greater speed; I need greater range, payload, etc.; survivability; and both these systems now, the demonstrators we've seen out there are showing tremendous capabilities on both fronts. So that would be number two.

Number three is I, eventually, need to think about what's the future of heavy vertical lift, right. So, what's the future replacement for the Chinook that, again, gives me survivability in a fight against, say Russia or China, that has the speed, the range, maybe greater payload to do those things? So, that's how I think about it. And in order to pay for that, we looked at the entire aviation portfolio and said, you know, if I had the capability I don't have right now called FARA, and I have another one -- number two, FLORA, which needs upgrading -- so, I've got to pull resources out of the existing inventory from somewhere else in order to make sure I can get there by 2028 to start deploying these new aircraft.

So, that's the game plan and that's the reason why. It's, again, driven by the National Defense Strategy -- those key characteristics we need to be able to operate in a

very robust air defense environment -- not just air defense too -- you're talking about potential adversaries who have very capable fixed-wing aircraft. And so, that's our thinking right there.

MR. O'HANLON: That's great. I wanted to ask about vehicles too -- and, specifically, tanks. And, of course, this is a touchy subject for the Army given the debacle or the difficulty with the future combat system a decade or so ago; but I wanted to ask you to update us now on how you think about the future of heavy vehicles. I think the Army is still putting a fair amount of money in the 2020 proposal into refurbishing M-1 tanks, if I understand right. I wondered if you could explain that. Is that seen sort of as a bridging to get us to a capability that you envision any particular time? Can you just talk a little bit about the future of the tank?

SECRETARY ESPER: Sure thing. So, I'll back up a little bit. Again, when we think about the Army, we need to take on future adversary's near-peer. Some of the things we're doing, for example, are converting units. So, we've converted an IBCT to -- an infantry brigade combat team to an armor brigade combat team. And we're thinking about do we need the 17th Army Brigade Combat Team because that's the type of unit you need to be really capable against a Russia or China.

But with regard to the M-1 itself, it's a very capable tank and it has room for upgrade, we're upgrading them now. The CEP-3 -- I was in Lima just several weeks ago walking the line -- but it's a tank with a great deal of capability; great, you know, good deal of life still left in it; great fire control; protection -- you name it. It's the most lethal tank on the battlefield today, and will be for many years to come. At some point, we will have to upgrade it. But right now, our focus is on the Bradley. The Bradley in many ways has run out of upgrade room, so electrical power, automotive power, things like that, that we can put on it just isn't there anymore. So, that's why our top priority when we talk about next generation combat vehicles is replacing the Bradley; and we have a number of companies that are going to, you know, work on this; they are lining up for it. But I have to get that first because,

again, the upgradability is not there, and I need a system that can ferry troops into combat with the tanks that can then dismount, and do what infantry, you know, typically does.

And as we look at this, we've put some objective requirements in there to make sure that we have the lethality built into the system to take on, again, near-peer threats, like vehicles, and also survivability. So, one of the things, you know, we're building into this is active protective systems, which the Bradley has a hard time powering right now. But active protective systems will be key to the future because we just can't keep putting armor upon armor, making these vehicles more and more heavy.

MR. O'HANLON: And that was sort of the hope with the future combat system, maybe it was just an idea whose time hadn't yet come in the sense that the technology couldn't quite, you know, deliver the goods back in 2000, 2005 but now you're getting closer.

SECRETARY ESPER: Yeah; so, I mean the approach now that we've taken is fundamentally different in many ways; and when we talk about Futures Command, it gives us clear unity of effort and unity of the command in terms of modernizing. But just the process whereby we're gauging a lot more with industry, I think, in terms of requirements. We're willing to make tradeoffs; the Chief of Staff and I get briefed every Monday by a different cross-functional team. There's only like two layers between the cross-functional team -- or one layer between them and me -- it's called General Murray. And we're constantly, you know, looking at requirements, willing to make tradeoffs; we want to get the best system we can with the technology we have today, and then build into the vehicles -- and all the systems, whether it's vehicles, or aircrafts, you name it -- room for growth -- either from electrical power or, you know, space on the vehicle; and you do that by building marginality into it; by making sure you have the right IP -- intellectual property -- constructs, and things like that. But we want to continually upgrade and integrate the vehicles and not reach for something that's year's away, we want to do it now; and so, we're confident that we can get, you know, the next generation combat vehicle out by 2028.

