AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

[H.A.S.C. No. 116–23]

# HEARING

ON

# NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2020

AND

# OVERSIGHT OF PREVIOUSLY AUTHORIZED PROGRAMS

BEFORE THE

## COMMITTEE ON ARMED SERVICES
## HOUSE OF REPRESENTATIVES

ONE HUNDRED SIXTEENTH CONGRESS

FIRST SESSION

---

FULL COMMITTEE HEARING

ON

# THE FISCAL YEAR 2020 NATIONAL DEFENSE AUTHORIZATION BUDGET REQUEST FOR THE DEPARTMENT OF ARMY AND THE DEPARTMENT OF THE AIR FORCE

---

HEARING HELD
APRIL 2, 2019



---

U.S. GOVERNMENT PUBLISHING OFFICE
36–884 WASHINGTON : 2020

## COMMITTEE ON ARMED SERVICES

### ONE HUNDRED SIXTEENTH CONGRESS

ADAM SMITH, Washington, *Chairman*

SUSAN A. DAVIS, California
JAMES R. LANGEVIN, Rhode Island
RICK LARSEN, Washington
JIM COOPER, Tennessee
JOE COURTNEY, Connecticut
JOHN GARAMENDI, California
JACKIE SPEIER, California
TULSI GABBARD, Hawaii
DONALD NORCROSS, New Jersey
RUBEN GALLEGO, Arizona
SETH MOULTON, Massachusetts
SALUD O. CARBAJAL, California
ANTHONY G. BROWN, Maryland, *Vice Chair*
RO KHANNA, California
WILLIAM R. KEATING, Massachusetts
FILEMON VELA, Texas
ANDY KIM, New Jersey
KENDRA S. HORN, Oklahoma
GILBERT RAY CISNEROS, Jr., California
CHRISSY HOULAHAN, Pennsylvania
JASON CROW, Colorado
XOCHITL TORRES SMALL, New Mexico
ELISSA SLOTKIN, Michigan
MIKIE SHERRILL, New Jersey
KATIE HILL, California
VERONICA ESCOBAR, Texas
DEBRA A. HAALAND, New Mexico
JARED F. GOLDEN, Maine
LORI TRAHAN, Massachusetts
ELAINE G. LURIA, Virginia

WILLIAM M. "MAC" THORNBERRY, Texas
JOE WILSON, South Carolina
ROB BISHOP, Utah
MICHAEL R. TURNER, Ohio
MIKE ROGERS, Alabama
K. MICHAEL CONAWAY, Texas
DOUG LAMBORN, Colorado
ROBERT J. WITTMAN, Virginia
VICKY HARTZLER, Missouri
AUSTIN SCOTT, Georgia
MO BROOKS, Alabama
PAUL COOK, California
BRADLEY BYRNE, Alabama
SAM GRAVES, Missouri
ELISE M. STEFANIK, New York
SCOTT DESJARLAIS, Tennessee
RALPH LEE ABRAHAM, Louisiana
TRENT KELLY, Mississippi
MIKE GALLAGHER, Wisconsin
MATT GAETZ, Florida
DON BACON, Nebraska
JIM BANKS, Indiana
LIZ CHENEY, Wyoming
PAUL MITCHELL, Michigan
JACK BERGMAN, Michigan
MICHAEL WALTZ, Florida

PAUL ARCANGELI, *Staff Director*
KATY QUINN, *Professional Staff Member*
JESSE TOLLESON, *Professional Staff Member*
JUSTIN LYNCH, *Clerk*

# CONTENTS


Page

STATEMENTS PRESENTED BY MEMBERS OF CONGRESS

Smith, Hon. Adam, a Representative from Washington, Chairman, Committee on Armed Services ..... 1
Thornberry, Hon. William M. "Mac," a Representative from Texas, Ranking Member, Committee on Armed Services ..... 3

WITNESSES

Esper, Hon. Mark T., Secretary of the Army, United States Army ..... 4
Goldfein, Gen David L., USAF, Chief of Staff, United States Air Force ..... 9
Milley, GEN Mark A., USA, Chief of Staff, United States Army ..... 6
Wilson, Hon. Heather, Secretary of the Air Force, United States Air Force ..... 8

APPENDIX

PREPARED STATEMENTS:
Esper, Hon. Mark T., joint with GEN Mark A. Milley ..... 73
Wilson, Hon. Heather, joint with Gen David L. Goldfein ..... 90

DOCUMENTS SUBMITTED FOR THE RECORD:
[The document was not available at the time of printing.] .....

WITNESS RESPONSES TO QUESTIONS ASKED DURING THE HEARING:
Ms. Escobar ..... 109
Mr. Gallego ..... 109
Ms. Haaland ..... 110
Ms. Sherrill ..... 109
Ms. Stefanik ..... 109

QUESTIONS SUBMITTED BY MEMBERS POST HEARING:
Mr. Cook ..... 118
Mr. Courtney ..... 114
Ms. Escobar ..... 124
Mr. Garamendi ..... 114
Ms. Haaland ..... 125
Ms. Horn ..... 120
Ms. Houlahan ..... 120
Mr. Kim ..... 118
Mrs. Luria ..... 125
Mr. Scott ..... 116
Ms. Torres Small ..... 123
Mr. Turner ..... 114
Mr. Wilson ..... 113

# THE FISCAL YEAR 2020 NATIONAL DEFENSE AUTHORIZATION BUDGET REQUEST FOR THE DEPARTMENT OF ARMY AND THE DEPARTMENT OF THE AIR FORCE

---

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
*Washington, DC, Tuesday, April 2, 2019.*

The committee met, pursuant to call, at 10:00 a.m., in room 2118, Rayburn House Office Building, Hon. Adam Smith (chairman of the committee) presiding.

## OPENING STATEMENT OF HON. ADAM SMITH, A REPRESENTATIVE FROM WASHINGTON, CHAIRMAN, COMMITTEE ON ARMED SERVICES

The CHAIRMAN. We will call the committee to order.

Good morning, all. Just process-wise, we don't really have a hard stop on the hearing today, so we will see how it goes. Depending on how many members are left sort of in the 12 to 12:30 range, we may take a break at that point.

And I will reiterate and remind everybody that the way it works is those of you who are here now at the drop of the gavel are in line, basically. Everyone else who comes in goes to the back of that line. And then even if any of the people who are here at the drop of the gavel leave, when they come back, if they are next, it is their turn. So I will handle that according to the rules and just hope you all are aware of it.

Well, welcome today. We are pleased to have the posture hearing for the Army and the Air Force. We do have with us as witnesses the Honorable Mark Esper, Secretary of the Army; General Mark Milley, Chief of Staff of the Army; the Honorable Heather Wilson, Secretary of the Air Force; and General David Goldfein, Chief of Staff of the Air Force.

I want to congratulate General Milley on his nomination to be Chairman of the Joint Chiefs of Staff. I very much enjoyed working with him in his current capacity and look forward to working with him in that capacity as well.

And thanks, Secretary Wilson, for what will likely be her last hearing before the House Armed Services Committee. Appreciate her service both in Congress and in the military and wish you very, very well. And I don't think you actually left just because of the space force, but I would be sympathetic if you did. So we will talk about that more later.

But thank you all for being here. There are a lot of issues to go over. I will not attempt to cover all of them in my opening statement. I just want to mention a couple. First of all, I know the

Army has done a very, very aggressive effort to look at all of their programs and basically modernize what the Army is purchasing and how they are organizing for the future. And it is a rapidly changing environment both in terms of the threats and in terms of the technology that is going to be necessary to meet those threats. So I look forward to hearing more about the details of how you arrived at the decisions that you did and how you think we can support you in that effort going forward.

And yes, with the Air Force, I know you have done a similar effort to try to look at how you can maintain the number of airframes that you need to meet all the needs and requirements that you have. I am curious. I know the study came back that there was a substantial need for an increase in the number of planes in the Air Force. I am curious about exactly which planes you think are most important and how that is going to fit into the future budget. And yes, I am interested in getting your specifics on how we handle the space force.

This is really a simple, straightforward thing, and I want to compliment Mike Rogers and Jim Cooper, two Members who have been working on this issue for a number of years on the Strategic Forces Subcommittee. We need to place a greater emphasis on space without question. Put simply, our goal there is to place a greater emphasis on space without wasting money, without creating more unnecessary bureaucracy, and to figure out what the best way is to rearrange that within the DOD and within the Air Force's responsibility. So we will be curious to hear your comments on how we can proceed on that front.

And then there are two broader issues I just want to touch on. Number one is something we have said over and over again in this committee, but the importance of getting an on-time appropriations process so that on October 1, you have your budget, you know how much money you are going to have to spend during the course of that year cannot be overstated.

For fiscal year 2019, that is the first time in a long time where we had that. I know we cut the deal for fiscal year 2018, but we didn't cut that deal until about 6 months into the fiscal year, and that is not the same as having the money at the start. So whatever our differences on what the budget caps should be, we need to resolve them and go forward.

I will also say that, you know, whatever led to the budget caps and the Budget Control Act that was passed in 2011, thinking that strict adherence to that law that was passed 8 years ago is in any way going to make us fiscally more responsible I think is folly. In a $4.75 trillion budget, obsessing over tens of billions of dollars in the discretionary portion of it, be it defense or non-defense, isn't all that helpful from a fiscal responsibility standpoint and is unbelievably damaging in terms of the ability of the government to function. If you don't know how much money you are going to have from one month to the next or what programs you can and can't spend it on, it is very difficult to function.

And I, you know, worked with the Pentagon over the course of the last 8 years as you have attempted to function in that environment. It is brutal and difficult, and it is just as brutal and difficult for the non-defense discretionary budget to try and do that as well.

And the last issue I will point out is the issue of the audit, the issue of understanding exactly where DOD spends its money. I would recommend to everyone here, if you haven't read it, Rolling Stone did a very interesting article about the challenges that exist within the Department of Defense figuring out how and where it spent its money, just simple basic accounting, and the problem goes back decades. It has been built in the Department of Defense long before any of you in front of us showed up at the Pentagon, and now it has reached the point where there is certain argument that it is so confusing, so tangled up that there is no way to untangle it. This committee does not accept that.

And what I would be curious, how can we begin the process? We are not going to get a full audit next month, next year. It is unbelievably cumbersome. But there has to be—you know, it is like when the cords get all bundled up, there has got to be some place to start to sort of pull it apart and start working. And that is what I want to see, progress, so that eventually we can get to the point where we can track the money because right now, in the Department of Defense, you don't even really know how much inventory you have. You know, you have to make it up at a certain point just to put a number out there, but you don't know. Not on the big stuff. You know how many bombers you have, but on all of the other things, on the buildings, on the basic pieces of equipment, we just don't know, and we can't account for that in a way that gives us any confidence in the overall efficiency and effectiveness of the budget, so we are going to need to work on that as well.

As I said, there are a lot of more issues, but that is all I have for now. With that, I turn it over to the ranking member, Mr. Thornberry.

**STATEMENT OF HON. WILLIAM M. "MAC" THORNBERRY, A REPRESENTATIVE FROM TEXAS, RANKING MEMBER, COMMITTEE ON ARMED SERVICES**

Mr. THORNBERRY. Thank you, Mr. Chairman, and let me join in welcoming and thanking our witnesses for being here and for their service. I would particularly say that I am grateful that Secretary Wilson allowed herself to be persuaded to return to government service and would point out that as she leaves government service at the end of next month, she is choosing to be a Texan, and all of you could take a hint with that good judgment when it comes time to do something else.

I want to commend a couple of things at the beginning because in some ways, I think they are unusual. Number one, I want to commend what at least has seemed to be, from my vantage point, a close working relationship between the service secretaries and their respective service chiefs as well as, I think, an unprecedented relationship among the service secretaries. Now, you would think that is the way it always ought to be, and maybe it should but it is not always the way it has been. I am sure there are stresses and strains that are not obvious from the outside, but I think that is important, and all of—each of you have participated in that.

Secondly, I want to commend the Army for first, taking the time to go through each of the programs under your jurisdiction and to make tough decisions. I may or may not agree with all the deci-

sions you make. That is irrelevant, but the point is you all have been serious about making the changes internally to ensure that the Army is prepared for the challenges coming at us. That includes reorganization, the creation of Army's Futures Command, and a number of other decisions. I think that is important, and it is something that not only the services, but we need to share as well.

I agree completely with comments the chairman has made about the budget. We have, in my estimation, begun to turn things around when it comes to readiness and modernization and the other things this committee has focused on in the previous few years, but that job is not done, and I know we will talk more about that.

I also agree with the chairman that we all, and this has to be a joint effort, the committee and the services need to continue to work to not only track where the money goes but improve the way that it is spent. And I think the very first step was when this committee put into law several years ago a requirement that the audit take place. We knew it was not going to have a good outcome, but the point is, you have got to find the problems before you can start to solve them. And I think going through program by program as you all have done, that sort of intense scrutiny is good and important.

The last point I want to make is a few years ago, President George Bush, in a different context, talked about the soft bigotry of low expectations. Well, I think that kind of applies to some of the work we do too because sometimes you hear the excuse well, that program can't be cut. It has—it is just too hard, or that is just how long it takes to get a new program fielded, or Congress will never go for that, or you know, all sorts of excuses.

With every briefing and hearing we have about the security environment in which we operate and the adversaries which we face, I have a greater sense of urgency that the Congress and the Pentagon need to make the changes necessary so that the country can be defended today and into the future. And I don't think any of those excuses, you know, are going to cut it when at some point in the future, people look back and judge all of our tenure here.

So as the chairman said, there are lots of issues to talk about specifically, but I think it is on all of us to push hard and push fast because that is the way the challenges are coming at us, and they are not going to slow up and wait for us to catch up.

I yield back.

The CHAIRMAN. Thank you. I heartily agree with the ranking member's statement, and particularly his last point. I think it was incredibly well put and the most important thing that we need to work on.

With that, Mr. Esper, you will kick us off. Go ahead.

## STATEMENT OF HON. MARK T. ESPER, SECRETARY OF THE ARMY, UNITED STATES ARMY

Secretary ESPER. Thank you, sir.

Chairman Smith, Ranking Member Thornberry, and distinguished members of the subcommittee—of this committee, thank you for the opportunity to appear before you today. I want to first

thank Congress for helping us reverse the readiness decline that developed following several years of budget uncertainty. Because of the strong support provided in the fiscal year 2018 and fiscal year 2019 budgets, we have increased the number of fully ready brigade combat teams by 55 percent over the past 2 years. However, while I am confident we would prevail against any foe today, our adversaries are working hard to contest the outcome of future conflicts.

As a result, the Army stands at a strategic inflection point. If we fail to modernize the Army now, we risk losing the first battles of the next war. For the past 17 years, the Army bore the brunt of the wars in Iraq and Afghanistan. For over a decade, we postponed modernization to procure equipment tailored to counter insurgency operations. Our legacy combat systems designed for high-intensity conflict entered service when I joined the Army in the early 1980s.

While they dominated in past conflicts, incremental upgrades for many of them are no longer adequate for the demands of future battlefield as described in the National Defense Strategy. We must build the next generation of combat systems now before Russia and China outpace us with their modernization programs.

Despite Russia's looming economic difficulties, they are steadily upgrading their military capabilities. In addition to field testing their next generation T–14 Armada tank, they continue to advance the development of their air defense and artillery systems. And when combined with new technology such as drones, cyber, and electronic warfare, Russia has proven its battlefield prowess.

We have no reason to believe that Moscow's aggressive behavior will cease in the short term. Russia's blatant disregard for their neighbors' sovereignty as demonstrated in Ukraine and Crimea and Georgia. It is a deliberate strategy meant to intimidate weaker states and undermine the NATO [North Atlantic Treaty Organization] alliance.

In the long run, China presents an even greater challenge. They continue to focus their military investments in cutting-edge technologies such as artificial intelligence, directed energy, and hypersonics. Beijing's systematic theft of intellectual property is also allowing them to develop capabilities cheaper and faster than ever before.

To deter the growing threat posed by great power competitors and to defeat them in battle, if necessary, we must leap ahead to the next generation of combat systems, and we must do so now. Over the past year, the Army took a major step forward in reorganizing its entire modernization enterprise with the establishment of Futures Command. In doing so, we stripped away layers of bureaucracy and streamlined our acquisition process while achieving unity of command and greater accountability. Guided by our six modernization priorities, Army Futures Command is hard at work developing the systems needed to maintain battlefield overmatch in future conflicts.

When we reviewed the budget this time last year, we felt that it was unreasonable to ask Congress for the additional $4 to $5 billion needed annually to fund our modernization without first looking internally to find the necessary resources. As a result, the Army's senior leaders took an unprecedented initiative to comprehensively review every Army program. Our goal was simple. Find

those programs that least contribute to the Army's lethality and reallocate those resources into higher priority activities.

After over 50 hours of painstaking deliberations, we eliminated, reduced, or delayed nearly 200 programs, freeing up over $30 billion over the next 5 years. We then reinvested this money into our top priorities, those systems and initiatives we need to prevail in future wars. The Army will continue to ruthlessly prioritize our budgets to provide a clear, predictable path forward that will achieve our strategic goals. That process is underway now as we develop next year's budget. Support for the Army's fiscal year 2020 budget is critical to building the Army the Nation needs and demands.

Those who are invested in legacy systems will fight to hold on to the past while ignoring the billions of dollars in opportunity created by our investments in new technologies and what it means for the Army's future readiness. While change will be hard for some, we can no longer afford to delay the Army's modernization. We believe we are following the sound guidance conveyed to us by many of you.

In this era of great power competition, we cannot risk falling behind. If left unchecked, Russia and China will continue to erode the competitive military advantage we have held for decades. The Army has a clear vision which I ask be entered into the record and a sound strategy to maintain battlefield overmatch. We are making the tough choices. We now need the support of Congress to modernize the force, and it starts with the fiscal year 2020 budget.

The bottom line is this. We owe it to our soldiers to provide them the weapons and equipment they need to win decisively in future battles. Thank you again for your continued support. I look forward to your questions and appreciate the opportunity to discuss these important matters with you today.

[The joint prepared statement of Secretary Esper and General Milley can be found in the Appendix on page 73.]

The CHAIRMAN. Thank you. Without objection, the statement that you asked for will be entered into the record.

General Milley.

**STATEMENT OF GEN MARK A. MILLEY, USA, CHIEF OF STAFF, UNITED STATES ARMY**

General MILLEY. Chairman Smith, Ranking Member Thornberry, and distinguished members of the committee, thank you for the opportunity to join Secretary Esper here today. And I would like to also acknowledge the great service in uniform, in Congress, and as the Secretary of the Air Force, with Secretary Wilson. Her performance and her exceptional service is a tremendous inspiration to all of us. It is true that the Air Force got away from us in 1947. We are determined to get them back, but we are, I can say without equivocation that the United States Air Force is the Army's absolute best friend in the field of battle, and they are always the first one we call. So thank you, Secretary, for your service.

It remains an incredible privilege for me to represent the almost one million soldiers in the regular Army and National Guard, the United States Army Reserve. They are arrayed in 18 divisions, 58

brigade combat teams, and deployed to over 180,000 troops today in 140 countries around the world on freedom's frontier.

While much of our testimony today and your questions are going to focus on the challenges the Army faces and how to make us stronger and more lethal, and that is appropriate, it is also important to note up front for you, the American people, for this committee, for the entire Congress, our allies, and most importantly, for our adversaries, that the United States Army, as part of the joint force, is a highly capable, globally deployable force today and we can go anywhere any time and beat anyone on very short notice in the conduct of ground combat. We have the training, the equipment, the people, the leaders to prevail today, and no adversary out there should ever doubt that.