MR. O'HANLON: So, I just have one more question, but it's going to combine two areas. I realize that it's time to let the rest of you enjoy this conversation as well, and be part of it. But I wanted to talk about hypersonics and directed energy together; and the way I'll combine is to put the following premise on the table and see how you react. I've heard Ryan McCarthy and others, and yourself, express a lot of positive thinking and hopefulness about hypersonics.

SECRETARY ESPER: Right.

MR. O'HANLON: And seeing some real opportunity there, I'm a little bit more weary myself about the near-to-medium term future of directed energy. It seems like it might be able to help us in certain very specific tactical settings, but the idea of building a laser big enough to, let's say, provide area missile defense is still quite a ways off. Whereas, being able to potentially protect a specific vehicle with an active system maybe that's a little bit closer, whether it's for a Bradley -- I think the Israelis are already doing it. In fact, we're starting to experiment with some of these kind of systems on fighter jets.

So, it looks like in directed energy -- to me; and please correct me if you see it differently -- we're doing better at having some prospects for near-term protection of the vehicle, but laser technology, or other directed energy systems are still quite a ways off being able to provide area missile defense, whether cruise missiles, ballistic missiles, what have you; and hypersonics do seem promising. So, do you sort size up that portfolio of technologies in a similar way to how I just laid it out?

SECRETARY ESPER: Yes, on hypersonics. We think it's a system we need in order to get the distance -- the standoff we need to really deliver long-range precision fire; so, we see hypersonics as key, for example, to our strategic long-range cannon; and we're working very closely with the other services on that. Secretary Wilson and Spencer, and I have a deal on terms of sharing technologies, and ideas, and resources to do that. So, we're going to make good progress there.

Directed energy -- I will tell you we're much further along than you might

think. We're going to deploy mobile short-range air defenses in Europe beginning next year -- and that's very exciting. So, we're restoring air defense -- maneuverable air defense -- back to our heavy units. That's a big deal, a really big deal for us given the threats. And in terms where the technology is going -- we're very close to having a deployable system that can knock down drones and small aircraft, things like that. It'll be very exciting.

Now, directed energy isn't the answer to everything. Why, because there's certain situations where you can't use it, right -- a dust storm, fog, things like that where the beam is attenuated, if you will, or disrupted. But in most cases it is. It's very useable because -- and what it gives you is pennies on the dollar per shot as compared to using a missile; and it gives you repeatability. If you have the right power, and the right storage, you can just use that magazine over, and over, over as compared to using missiles.

So, I imagine you'll see lasers deployed in the next few years, but they will be deployed on vehicles alongside traditional missiles, and maybe guns. Because you're going to need a variety of capabilities in order to deal with a variety of error threats.

MR. O'HANLON: That's a fantastically good and concise briefing on a number of technologies. So, thank you; but I'm now going to share the fun with you; so, please when you get called on please wait for a microphone; identify yourself; and we're go from there. We'll start here in the third row, please, all the way up to the front -- Sydney.

MR. FREEDBERG: Hi; Sydney Freedberg, Breaking Defense. There's a lot happening -- you mentioned with FEL, for example, on the Big 6, which now, you know, have manifested 31 individual initiatives, and that number may wobble. The flipside of something I've heard occasionally, you know, unlike FCS, these are not all in lock step. If one link breaks, the whole chain doesn't break because they are not usually dependent in the same way. Are you guys adopting a fail fast methodology?

SECRETARY ESPER: Yes.

MR. FRIEDBERG: At what point do we start getting feedback? Like, okay, this works, proceed; this doesn't work; we may actually have to kick that one to the curve

and try something totally different for that priority in the Big 6 of the 31.

SECRETARY ESPER: Yeah; I know it's fail fast, fail cheap, right; and you learn from failure; and, you know, part of what we're doing too is trying to change the culture within the Army so that if you're doing all the right things and you fail fast, that's fine. But what's the lessons learned so you can kind of -- you can move forward in the next approach. And you're right, they're not all linked together. So, I told you a few minutes ago that for future vertical lift our number one priority is FARA; and our number two is FLORA. But I'm not going to hold back FARA or FLORA in order to maintain that sequencing. I'm just telling you in terms of resources and attention, and everything else how we think through it because I need to give clear guidance for folks.

So, yeah, they're not linked and we want to fail early, fail fast; but I'm not telling people to fail early, you know -- let's succeed early. And we've seen a lot of success so far. So, the, you know, the enhanced night vision goggles will come out here in a few months. That was a quick turn in terms of soldier (inaudible). You saw we just let the five awards the other day in terms of our FARA aircraft. We did that within 13 months, and that was two months ahead of schedule. So, it gives you a sense of how much more quickly we're moving these days. And we had five good companies who are competing to make the down select. And, you know, we can go across in terms of, you know, a number of other modernization priorities where we're seeing a lot of good progress.

MR. O'HANLON: That's great. So, we'll stay right here and go to the fourth row, please.

MR. NICHOLSON: Sir, George Nicholson with The Global Special Operations Forces Foundation. About a year ago, Bob Warrick gave a briefing over here at CISE and said the biggest problems we've got in the Pentagon are the three tribes -- modernization at all costs; readiness at all costs; and the worst tribe is force structure at all costs. We'll never be able to achieve all three.

I think you're alluding to is that you and the Chief of Staff of the Army are

making the difficult decisions of looking at current legacy systems and everything else. We need the (inaudible). I see the pushback. Secretary McCarthy has talked about going ahead and terminating or stopping the acquisition of CH-47s. I see the huge pushback on that, of the impact that's going to have on communities. Any comments about where you see that going; or are you going to be successful in reducing that so that you can pay for the future aviation systems?

SECRETARY ESPER: Sure. You know, I didn't hear Bob Warrick's speech, but those wouldn't have been my three tribes. I actually think, you know, we take a very conscious, deliberate look at how we balance readiness, and modernization; and my thinking, and the Chief's thinking, it's readiness and future readiness; and we have to be able to do both; and that's why, I think, we're taking a very pragmatic approach and then managing risk where we need to manage risk.

And on the CH-47s -- look, they're a very good aircraft. I have a lot of hours in the back of a CH-47, and we will continue to buy CH-47s for the special operations community; but we are halting procurement for the conventional Army. And it's not a statement, again, on the aircraft or the company's performance. What it is, is a statement on the fact that, as I outlined earlier, our priorities, with regard to what we need for the future fight are FARA.

What I don't have right now in my inventory of aircraft is an aircraft built dedicated to doing future attack reconnaissance mission, number one. Number two, I've got to replace the Blackhawk; and then I'd mention future heavy vertical lift. The issue with the CH-47s is the fact is I've met my acquisition objective, with spares to spare; and most of these aircrafts are somewhere between six to eight years old, on average. They're going to be with me for another 20, 30 years. So, you know, the first ones were built, I think, in 1962.

So, we like to talk about how old the B-52 is, right; but we've had the CH-47 for a long time. What I want to do is I want the rotorcraft industry -- or industry, if you will -- to start thinking about what is the future of heavy vertical lift; and what might that system

look like. It may be a version of the CH-47, I don't know. But what does future heavy vertical look like; and I need an aircraft that can survive in that domain in the future. I need it to have greater speed, greater range, greater payload because I can't have FARA and FLORA zipping down the battlefield, and meanwhile, you know, our other aircraft in the inventory just can't keep up, or are more vulnerable.

So, that's how we're thinking about it; and, like I said, I think we have a very good fleet right now. They'll be with us for a long time; confident that we can sustain it; but my next ask of the aviation community, you know, for rotoring will be what's the future of heavy vertical lift.

MR. O'HANLON: Excellent. See where we can go -- go over here to the woman in the fifth row, please.

MS. BRITZKY: Hi, sir; Haley Britzky, with Task and Purpose. You briefly spoke about the quantity of the force and how you are kind of evaluating that. On that note, I do believe last week a wargame at the Marine Corps War College estimated that in the first week of a conflict with Russia and China, the U.S. and its allies would see about 150,000 losses in that first week. Is that in line at all with the Army's thinking; and if so, how are you preparing for that; and what kind of steps are you taking towards being ready for something like that?

SECRETARY ESPER: I haven't seen, you know, that study, obviously; and wouldn't want to convey anything we've seen or learned. I mean you always hear those numbers. I do believe that any conflict with a competitor such as a Russia or China would be very violent and very quick in many ways. So, that's why as we wargame, we, you know, we want to make sure that we're doing all the right things from technology; to training; to how we organize some formation; and different things like how you organize a formation with more or less artillery or with more or less mechanized infantry can really change the outcome on the battlefield. So, we need to think through what that looks like. And then we keep running the wargames until numbers come down until it's the other way around. So,

that's what we have underway now.

You know, we talked earlier about -- I can remember from my days when we deployed for Desert Shield, Desert Storm, we all predicted then -- a lot of people predicted then -- the casualties for the Americans -- the U.S. would be over 100,000, as I recall; and that turned out pretty well.