I concur with Secretary Esper's comments on the threats posed by China and Russia, and they are, in fact, in my view, rising. The international order, and by extension, the United States' interests are under increasing and dangerous pressure. China is a significant threat to the United States and our allies in the mid and long term. And I would categorize them as a revisionist power seeking to diminish U.S. influence in the Pacific and establish themselves as the controlling regional power in the Western Pacific, and more broadly, in all of Asia, and they are setting conditions to challenge the United States on a global scale no later than mid century.

Russia seeks to return to great power status and will continue to challenge the United States not only in Europe but also in the Middle East, Asia, the Arctic, Africa, the West Hemisphere. They continue to undermine NATO as an alliance and sow dissent throughout the European continent as we know even in our own homeland through a variety of means. Russia remains the only current existential threat to the United States that will become, in my opinion, increasingly opportunistic and willing to take greater risks in the near term.

So what this budget will do. In the last 17 years, our strategic competitors have eroded our military advantages as outlined by Secretary Esper. With your help, starting 2 years ago, we began to restore our competitive advantage, and our recent budgets have helped improve our readiness and lay the groundwork for future modernization, and we ask with this budget that you sustain those efforts.

Our goal remains 66 percent, two-thirds of the Active Duty Army brigade combat teams, and 33 percent of the National Guard and the U.S. Army Reserve units, to be on the highest levels of readiness. Those numbers, those levels of readiness are what we need to be able to align with the strategy that is laid out in the National Defense Strategy, and with continued, consistent, predictable congressional support, on-time budgets, we can reach those levels of readiness sometime in 2022.

Specifically, this budget will fund 58 brigade combat teams and 6 security force assistance brigades for the total Army, 32 combat training center rotations to include 4 for the National Guard, increased prepositioned stocks in both Europe and INDOPACOM [U.S. Indo-Pacific Command], and many, many other current readiness initiatives.

In terms of modernization, which is really just another term for future readiness, this budget will fund improved capabilities across our 6 modernization priorities which include 30 specific programs that are embedded within them. In addition, another 50 programs of significant importance of the Army. In short, this budget will increase the lethality of munitions and forces across the globe and increase the lethality of the Army in the future against any threat.

Lastly, I want to highlight that this committee, Congress as a whole, has provided us tremendous support over the last several years. We recognize that, and we are committed to applying our resources deliberately and responsibly, understanding that they have been entrusted to us by Congress and the American people, and we will continue to do that going forward to ensure that we maintain our solemn obligation to our soldiers that we will never send our sons and daughters into harm's way unless they are properly trained, fully manned, have the best equipment money can buy, and are extraordinarily well led.

Thank you again for your continued supported to our soldiers and their families, and I look forward to answering your questions.

The CHAIRMAN. Thank you.

Secretary Wilson.

**STATEMENT OF HON. HEATHER WILSON, SECRETARY OF THE AIR FORCE, UNITED STATES AIR FORCE**

Secretary WILSON. Mr. Chairman, I would like to put my entire statement in the record.

The CHAIRMAN. Without objection, so ordered.

Secretary WILSON. And then just summarize a few things.

The budget that the Air Force has presented this year is aligned with the National Defense Strategy. That is the guidance we gained as we began to develop this budget, and we have been consistent about that all the way through.

I would like to really just highlight three things with respect to our budget and the state of the Air Force today. Last year, the Congress asked the chief and I what is the Air Force you need to implement this National Defense Strategy? And at the time, we didn't know, and we should know. And you directed in the Defense Authorization Act last year that we do a piece of analysis on what is the Air Force we need to implement the National Defense Strategy. Not what is the Air Force we have or what is the Air Force we can afford in this year's budget, but what do we need.

The answer to that is that the Air Force will be in the forefront regardless of where the next conflict occurs, and we are too small for what the Nation is asking us to do. Today we have 312 operational squadrons. The Air Force we need has 386 operational squadrons. Putting that in context, at the start of the Gulf war, there were 401 operational squadrons in the United States Air Force. It is not unreasonable, given the threats that we face, that we need to build a larger and more capable Air Force. But it is not just more of the same. We have to evolve, to incorporate advanced technology, and use it in new ways.

Second, America is building a more lethal and ready Air Force. We are more ready today than we were 2 years ago, in large part, because of the resources that Congress has made available to the

Air Force and our focus on restoring the readiness of the force. That means people, and training, and equipment, and maintenance, and spare parts, and munitions. What you have allowed us to do is to be more ready for anything the world may throw at us.

Third, we are fielding tomorrow's Air Force faster and smarter. In 2016 and 2017, the Congress gave us new authorities and pushed more authority down from the Office of the Secretary of Defense level to the services to give us more authority to buy equipment faster and smarter. We are implementing those authorities and stripping time out of program plans to get capability from the lab bench to the warfighter faster.

We cannot succeed, Mr. Chairman, without your support, and I wanted to personally thank all of you for the on-time budget that you gave to us in this fiscal year. It gives us stability and the ability to plan and execute that budget.

I would also be remiss if I didn't point out the need that we have for a supplemental for this year to cover the costs of the terrible storm that hit Tyndall Air Force Base and, more recently, Offutt Air Force Base. If we don't work together to find a way through to do a supplemental, it is going to have a devastating impact in the last 6 months of this fiscal year as we try to hold things together in the wake of two terrible storms.

I look forward to answering your questions.

[The joint prepared statement of Secretary Wilson and General Goldfein can be found in the Appendix on page 90.]

The CHAIRMAN. Thank you.

General Goldfein.

**STATEMENT OF GEN DAVID L. GOLDFEIN, USAF, CHIEF OF STAFF, UNITED STATES AIR FORCE**

General GOLDFEIN. Chairman Smith, Ranking Member Thornberry, distinguished members of the committee, what an honor to once again represent your Air Force, Active, Guard, Reserve, and civilian airmen who stand the watch and provide top cover for the Nation and our joint and allied teammates to include the finest and most lethal Army on the planet. And I will just say "hooah".

General MILLEY. "Hooah". Come on.

General GOLDFEIN. This hearing is among the first official forums since Secretary Wilson announced her pending departure from the Air Force to become a Texan. And I want to say publicly on behalf of all airmen and their families what an honor it has been to work with her every day to make our Air Force more ready and more lethal, and this budget represents the culmination of our work together to build the Air Force we need to compete, to deter, and if deterrence fails, to fight and win.

And so I want to state for the record that we are a better Air Force because of the leadership and the vision of our Secretary, Dr. Heather Wilson.

Chairman, I went to war for the first time as a young captain flying F–16s out of Shaw Air Force Base in South Carolina just a few days after Saddam Hussein invaded his neighbor in Kuwait. And as the Secretary said, at the time, we had 401 operational squadrons and 945,000 Active, Guard, Reserve, and civilian airmen in an Air Force that landed our Nation's initial punch: 401 oper-

ational squadrons to defeat a middleweight, non-nuclear power who threatened his neighbor in the region but who posed little threat to our homeland and our way of life.

Today, as the Secretary said, we have 312 operational squadrons, down from 401, and we have 685,000 airmen, down from 945,000. We are not the Air Force of Desert Storm. When General Tony McPeak was the chief in 1991, he and his fellow Joint Chiefs were focused on supporting a single combatant commander, General Norm Schwarzkopf, the commander of U.S. Central Command. But today, should deterrence fail, and we find ourselves defending our Nation against a major nuclear power, as chief, I will be simultaneously supporting at least three combatant commanders who will be demanding air, space, and cyber power.

The geographic combatant commander will request forces to support his campaign which will include backfill for any fighters, tankers, command and control forces he will place on nuclear alert. The next call I will receive will be from U.S. Strategic Command. He will tell me how many bombers, tankers, and command and control forces he needs to execute his nuclear mission, protecting not only our homeland but also our allies and our partners. And the third will be from U.S. Northern Command who will tell me how many fighters and tankers and ISR [intelligence, surveillance, and reconnaissance] and C–2 aircraft he needs to execute his plan to defend the U.S.

And the Air Force will support these missions simultaneously, not sequentially, while at the same time shoulder to shoulder with our joint teammates maintaining a global presence to deter any rogue nation who might choose to take advantage of our situation while simultaneously maintaining campaign pressure against violent extremism.

This is the stark difference between fighting a middleweight rogue nation without nuclear weapons versus competing, deterring, and if deterrence fails, fighting and winning a peer fight. And it is why Secretary Wilson and I continue to articulate in every forum that the Air Force is too small for what the Nation is asking us to do. It is why we reported to this committee that the Air Force we need to execute the National Defense Strategy requires 386 operational squadrons.

With your support of this budget request, we will continue to rebuild the readiness and lethality of this Air Force which you supported last year with an on-time appropriation following a damaging sequester and years of budget uncertainty, and for that, we thank you.

You know, Chairman, Ranking Member, members of the committee, history doesn't always repeat, but it does rhyme now and then. My father fought as a young F–4 pilot in Vietnam. He and many of his peers stayed in and rebuilt the Air Force his son needed to fight and win in Desert Storm, followed by 28 years of continual combat operations including 10 years of Operations Northern and Southern Watch, air campaigns in Bosnia, Kosovo, Serbia, and continuing through the past 17 years fighting violent extremism in Afghanistan, Iraq, Syria, and North Africa.

My daughter and my nephews are young airmen today. With your continued support, with on-time budgets, we will build the Air

Force they will need to fight and win side by side with our incredible Army in this era of great power competition. Thank you for the opportunity to testify, and we look forward to your questions.

The CHAIRMAN. Thank you all. I will start with the Air Force, sort of building on the main point that both you and the Secretary made, General Goldfein, that—I forget the numbers off the top here, but roughly you said we have how many squadrons at this point, Madam Secretary?

Secretary WILSON. Sir, we have 312 operational squadrons.

The CHAIRMAN. Right. And you were saying that we needed 388, something like that?

Secretary WILSON. 386.

The CHAIRMAN. 386 to get there. And, you know, I realize the Air Force budget is a little bit complicated because, you know, some of that goes to the intel, some of it goes here, but roughly, I think your budget request is in the $150–160 billion range, is that correct?

Secretary WILSON. It is a little above 160. It is a 6.5 percent increase over last year.

The CHAIRMAN. Okay. So I guess the question is how much would you need in order to have the Air Force that you both say that we don't have but desperately need?

Secretary WILSON. If you just look in rough numbers, first of all, we are looking out in the 2025, 2030 timeframe which is what you guided us to do and to look at the threat in that era.

The CHAIRMAN. Just clarify on that point. So you are—the numbers that you cited earlier about how large you think the Air Force needs to be is to meet the 2025 threat environment, not to meet the current threat environment?

Secretary WILSON. That is correct. You guided us to look in the 2025——

The CHAIRMAN. I get what we guided you to do. I am not asking about that. You basically stated, and it seemed like it was more present tense than future tense when you both were talking about it, that we right now today do not have the Air Force that you think we need to defend the country, and I am just curious how much more money we would have to spend to get that Air Force.

Now, I understand you don't create planes out of whole cloth in the blink of an eye, and it takes time, but putting that point aside, how much more would it cost to have the Air Force that you think we need right now?

Secretary WILSON. Well, if you just look in rough terms, the Air Force we need of 386 squadrons is about 25 percent larger than the Air Force we have.

The CHAIRMAN. Right. And realistically, within the budget, I mean, even assuming—and you got a really good budget in 2019, $717 billion, you know, an increase. I mean, do you realistically think that within the DOD budget and the budget writ large that we are going to be able to get to those kind of numbers, because it is not just the Air Force that would make that argument about how they don't have enough. How does that factor into what we are realistically going to be able to provide you?

Secretary WILSON. We fully recognize that there are tradeoffs that are made and that the country may not be able to afford the

Air Force that we need in order to execute the National Defense Strategy at moderate levels of risk. What that represents, that gap between the strategy that we have, what is necessary to execute that strategy, and what we really have, represents risk.

The CHAIRMAN. Yes.

Secretary WILSON. And that risk is that we will not be able to accomplish the objectives that the combatant commanders have set out in their plans on the timelines that they have asked us to meet.

The CHAIRMAN. Here is the problem I have with that, and I won't drill too deeply into because it could take a long time if I did. So we have got a $750 billion budget request from the President. That is a hell of a lot of money, certainly a lot more than a lot of our adversaries spent. And at the same time we got that, over the course of the last week from all of you, we have been getting here is the stuff that the $750 billion didn't include. And I haven't done the math on that one, I apologize, but it is a reasonably large number that the Pentagon is now telling us that they can't possibly—well, sorry. I overstated that slightly. Saying that there is an unacceptable level of risk created by the fact that we are not funding all the stuff in addition to the $750 billion throwing at it that we put in the budget.

My point is this has no end, okay. I remember a discussion in this committee between a member who shall remain nameless who wanted Secretary Gates to tell him stop talking to us about risk. Give us the budget that has no risk in it. If Secretary Gates was one given to laughing, he would have. He just finally said we don't live in that world. You cannot eliminate risk.

And to a certain extent, you can always compel us. I mean, we could spend a trillion dollars, and I am halfway convinced you would all be sitting here telling us okay, that is great, but here is all the things we can't do. And that frustrates me at a certain point because I hear about risk, but you know, I saw the CENTCOM [U.S. Central Command] nominee say 3 or 4 months ago when the number was going to be $733 billion that anything below $733 billion presented a, quote, unacceptable level of risk. And 2 days later, it was boosted to 750 which I imagine that anything below 750 would present an unacceptable level of risk.

What I am asking for long term is a better understanding of what risk is because we could throw money at you all day long, and you are going to come back at us and say well, there is still an unacceptable level of risk. I don't find that helpful, which brings me to my second point and that is the audit and the issue of not knowing where the $750 billion is going to go. And it is impossible to overstate this point. We literally don't know where a chunk of that $750 billion is going to go. We can identify some of it here and there, but by any normal accounting measure, you can't tell us where you are spending your money, how much inventory you have. There was, I don't know, something like 427 structures within the DOD [Department of Defense] disappeared in a year. They were just off the books.

So without getting into the broader issue here, what I would like for you, and I will turn over to the Army now, maybe Secretary Esper having done the deep dive on your programs that you did, you can tell us. What steps could this committee take, and we are

not going to get a full audit. I get that. I understand that, you know, this is probably 60 years worth of mismanagement in terms of accounting and accountability, and we are not going to fix it in a year.

I want progress, okay. Is there some piece of the inventory that we could say okay, let's do a deep dive and figure out because we don't even use, like, a normal barcoding system to keep track of what we move within the Pentagon and buy and sell. Is there some step, steps, that we could take that are achievable in the short term to help us have greater confidence on where this 733 or 750 or trillion or whatever it is we decide we want is going to be spent?

Secretary ESPER. Mr. Chairman, I think the audit is very important. I found it very helpful during my time in the private sector. I think it tells you a lot about yourself and your organization.

For the first year, we made our way through most of the process. We came up with 429 findings. We now are building corrective action plans for each of these. The Army Corps of Engineers did pass their audit, and based on our progress today, and we can get into the details as to IT [information technology] systems incompatibility, databases, et cetera, but we think that we will get a clean opinion on our working capital fund in 2021 and our general fund in 2022.

The CHAIRMAN. Okay. But specifically to my question, you know, and I am sorry. Accounting is very complicated and difficult. I appreciate the fact that we have at least one accountant on the committee. I think that is enormously helpful. But could you give us a concrete sort of, I don't know, layman's example that says here is something that was going wrong. We have either fixed it, or we are about to fix it, and here is why that is going to help us better understand where the money is going.

Secretary ESPER. Well, what comes to mind is accountability of real estate, buildings, and so——

The CHAIRMAN. Good example.

Secretary ESPER. The databases, first of all, don't necessarily have all the buildings in them. And if they have to talk between installations, I might have to come back and give you more detail, but in many cases, the databases don't talk. And then you have to go out—so we had to hire teams and dispatch them out to each installation to literally walk block by block and count buildings and describe them and try and put a price on them because it requires a value, and just that inventory process alone takes a lot of time and a lot of effort. But we made good progress this year.

But then you have to update the database and make sure they can talk, so at the end of the day, you know what you have and what you don't have, and you can see yourself a whole lot better. That is—to me, that is what is great about an audit. It tells you what you really look like based on your inventory of your real property. You know, we have a very good accountability of munitions. That is pretty important, but across the board, that is just one example, and we can provide you more if you would like.

The CHAIRMAN. And that is good, and of course, the problem is that it is always easier whether you do it on the front end, okay. So if we had had these sets set up in place in the 1950s, 1960s, and 1970s, the incident from, like, 15 years ago when there were

six nuclear weapons that were put on, I think it was a B–52, and flown across the country, and nobody knew that it had happened because they didn't have an adequate accounting of where the nuclear weapons were is perhaps the most alarming example. But you know, yeah, with the buildings, should have done that when we bought the damn things, okay. You know, why do you have buildings that you didn't put on the books when you bought them?

So going back and fixing that I think is enormously important because then we can have greater confidence in the numbers that you all are talking about in terms of what we need. I could go on, but I won't.

Mr. Thornberry.

Mr. THORNBERRY. Let me just follow up on a subset of what the chairman was talking about. In addition to putting more responsibility on the services rather than DOD for the acquisition of things, another major push of this committee in recent years has been to adopt more commercial practices in various ways because it turns out that Walmart and others are pretty good at barcodes and keeping track of logistics and various other examples.

But part of my frustration is a number of the things we passed into law have not yet been implemented because it takes so long to write the regulations and get through that whole process. I don't want to spend a lot of time on this, but can either Secretary Esper or Secretary Wilson give me a little hope that the process in implementing what we have already passed to improve these processes is actually picking up pace?

Secretary ESPER. I was going to let her go first since I will be able to do this again next year, and she won't.

I would say, Mr. Thornberry, that we are making great use, I think, in the Army, probably all the services, because we meet and talk a lot about this. Whether it is the middle-tier acquisition authority, OTAs [other transaction authority], we are making a lot of progress on that front. I mean, a purpose why we stood up Army Futures Command was to get outside, out from behind our gates and walls, out into the community to work more with the commercial sector, the private sector, and particularly young entrepreneurs and innovators.

And by the same token, then use that legislation to move quickly. So we have funded quick prototyping. We have been able to bring folks in in our version of a shark tank, if you will, to help get those innovators in and tie them—get them working with our requirements developer, so we are making good use of it. I think there is some things we need to clear up inside the building to make sure it is as efficient and as timely as possible, but we thank you for the authorities that was given to us.

Secretary WILSON. Mr. Chairman, I would only add to that that I think the thing to be cautious about, the Air Force, like the Army, is moving out very quickly and not only using these authorities but being more transparent and accountable for how we are using them. I think the thing to be cautious about is that old habits die hard, and they are—the thing to watch over the coming years is attempts to take these new authorities and make them look like the way we used to do business. And there are plenty of

checkers who are checking the checkers, and that doesn't always add all that much value.

Mr. THORNBERRY. Well, it is something that I want to continue to talk to you all about. Again, what I am talking about right now are the things we already passed and implementing them in the way for the goals that we intended.

Let me ask the service chiefs just to comment on one other issue. As has already been noted, the pace of operations, the rising threat, and the declining budgets resulted in a significant, I would say, readiness crisis. We actually lost lives that we need not have lost, in my opinion, because of the combination of those factors.