And that was because you had courageous leaders in the Army in 1973. We're to look back at Vietnam and say we need to look forward to the future and what do we need to fight and win in the future. And it's those leaders in 1973 who gave us air-land battle doctrine; they gave us the Big 5 weapon systems; they gave us a new way to train; they created the National Training Center. And it was unfortunate for the Iraqi Army in 1990, 91 that they were the first ones to stand before that Army; and you could see with what great success. And that's what we're trying to do now. We're trying to make sure we -- coming out of 18 years of conflict -- that we've now paused; we've taken a look at the past; we've taken a look at the future; we know what we need to do; and we want to, in many ways, replicate what those great leaders in 1973 did, and build an Army for the future that will retain overmatch and be able to preserve the peace by being very, very capable on the battlefield.

MR. O'HANLON: And while I'm looking to call the next person -- my friend, in the ninth row here, a shameless self-promotion that I just put out a book this week, *The Senkaku Paradox*, in which I try to wrestle with some of these scenarios and try to keep them from getting to the kind of numbers you're talking about -- over to you.

MS. SISSON: Hi, Mr. Secretary; Melanie Sisson from the Stimson Center. Thanks for coming out to share your thoughts. The Army's made a big investment in Futures Command, both financially and otherwise; and I'm interested to know what leading indicators you'll be watching to assess whether or not AFC is performing well and on track to do the things they are meaning it to do?

SECRETARY ESPER: Sure. I think the one that comes to mind

immediately is timeliness in terms of requirements and things like that. Then, you know, the rate at which we can easily gain buy-in quickly because we have the CFTs organized. I'd probably put it on their plate as well though they don't own the entire process would be -- you know, at the end of the day, are you meeting cost, schedule, and performance for things that we determine we need to buy, and buy. But the acquisition community plays a big role in that as well, so I can't put that all on AFC's plate.

But I will tell you in terms of what I've seen so far. They are meeting the scheduled timelines. So, we said -- a year ago I testified -- I said I want our requirements process to go from what was 5 to 8 years, down to 12 months to 18 months. And, as I just said a few minutes ago, in terms of the FARA awards -- you know, the requirements -- we've got that out now in 13 months. That's pretty damn quick. Same thing with, you know, our night vision goggles; our new iVAS system we're doing; the requirements on next generation combat vehicle, much less time. I think we've done that here in the first round in less than a year or so.

So, it's things like that, that I look for; and it's just simple stuff. I mean it used to be that there were 13 layers of command between where the requirements began and where they ended up; and now there's 3. I mean it's the CFT; it's Murray; and it's me and the Chief. And so, we're able to turn things real quickly, and issues that used to kind of stump the organization for months, if not years, the Chief and I can just very quickly solve it. And so, the first metric would be timeliness of those key things leading up to it. We can dig into it -- I mean we want to make sure, for example, that our S&T dollars that Army Futures Command is responsible for directing are aligned to our modernization priorities. And I will tell you -- in terms of this budget we have going to the Hill, this budget will align, I think, 80 percent of our S&T dollars to that. So those are metrics that we look at to make sure that the entire modernization enterprise is unified and focused on the same things.

MR. O'HANLON: The gentleman here in the third row -- please.

MR. VEAL: Thank you. Bill Veal; I'm a retired Army officer; I'm also retired

Foreign Service. But I noticed in your vision statement that references to autonomous vehicles and robotics.

SECRETARY ESPER: Right.

MR. VEAL: Looking ahead to your next year and a half, the studies you're doing on formations, those studies point you to emphasize quantity. How do you feel about the state of the defense industrial base?

SECRETARY ESPER: My sense is the industrial base is in good shape. I mean we, obviously, have folks who work on that, and monitor it, and we stay in touch. I talk to CEOs all the time. I had a meeting with one last night; and we take those inputs -- and, actually, I think what I've heard from CEOs recently is what the Army's done in the budget has really been a shot in the arm for folks who are anxious to kind of get into the future to really develop the robotics, the AI, and things like that. And it's an exciting brave new world.

I mean the plan is to have the capability to go semi-autonomous if not fully autonomous with all of our vehicles. And so if you think from a tactics perspective, just think what that does on the battlefield. I mean if you had an autonomous tank force, or part of your tanks that could fix the enemy with unmanned vehicles, and with minimal risks -- certainly to people -- and then you maneuver with the manned force, it gives you a great deal of capability. Or if I can get FARA, my attack reconnaissance aircraft, if I could get that unmanned, I worry less about the missions it conducts because I'm not putting pilots' lives in jeopardy. So, those are the things we need to think about -- is how do we reduce risks for the individual but enhance capability at the same time. And, again, I think from my talking to the industrial base; and then, you know, last week I was at the Georgia Tech Research Institute outside Atlanta; I've been to Carnegie Mellon -- they're all leaning forward. I think there's a lot of opportunity here for us to really make this big leap and move into the future.