So we, together, have put more resources into the budget. We have, I hope, started to turn it around, but I think it is important for us to hear from each of you a summary, not in great detail, the progress we have made on the readiness issues and where we are versus where we need to be. Is the job done? Have the last 2 years of increasing budgets and having one on time really got us back to where we need to be when it comes to readiness?

Because as one of you said, I can't remember which one, I would interpret it as morally wrong to send somebody out on a mission without the best equipment, the best training, the best support that this Nation can provide. And that is on our shoulders as much as you-all's. So I would appreciate, General Milley and General Goldfein, a snapshot of progress on readiness and where we are versus where we need to be.

General MILLEY. Thanks, Congressman. I appreciated the question. In short, about 55 percent, as Secretary Esper said, and we have improved our readiness of our tactical units. When I became Chief of Staff 3½ years ago, there were three brigade combat teams at the highest level of readiness. Today we have got, roughly speaking, 28 as of about December. So that is a significant improvement, but that is not where we need to be.

If we are serious about great power competition and really, the key, we want to be able to win if deterrence fails, but the key is deterrence. You never want the question asked or answered whether you can win or lose against Russia and China. You want to deter the possibility of conflict being raised. So the way to do that is strength, to have large, capable, extraordinarily ready forces that can rapidly deploy and project combat power anywhere on earth.

And then if the enemy or your adversary knows that, then the probability of them taking a risk and crossing some sort of red line won't happen. So for the Army, we have improved our readiness significantly in the last 2 years or so, but you are not going to dig yourself out of an 8- or 10-year hole plus all the cost of fighting a war in Iraq and Afghanistan, et cetera. You are not going to do that in just two budget cycles. This is going to be a sustained level of effort.

We think if all other things remain equal, which of course, they never do, we think, though, if they do that we will be at the levels of readiness we project, 66 percent in the Regular Army, 33 percent in the Guard and Reserve, sometime in 2022. If we don't get budgets on time, we won't. If we go to a BCA [Budget Control Act], it will be catastrophic. We will revert back to squad- and platoon-

level training which will increase risk and increase the probability of war.

So readiness is all about being able to fight and win, but it is all about deterrence, and that is really what the game is. So we want to—we have a ways to go, a lot of work to do, and we appreciate your continued support.

General GOLDFEIN. Sir, what I would just add to that is that, you know, we stopped the crisis in 2018. We sort of leveled off. We began the recovery in 2019, and what we are bringing forward in 2020 continues and actually accelerates that recovery going forward.

For the Air Force, readiness first and foremost is about people, and I know we have had this discussion. We were 4,000 maintainers short, and we are—with your support, we have closed that gap to zero. They are young, but we have closed the maintainer gap, and so—and we are also flying more in this budget than we have in the past, so we are moving in the right direction.

Among the most important things that Secretary Wilson and I did was we took—we are approaching the additional dollars towards readiness different than we have in the past. In the past, we would have spread that across all squadrons, and then all ships would have rose to a higher tide over time. We determined we couldn't wait that long, so we went back and looked at those squadrons that are required in the opening days of a China or a Russia campaign, labeled them as pacing units, and we took the additional money and put it to them first. And as a result of that, we were able to shorten our readiness recovery by 6 years.

So today, over 90 percent of the lead packages for those pacing units required in the opening days of a China/Russia campaign, over 90 percent of those are ready for combat tasking. The remainder of those pacing units will be complete—will be ready in 2020, and then we will continue to apply that additional resources as we go forward.

And I would just end by saying that we also, for the Air Force, have a very near-term readiness challenge, and that is the impact of readiness if we don't get a supplemental because right now, we are cash-flowing the recovery of Tyndall and Offutt. And as the Secretary is forced to make decisions as we go forward, that is going to have an absolute near-term impact on the readiness of our force.

Mr. THORNBERRY. Well, I appreciate it, and I think it is important to look at what our responsibility in this is as well as you-all's.

Mr. Chairman, I yield back.

The CHAIRMAN. Thank you. Ms. Davis.

Mrs. DAVIS. Thank you, Mr. Chairman.

I want to thank you all for your dedicated and distinguished service, and particularly best wishes as you move on, Dr. Wilson. And with that, I will defer my questions to Ms. Slotkin.

Ms. SLOTKIN. Thank you, Congresswoman.

General Milley, I was really glad to hear in your opening statement that you described Russia as, quote, the only current existential threat to the United States. I just want to make sure I have that. It wasn't in your written statement. I just was hoping you

could confirm that statement that you read aloud here in front of us.

General MILLEY. That is correct. And the reason for that is because of Russian nuclear capability. Now, we have nuclear capability as well, so there is, therefore, a standoff and mutual deterrence. But because of their nuclear capability, they are the only country on earth that is capable. I am not saying they would do it——

Ms. SLOTKIN. Right.

General MILLEY [continuing]. But they are capable of destroying the United States of America.

Ms. SLOTKIN. I just thought it was just a really important and striking statement from someone who is going to be our chairman soon, and I hope you maintain that strong focus on that threat as you elevate to the chairman position and keep that independent voice with our President and with others.

I wanted to ask both service chiefs or basically everyone on there. We are about to have NATO's 70th anniversary. We have the secretary general coming to speak with us, and the conversation around partners and allies and their value to us. I think sometimes the conversation gets caught up in sort of the feel good pieces of having allies and partners where I see it as, you know, our allies and partners have a real economic value to us. When they come and fly their F–16s in our operation, that is one F–16 we don't have to fly, right? When they bring their carriers in, when they bring their resources in, that that actually lessens the burden on us. And can I have both generals speak to the financial value of fighting in combination with allies and partners?

General GOLDFEIN. Well, I will give you one example that is real term right now today, and that is the combined North American Command-NORAD [North American Aerospace Defense Command] that protects the homeland with Canada. And so every day we stand the watch protecting this homeland with our Canadian allies and partners with dual-headed commander at NORTHCOM–NORAD, and so that is just one example of how we benefit from it every single day.

General MILLEY. I commanded the IJC [International Joint Command] corps-level headquarters underneath General Dunford in Afghanistan a few years ago, and I think we had 42 allies and partners at the time. Every one of those soldiers that filled a duty position would have otherwise had to have been filled by an American soldier, so that is an example.

But more broadly, though, on 19 February 1945, my father hit the beach at Iwo Jima, and 7,000 Marines were killed in 19 days, 34,000 wounded in action in that same time. My mother took care of the wounded coming back.

The reason NATO exists is to prevent a war, a great power war. We did two of those, World War I and World War II. The reason it went into place is because those people 70 years ago said we screwed this up. The first half of the last century was a mess, 140, 150 million people killed between 1914 and 1945. We cannot do it again. Allies matter, NATO matters, and working together shoulder to shoulder matters in order to maintain the international order, preserve deterrence, and prevent great power war.

Ms. SLOTKIN. I appreciate that.

Turning to the budgets, you know, I think—when I am at home in Michigan trying to explain increasing budgets to the population back home will feel like they want money invested in different ways, you know, I am always a huge advocate as someone who has been in the defense world my entire life, but I see the conundrum between the complete lack of uncertainty that you all have to deal with from us, right, and knowing what your budget is going to be year after year, dealing with things like sequestration; and then on the other side for us and the American public, the lack of transparency because we can't say with a straight face that you all can pass an audit. That, to me, is the conundrum.

So I wanted to ask this question. First of all, I am glad to hear that there is going to be progress on the audit. I can't emphasize enough as someone who speaks with the general public, if I can say you guys can pass an audit, it is a lot easier to advocate and explain to the American people why the budgets need to keep going up. Would you take the tradeoff of more predictability over a 5-year period, concrete predictability, for a lower top line?

Secretary WILSON. Congresswoman, I have never been asked that question before, but I think predictability matters. And particularly, given the history of what we have seen in 10 out of the last 11 years where programs get scrunched and things get stretched out, I think it actually does matter quite a bit. I know how hard it is to think about it when you are budgeting——

The CHAIRMAN. The gentlelady's time has expired. If you could summarize quickly.

Secretary WILSON. I think that is it.

The CHAIRMAN. Great. Very well done.

Mr. Wilson.

Mr. WILSON. Thank you, Mr. Chairman, and thank each of you for your service, and thank you for being here today with Secretary Wilson. I was really grateful. In serving in the House, we were the Wilson and Wilson team. And so I just wish you best on your future career, and I am very pleased to find out that the ranking member, Thornberry, is thrilled about your coming to Texas. It is all positive.

And Madam Secretary, in October of 2018, the Secretary of Defense issued a memorandum directing the Air Force to achieve an 80 percent mission capable rate for F–15s, F–22s, and F–35 aircraft by the end of fiscal year 2019. Will the Air Force be able to meet this readiness goal on each of the platforms, and how will it sustain 80 percent mission capable rate?

Secretary WILSON. Mr. Chairman and Congressman, there is a couple of things that are conditional now. If we don't end up with a supplemental, it will be extremely difficult to meet those readiness, those mission capable rates.

With respect to the overall plans, we are trying to meet the guidance of the Secretary of Defense, but for the Air Force, we are not just interested in mission capable rates of pieces of equipment. We are actually looking at the C1 and C2 readiness rates of units. I can have mission capable aircraft that are sitting in a hangar, and it doesn't give us the combat capability that we need. So we look

at overall readiness, and the chief described our readiness recovery plans.

Mr. WILSON. And it is very encouraging to see the focus on readiness.

Secretary Esper, I am grateful to represent the people of the Second District of South Carolina which is the home of Fort Jackson. Fort Jackson trains over 60,000 soldiers per year with about 10,000 soldiers in basic combat training on any given day. The Army brought in 70,000 troops last year. How are you improving basic training facilities at Fort Jackson? Please describe how this budget invests in better trained soldiers so that they can be ready to execute the duties upon arrival at their first duty station.

Secretary ESPER. Yes, sir. So one of the reforms we made over the past year involves basic training for our infantry soldiers, and this pilot was conducted at Fort Benning but will find its way to our other posts where we train infantry soldiers.

Basically what we did was this. Recognizing the needs of the operational force, we expanded combat basic training, one station unit training, from 14 weeks to 22 weeks, by 2 months. We instituted a number of reforms where we changed the program of instruction to reflect the challenges of future warfare such as urban—fighting in urban warfare environments.

We also addressed additional physical training for our soldiers. We lowered the drill sergeant ratio to 12 to 1, and we have seen incredible results from this pilot, and that will eventually work its way to Fort Jackson as well.

Mr. WILSON. That is very encouraging. And Ms. Secretary, it is very encouraging the Army plans to field two batteries of the Iron Dome system which was developed in Israel in the continental United States as an interim solution for the indirect fire protection capability against rockets and cruise missiles. Is the Iron Dome an interim solution or an enduring solution? When do you plan to submit the request to Congress? What would be the impact to national security if the request is not approved?

General MILLEY. Let me, if I could, Congressman——

Mr. WILSON. Yes, General.

General MILLEY [continuing]. Just comment on that. The Iron Dome is a very capable system. It is got basically 100 percent track record in combat. We clearly need it to protect our formations, and we are buying the two batteries as mentioned. They will be coming online here next year, 2020, as part of this budget, and we will have the first unit equipped, and we will employ them as necessary.

Mr. WILSON. Well, it is an extraordinary system.

General MILLEY. It is extraordinary.

Mr. WILSON. And it is very encouraging.

General MILLEY. It is very good

Mr. WILSON. And, General, how is the Army progressing towards the goal of ensuring 66 percent of the force is ready as meeting full-spectrum readiness requirements? Will the Army reach this by fiscal year 2022?

General MILLEY. I believe, yes, unless—if the international environment remains as it is right now and we get predictable budgets on time at the amounts requested, then I think we will—our esti-

mate is—the Army's estimate is it will achieve the 66 percent and 33 percent for the Guard and Reverse by sometime in 2022.

The key components are manning, training, and equipping, as you well know. Equipping has come along very, very well with these budgets. We have increased the pace and OPTEMPO [operational tempo] of training. We have reorganized the CTCs [Combat Training Centers] and the amount of time for Guard and Reserve. The long pole in the tent has always been manning, and it remains manning. So we want to get the formations that we do have on the books, we want those manned at 100 percent strength for all the combat units brigade and below by 2022. And once we achieve that, we will look at other formations.

Mr. WILSON. Thank you very much.

The CHAIRMAN. Mr. Langevin.

Mr. LANGEVIN. Thank you, Mr. Chairman. I want to thank all of our witnesses for your testimony today, and I most especially want to thank you all for your service to the country. Madam Secretary in particular, we have had the opportunity to work together both on the HPSCI [House Permanent Select Committee on Intelligence] and the HASC [House Armed Services Committee], and I appreciate the great contributions you have made to our national security and wish you well as you transition now into the next chapter of your career.

And General Milley, I just want to take the opportunity to congratulate you on becoming the next Chairman of the Joint Chiefs, and look forward to our continued working relationship as well.

If I could start with Secretary Wilson.

You recently testified that the recovery and reconstruction of Tyndall and Offutt Air Force Bases, which have been devastated by extreme weather and flooding, will cost nearly $5 billion. The fiscal year 2018 NDAA [National Defense Authorization Act] requires that the Department of Defense describe future-focused mitigations needed to ensure mission resiliency and their cost.

Unfortunately, the Department of Defense has failed significantly to meet its statutory mandate on this report, and I am concerned that we are now in a cycle of throwing good money after bad. The lack of foresight with regard to investments, in my opinion, in resiliency is not only fiscally irresponsible, but places our service members and our readiness at risk.

So my question is really to all of our witnesses, and I don't want anybody filibustering, I want to try to get to these as quickly as possible. I have several.

Do you agree that the changing climate poses a threat to our readiness?

Secretary Esper.

Secretary ESPER. I am not sure that I could say that it poses a threat to our readiness, but climate change is something we have to take into account as we consider our installations, our training ranges, and how and where we may fight in the future.

Mr. LANGEVIN. General Milley.

General MILLEY. I would say the effects of climate change are things that we have to consider at the strategic, operational, tactical level in all of our military operations in the future.

Mr. LANGEVIN. Secretary Wilson.

Secretary WILSON. I agree, we have to take it into account for the Air Force. Weather and weather effects, from the South Pole to the deserts of the Middle East, is something we have to deal with and predict every day.

Mr. LANGEVIN. General.

General GOLDFEIN. I would just add that we are a land-based force that is globally—we have a global footprint, and so we are watching everywhere, and especially in the Arctic, where we have a significant footprint, and the effects there.

Mr. LANGEVIN. So to each of you, are you planning and making investments in the fiscal year 2020 budget in order to mitigate the risks that we will face in the short, medium, and long term to our CONUS [continental United States] and OCONUS [outside continental United States] installations?

Secretary Esper.

Secretary ESPER. Mr. Langevin, we are doing work at our installations, consistent with our installation management plans. But I would have to go back and bring you back more detail to lay that out more clearly for you.

Mr. LANGEVIN. Okay. I would welcome that answer when you have a chance to get up to speed on it.

General.

General MILLEY. The same thing. We will have to get back to you for the record, Congressman.

[The information referred to was not available at the time of printing.]

Mr. LANGEVIN. Secretary Wilson.

Secretary WILSON. Congressman, when we are rebuilding Tyndall, we are trying to rebuild it in a way that is resilient. And we actually have a new infrastructure investment strategy that tries to make our bases resilient, because we fight from our bases and they have to be resilient to all kinds of adversaries, including the weather.

Mr. LANGEVIN. General.

General GOLDFEIN. Yeah, same.

Mr. LANGEVIN. Okay. I would hope that we are building resiliency in, that we are planning ahead. I mean, climate change, whether people want to recognize it or not, it is happening, and we are going to be throwing good money after bad if we do not plan.

Whether a base should be rebuilt or we build it resiliency in, it has to be done, because it is going to be a waste of taxpayer dollars if we don't. And it is going to affect our mission readiness, I am convinced.

So what I want to ask, Secretary Esper, let me switch to this—well, let me ask you, how are you evaluating those risks as they evolve? How are you prioritizing your budgets? And can you commit to providing a briefing in the coming months on this topic and the methodologies that you are using?

Secretary ESPER. Congressman, you are referring with regard to the impacts of climate change?

Mr. LANGEVIN. Yes, and your planning and how you are building——

Secretary ESPER. Yes, sir, we will commit to coming back and briefing you.

Mr. LANGEVIN. Okay.

And, Secretary. Or whoever.

Secretary WILSON. Congressman, I would say that, for example, in our infrastructure strategy, when we look at a base's resilience, we look at how is it—you know, we are doing some things in the Arctic with respect to making sure permafrost stays permanent. I was just at Offutt Air Force Base, and because of the backup power systems we put in, STRATCOM [U.S. Strategic Command] and the new STRATCOM headquarters didn't miss a beat, even though a third of the base was being flooded by the terrible storms that——

The CHAIRMAN. And again, I apologize, the gentleman's time has expired.

Mr. Turner.

Mr. TURNER. Thank you, Mr. Chairman.

Secretary Wilson, it is great to see you. It is great to have you here before us as Secretary of the Air Force. We are all saddened that you are departing, but I look forward to when you return as Secretary of Defense. I am going to say that everywhere I go, because I think you truly, with your background and expertise, I think, are very poised to be the first female head of the Secretary of Defense, and I look forward to when we welcome you here at that time.

General Goldfein, you have stated I think most eloquently about the budget that we are facing and the real costs if the number should go down. We have seen budget proposals of $750 billion, we have seen 733. There have been some who have said it could even be lower.

You have made it clear that this is not a luxury, that there are real, hard things that would be devastating to the Air Force if this number goes down. Could you please share those thoughts with us?

General GOLDFEIN. Yes, sir. And all the Joint Chiefs as we have gotten together to talk in the Tank with Chairman Dunford, we have all aligned with the fact that at 3 percent real growth, it allows us to maintain our current capability; 5 percent growth actually allows us to both modernize and really improve readiness.

The impact of the instability, we talked earlier about the impact to the services and our ability to plan ahead, and that is a real challenge for us.

Mr. TURNER. But, General, you have talked about, like, we will lose specific things; there are things that will be affected in your capabilities if this number drifts downward. Can you speak to those?

General GOLDFEIN. Yes, sir. There will be flying hours that we will lose, which are a direct impact on readiness. There will be aircraft modernization that we will lose, which we absolutely need to stay ahead of the threat. And there will be significant impacts on our investment in space, which is significant as we go forward to transition from a benign environment to a contested environment.

Mr. TURNER. Okay. Thank you.

Secretary Wilson, as you know, I am the past chair of the Air and Land Subcommittee, so I am very dedicated to our work to go to fifth-generation aircraft and the F–35. I am disappointed, obviously, in the number of aircraft that the Air Force is currently

looking to acquire for the F–35. The prior budget request had indicated that you should be probably at 60. The request we get is 48.

I just wanted to have a discussion with you, that we all know about the F–35 production, and just get your confirmation of my thoughts here.

If we don't buy more F–35s next year, we can't buy more than next year, right? I mean, because every year that we put off increasing the amount of F–35s that we buy, the supply chain doesn't keep up, the production line doesn't keep up, and we put off the ability for us to ramp up to where we would have both increased cost savings and also increased numbers of F–35 that we can put into service.

Do you have some concerns that as we continue to put off buying higher numbers of F–35s, that we are really just locking in increased costs, locking in inefficiency, and making it more difficult for us to have the flexibility to do that later?