MR. O'HANLON: Gentleman in the sixth row, please.

MR. BEINART: Hi, Matt Beinart from Defense Daily. This is just a quick question from a response from a few minutes ago on option-manned fighting vehicle. I

believe -- I might have misheard this, but I think you said -- fielding around 2028. I believe the date we had heard before on what the Undersecretary kind of talked about was 2026; so, I was wondering is 2028 the new goal?

SECRETARY ESPER: No; it's by 2028.

MR. BEINART: Okay; by 2028.

SECRETARY ESPER: The vision talks about is we want to be deploying new systems by 2028, and OMFV will meet that.

MR. BEINART: Okay; thank you.

MR. O'HANLON: We'll go over here to the fourth row and then the gentleman in the eighth row; and then we'll start to wind up here pretty soon.

MR. TREVOR: I'm Steve Trevor, retired Navy; and the excellent presentation we got yesterday about preventing major power conflicts over small stakes. You know, that's part of the larger problem we're trying to work with regard to fighting in the grey zone; you know, just below the level of conflict, which is a variation on the classical deterrence theory, you know. How do you prevent a major war from starting in the first place, which involves a lot of people from the State Department? And the war plan associated with deterrence, particularly if you're trying to stop it in the grey zone is a little different from the war plan we classically think of where we're going to engage the enemy directly -- particularly from a logistical standpoint.

My question is about the relationship between the creation of strategic plan of the sort that you guys did an excellent job doing, and the involvement of a State Department; because the State Department people will typically look at the contribution of the military to helping them execute a deterrence theory-type of strategy from a formulation standpoint. They're looking at the military from a very different standpoint in terms of its contribution, compared to our classical engage and destroy sort of thing.

When you wrote the plan, do you feel that you heard enough from the State Department on how they're going to be reacting when we get these grey zone sorts of

threats of the sort that Michael sort of outlined yesterday; or do you think when you need to, you know, strengthen that relationship at a congressional level so that when we talk about deterrence with conventional forces, we hear from the State Department and we hear from the military at the same time.

SECRETARY ESPER: Yeah; you have a lot packed in there. I'll just tell you that I feel my charge as Army Secretary is to build the most capable force I can with the dollars Congress gives me and the authorities I have; and I think, to the degree if I can build the Army that we envision that's captured in that vision, then what I'm actually doing is empowering the State Department; empowering our diplomats to do their job. Because now I've presented a force that one should presume an enemy feels that they cannot successfully take on and defeat.

So, I want to deter conflict. I think that empowers our diplomats to do what they do best -- engage and resolve issues peacefully, diplomatically. That's kind of how I do. That's the prism through which I look through that lens.

MR. O'HANLON: I think the last question will be the gentleman here.

MR. DAY: I'm Chuck Day; Charles F. Day & Associates. I've been a prime at fire maneuvers support, INSCOM RDEC. My question of you though has to do with education attainment and the future of the workforce. We've got a modeling SIM capability out of the Purdue Research Park, and when we do that work, we project that educational attainment is not going to be sufficient for the emerging technology requirements without micro-targeting. And when you talk about hitting the 22 mega centers, and so on, as the key to recruitment, how do you see the educational attainment requirements merging in the future with the vision 2028?

SECRETARY ESPER: Well, I'd be curious to see what your study says; but, you know, our goal has always been to bring high school graduates into the force; and we have a very strong record of doing that -- well over 90 percent on average -- and, I think, our soldiers do very well in terms of their ability to understand the systems -- what we're

trying to do on the battlefield. You know, obviously, also throughout the Army we emphasize continuing one's education and, certainly, for our NCO Corps and the Officer Corps is professional military development; so, all those things we need to work on. You know, my concerns when it gets to recruiting is to make sure I can find enough kids who are -- young men and women -- who are medically and physically fit enough to qualify the force, let alone serve. That's kind of the bigger challenge we wrestle with right now. Cognitively, intellectually, I think they're fine; and, I think, we'll always develop systems that they're capable of mastering and deploying on the battlefield -- particularly, this generation. This generation has a lot more comfort and facility, if you will, with regard to, you know, complex information-type of systems. So, again, I've been less concerned about that than I have been about physical fitness and medical qualifications; and their willingness to join in the first place.

MR. O'HANLON: Please join me in thanking the Secretary of the Army.

(Applause)

SECRETARY ESPER: Thanks, Mike.

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