Secretary WILSON. Congressman, I am not sure that I am concerned so much about those effects. I do think that we—the Air Force is committed to the F–35. We need its game-changing capability.

We also need both capacity and capability. And one of the things that we are facing, now let's—I mean, let's go back a second. It was before any of all of us were here, really, but it was the F–22 was supposed to replace the F–15. That didn't entirely happen. And those decisions are made and behind us.

The reality is we have got F–15Cs that are not going to live long enough to get replaced, and the consequence would be that our force structure will decline in size. The best thing we think we can do given the resources that we have is to buy the 48 F–35s this year and to supplement them by replacing the F–15Cs.

Mr. TURNER. Okay. Well, I didn't raise the F–15 because I really think it should not be an apples-and-oranges discussion. As we were having the discussion earlier, in fact, you had represented that you thought that the choices of modernizing, or buying new F–15s, shouldn't be at the cost of the F–35.

Which is why I wanted to walk you through the—if we buy 48 aircraft this year and not 60 doesn't it make it more difficult to buy 78 the next year? And isn't it absolutely that we lock ourselves into an inability to have flexibility to increase the number of the F–35s by what we do this year?

Secretary WILSON. Congressman, as I understand it, we had our folks check with Lockheed, could they build 60 this year, in the fiscal year 2020, and the answer is, yes, they could. So as far as flexibility in the supply chain, I think at least at that level, that kind of flexibility exists.

I would also maybe ask the chief to talk a little, including about the UPL [unfunded priorities list].

Mr. TURNER. But it does generally affect the next year, right? I mean, if they could do 60 this year but we only buy 48, aren't they going to come back and say, well, we could do 60 next year, versus we could do 78 next year? I mean, we are pushing off the inevitability of the ramp-up that we are losing by us pulling that line forward.

General GOLDFEIN. Yes, sir. I can't speak for industry, but my understanding of how they invest in their workforce, in addition to the tooling and the line, is that they invest year to year. And so it would be more difficult to go to—the larger the jump, the more difficult it will be for industry.

Mr. TURNER. Secretary Wilson, you have done an excellent job of trying to lower the cost of sustainment for the F–35, I know, with the problems that we have had with the ALIS system that you are working on. Can you give us a short update on that?

Secretary WILSON. The Air Force is using its software factory, called Kessel Run, and working with Lockheed to jump forward to development ops and get more capability to ALIS faster, and the first drop of software, I believe, is this month.

Mr. TURNER. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you.

They seem determined, Secretary Wilson, to ask you the question with, like, no time left, and then force you to answer that. So I appreciate your flexibility on that.

I do want to have just one point of clarification, maybe General Goldfein. Is it your testimony that you do not feel that the Department of Defense can adequately defend the country for $733 billion?

General GOLDFEIN. Sir, I absolutely believe that we can defend the country today. I think the question that you asked us, you specifically asked us was, what does the Air Force need in the 2025 to 2030 timeframe to be able to adequately defend?

The CHAIRMAN. Right. And I apologize, I am going bigger picture here than just your individual budgets.

And, General Milley, as the soon-to-be Chairman of the Joint Chiefs of Staff, I mean, we have heard testimony about a bunch of numbers. Do you think you can adequately defend the country for $733 billion in the fiscal year 2020 budget? Forgetting the future for the moment, just talking about the fiscal year 2020 budget.

General MILLEY. I think the Army's component of the defense of the United States, what we are asking for, the answer is yes.

The CHAIRMAN. Okay. Thank you.

Mr. Cooper.

Mr. COOPER. Thank you, Mr. Chairman.

Thank the witnesses.

I would like to ask Secretary Wilson and General Goldfein a very simple question. Are you in favor of the Pentagon's current proposal for a space force?

Secretary WILSON. Yes.

General GOLDFEIN. Yes.

Mr. COOPER. I thought your testimony was interesting. On page 9 you say—you use the passive voice here: "The Department of Defense recently submitted legislation to establish the space force as a new armed service within the Department of the Air Force." You didn't seem as enthusiastic in that paragraph as in some other paragraphs.

Secretary WILSON. I am not really sure what to say about the use of the passive voice. Maybe my English teacher would be upset with me. But the point is that the proposal came from the Depart-

ment of Defense. It wasn't something that we just wrote. That was all I was trying to say.

General GOLDFEIN. Congressman, can I offer that when the President gave guidance, we spent several months within the Department of Defense debating, very robust debate, on where we would land to get in line with his guidance. And that was everything from the initial guidance of the separate service, separate department, and everything that comes with that, to a JAG [Judge Advocate General] Corps, Medical Corps, and everything in between.

Where we landed, from a warfighter's perspective, is a recognizable place to have a service that stands up within the Department of the Air Force. That decision was made just prior to the legislative proposal coming forward.

And so since then, we have been directed by the Secretary of Defense to do the detailed planning associated with what this force looks like, and that detailed planning is weeks old.

Mr. COOPER. More use of the passive voice. You said, the decision was made. So I want to know whether the Air Force will be enthusiastic about the space force proposal, or are you being dragged, kicking and screaming, to support this?

General GOLDFEIN. I think the fact that we are having a national debate about space is absolutely necessary, it is needed, and I give the President and the administration a lot of credit for raising this level of conversation to the one we are having.

Mr. COOPER. I am not hearing anyone being dragged, but I am hearing some gritting of teeth.

General GOLDFEIN. Sir, there is no gritting of teeth here. This is from a warfighter's perspective and as someone—you are not going to have many folks sitting in front of you who have actually employed space capabilities in combat, like I have, as the space coordinating authority for Central Command. And let me just tell you that the path that we are on and where we are going is the right path.

Mr. COOPER. So it is wholehearted and full-throated support?

General GOLDFEIN. Yes, sir.

Mr. COOPER. Whoa. So although the previous testimony had been you needed $13 billion to do it, the $2 billion that is in the Pentagon's proposal now is sufficient?

Secretary WILSON. Congressman, let me talk to you a little bit about cost estimates. We were asked to come forward with the cost estimates for a variety of pieces of proposals. That includes the standup of a unified combatant command, which has already been approved by Congress, and it included everything that would go towards making a fully stand-alone department.

The proposal that the President approved does not create a full stand-alone department. It creates a service underneath the Air Force. And one of the benefits of that is that it costs less money.

Mr. COOPER. Well, we like things like in the Army testimony, doing more with less. That is an awesome position to be in. I hope we can do it here.

If memory serves, the record of the Air Force in regard to the space force is first opposition, then support, once the President came on board, now full-throated, wholehearted support, although at different budget numbers.

Is the current Pentagon proposal, is it unamendable, is it perfect, or should Congress weigh in with substantial changes?

Secretary WILSON. Congressman, I think that there is a proposal, which we support. We also recognize that this is a conversation and that legislation is required by this committee, by the House, and by the Senate, and we are open to discussing those things with all of you.

Mr. COOPER. Finally, in the short time remaining, how urgent is this request? How quickly do we need to act in order to prevent the U.S. from falling further behind?

Secretary WILSON. Congressman, I think the most important thing is the programmatic changes that you approved in fiscal year 2019 and the elements in the budget. We also believe that this is the year to go ahead and make the changes that are needed with respect to organizational structure, and we will work with you to accomplish that.

General GOLDFEIN. Sir, can I add just in a few seconds, of all of the work we have ahead of us, the most important work we do right now is stand up the new combatant commander, because that normalizes the business of warfighting going forward. As we get that, every other action we take now follows that and aligns with where we need to go.

Mr. COOPER. Thank you.

The CHAIRMAN. Mr. Rogers.

Mr. ROGERS. Thank you, Mr. Chairman.

And, General Goldfein, you are absolutely right, I agree with you on that.

First of all, thank all of you for your service.

General Milley, congratulations on your promotion.

I wanted to ask you, we all know that the Army's Future Combat System [FCS] and Ground Combat Vehicle programs were failures. How and why will the Optionally Manned Fighting Vehicle be different?

General MILLEY. I think the key is that, number one, the technologies have advanced to a level where we have confidence. Secondly is we are doing a lot of experimenting and prototyping.

And that is fundamentally different than what happened with, as you noted, with FCS. With FCS we got out in front of our headlights in the sense that we were trying to demand a requirement and a vehicle for which the technology wasn't mature.

But we know factually that optionally manned or robotic vehicles work today. They are working in the commercial world. They are driving and delivering goods and services up and down the highways and byways of America even as we speak. So it does work.

Driving on the highway is a little bit different than driving through the hinterlands or the mountains or the terrain of the Earth's surface or in some urban areas that might be a result of combat operations.

So there is some more research, development, science, technology that has to be done in order for these robotic vehicles to negotiate that type of terrain, and there are some more challenges. So I don't want to be Pollyanish about it.

But we are very, very confident it is going to work, and the vehicles that we think will come off the production line here in the not

too distant future will have great capabilities to be optionally manned.

Mr. ROGERS. It appears that the U.S. is finally going to withdraw from the INF [Intermediate-Range Nuclear Forces] Treaty. Does the Army intend to remove the previously imposed range restrictions on your long range precision fires initiative that complied with that treaty heretofore?

Secretary ESPER. Congressman, if and when we depart from the treaty, the Army is prepared to move forward in extending the range of our Precision Strike Missile, for example.

Mr. ROGERS. Great. Thank you.

I yield the balance of my time to Ms. Stefanik.

Ms. STEFANIK. Thank you, Mr. Rogers.

Secretary Esper, last week we received the Army's unfunded requirements list, and the railhead at Fort Drum was at the top of this list. That is a project that I have very much supported.

Can you explain why infrastructure projects such as this railhead at Fort Drum did not make it into the budget request and what you are doing in the interim to ensure that units like the 10th Mountain Division maintain the capability to rapidly deploy in response to worldwide threats?

Secretary ESPER. Right. I will take the first stab at it and then let the chief do, as well.

So on improvements such as that, and MILCON [military construction], the wants and needs always exceed the resources, and we try and prioritize them based on readiness and power projection. Clearly for our installations—and Fort Drum is one of them, of course—they are places by which we project power forward.

The Army's—first thing it needs to do anywhere it goes is deploy. We have to get there, which means getting first from the fort to the port, and then port to overseas.

So we rack and stack those, and we put them in the order based on what we think the mobilization process looks like and the timelines for deployment, and that is how we come up with that list. And that is likely how it made it onto the UFR [unfunded requirements] list, if you will.

Ms. STEFANIK. General Milley.

General MILLEY. Just a process note. Each of the service chiefs submit the UFR list, the unfunded requirements list, based on our assessment of risk and our chiefs' assessment of risk that feeds into the Chairman's Annual Risk Assessment. So everything is related to risk, as was pointed out by Chairman Smith early on.

With respect to Fort Drum, as you know, the commandant up at Fort Drum, that railhead is very important, 10th Mountain Division has a strategically deployable, rapidly deployable, division size capability, and that railhead is critical to getting the troopers from 10th Mountain Division out the door.

So we want to make sure it is up on there. However, within the UFR list, I decided to put that on there as one of many things that I think would improve our readiness, if additional moneys became available.

How does it rack and stack to the $182.3 billion of requirements that we put into the budget? It was just below the cut line on the

182.3, but if additional moneys became available, it is on that UFR list, and we would like to see it funded if possible.

Ms. STEFANIK. Absolutely. So I will continue to prioritize that project and fight for appropriations when it comes to the MILCON budget.

With 30 seconds left, I will ask a question for the record, and you can submit written response.

Secretary Wilson and Secretary Esper, I am curious to hear your thoughts and feedback on the transition to the Defense Health Agency. What challenges have your services faced? And what lessons can we learn from that transition?

This is something that we understand deeply in the north country in New York, given that Fort Drum is one of the only Army installations without a hospital on post. We work with civilian hospitals. General Milley, of course, is very familiar with this model.

But I will take that for the record and look forward to reading your written response.

Thank you. I yield back.

[The information referred to can be found in the Appendix on page 109.]

The CHAIRMAN. Thank you.

Mr. Courtney.

Mr. COURTNEY. Thank you, Mr. Chairman.

And thank you to all the witnesses this morning.

In particular, Secretary Wilson, congratulations on your service and leaving on your own terms, which is the best way to end your chapter, and I am sure you are going to do great things in the future.

After listening to all the Texas talk this morning, I just want to say congratulations to General Milley. It is nice to see a citizen of Red Sox Nation leading the Joint Chiefs.

General Goldfein, in July 2017 a Marine Corps KC–130 crashed and took the lives of 17 service members. The Navy, in the wake of that, requested and Congress appropriated funding to replace the legacy propellers on the entire C–130 fleet.

I know the Air Force temporarily grounded the Air National Guard C–130s, but it is very unclear whether or not you are going to proceed along the same path in terms of replacing those propellers, which certainly was identified as a contributing factor in terms of the crash.

Could you clarify what the Air Force position is and whether you are going to proceed in terms of replacing those propellers?

General GOLDFEIN. Yes. Thank you, sir.

So what we found as a result of the accident investigation was that propellers procured before—or made before 1971 needed to be replaced. We have completed the replacements of all of those.

The propeller that now we are looking at—and we are doing the acquisition strategy right now—is the NP2000. It is an eight-bladed propeller. And we started off with a business case analysis. We are actually now working through the acquisition strategy because we think it is the right strategy going forward to replace all of the propellers in the C–130H community with that.

Mr. COURTNEY. Well, that is good to hear because the propeller that was involved in that crash was actually a 1980s propellers. So

I think really let's just move forward, and I am glad to hear your answer this morning.

On March 14, Dr. Roper came before Seapower and Projection Forces and talked about the foreign object debris that was found at the KC–46 tanker. At that point, he had just visited a Boeing factory and said that he felt that their processes were valid.

Unfortunately, 11 days later, they found a second incident involving foreign object debris. Could you talk about what the Air Force's response is to that second incident?

Secretary WILSON. Thank you, Congressman.

We actually stopped again the acceptance of the KC–46s because of foreign object debris that we found in some closed compartments. We have got corrective action in place, including a 100 percent look at some of those closed compartments to make sure that the production line is being run the way that it needs to be run.

Mr. COURTNEY. Great. Well, I know you had made some pretty optimistic projections about full delivery, and it just seems these keep sort of getting in the way. And hopefully we are just going to make sure that the oversight continues as strong as possible.

I would like to go back to the space force proposal, because in the budget document that was submitted, section 1707, I mean, there is some pretty extraordinary transfer authorities which the administration is proposing. In fact, 7-year blanket funding that would allow DOD to move funding from anywhere—anywhere—in the Department to the space force as long as it is somehow connected.

Given what is going on right now in terms of the heartburn surrounding the transfer authority for border projects, why can't we just do a 1-year transfer and then do normal budgeting? Why is 7-year transfer authority part of this proposal?

Secretary WILSON. Mr. Chairman and Congressman, we will obviously work with you on those kinds of specifics of the proposal, but we do need more than 1-year transfer authority. At least we think we do. We are in the midst of doing all of the detailed planning the chief referred to. We have a team that is stood up within the Air Force to go through all of the details of what would be required, when.

Mr. COURTNEY. Because obviously that sort of changes the budget projection that, again, we just discussed here a moment ago. If there is transfer authority of that sweeping in nature, I mean, actually, the costs could be far different than what was put into the budget as a line item.

Just again, Secretary, Army Secretary, thank you for being here today. Again, we just had a discussion regarding the Fort Drum construction issue which was left out of the budget. Again, that unfunded projects list that came over from the Army last week coincided with the $1 billion transfer for border construction. How do you balance moving money out of the Department of the Army at the same time you are coming back to Congress, saying, oh, by the way, there are unfunded priorities, such as the Fort Drum project?

Secretary ESPER. Right. I understand, yes, sir.

Well, Congressman, we didn't move the money out of the Army. When we realized we had a military personnel wedge of about a billion dollars, we apprised Congress. We have certainly notified

OSD, Office of Secretary of Defense, of that. And as they are more often than not to do, they take that wedge from us and use it for broader DOD priorities.

Mr. COURTNEY. And without even consulting Congress, by the way, which, again, is a very big breach of normal practice around here, and I, frankly, think it is going to do damage to transfer, reprogramming——

The CHAIRMAN. And while I agree with Mr. Courtney's point, his time has expired. So well made.

Mr. Conaway.

Mr. CONAWAY. Thank you, Mr. Chairman.

Ms. Wilson, I know the folks at University of Texas-El Paso will be happy to have you and the school will be well served by your future service there. So welcome back to Texas—or welcome to Texas, I guess. You were almost there when you were in New Mexico.

I did have a couple comments about the audit issue that has been discussed heretofore. The real full-court press on getting that done began when Leon Panetta was Secretary. He was the one who really started the ball rolling and communicated that to the leadership.

I have been watching to make sure that subsequent changes in leadership, that each one of the new leaders gave the kind of full-throated support that is going to continue to be necessary to get this done. And while there is a lot left to be done, there has been a lot done.

And good, hardworking men and women in uniform and civilians have been at this process for a long time and I don't want our comments here to discourage them or think that we haven't recognized that an awful lot has been done.

Twenty eighteen was the first year that the whole thing was under audit. That is a big deal.

Secretary Esper, I know you mentioned some 400-plus NFRs [Notices of Findings and Recommendations]. Individuals have been assigned to each one of those to make sure that they are done. Is that correct?

Secretary ESPER. Yes, sir, they are preparing corrective action plans for each of those to make sure we get them done in a timely——

Mr. CONAWAY. And I assume the Air Force has done a very similar thing, Ms. Wilson?

Secretary WILSON. Yes, sir.

Mr. CONAWAY. And so tracking that work, they all have timelines, they all have ways to get at it, and that will get us even closer to getting the books and records audited. Is that a fair statement?

Secretary ESPER. Yes, sir, based on the timeline I gave Chairman Smith earlier.

Mr. CONAWAY. I got you. Good work, but the truth of the matter is, the systems—maybe those legacy systems were created in an environment when auditing was not an issue. It was never to be expected. The systems complied with the Appropriations Act, with the Antideficiency Act.

So we do know—we just don't toss money in a bucket and not know where it is at, but we can't audit it. And that meant setting up internal control systems that could be audited so that you don't have to check every single transaction. You can count on the system to work. And those have been put in process.

So I just want to give a pat on the back for the hardworking men and women throughout your agencies that are getting this thing done. Long way to go, and we have got to keep the pressure on them. That pressure comes from the top, and I appreciate each of the four of you, your attention to this.

It has percolated all the way down further in the systems. I have told this story before. I was on the USS *Texas,* and we were doing a bit of a town hall meeting in the galley. And a young seaman asked me, "Mr. Chairman, what about that audit thing doing, how is it working?" Well, I don't know if he was put up on that, but if a young seamen on the galley of the USS *Texas* knows about the audit issue, then we are making progress.

General Milley, last week the Acting Secretary was here and the budget drops the end strength of the Army by almost 8,000. Can you speak with a little bit of granularity as to what that means? General Goldfein mentioned 4,000 maintainers short. What happens to our Army when they can't recruit the additional 8,000 that would have been there had you been able to recruit them?

General MILLEY. Thanks, Congressman. Let me put it in a little bit of context.

We were able to recruit 70,000 soldiers into the Army last year. That is a 10-year high. And, yes, we missed the mark by 6,500, but we did that because I set the bar too high, on an unachievable goal. Secretary Mattis and others cautioned us against that, by the way. They thought that the bar was being set too high, and, in fact, it proved to be that way. So we had a very, very ambitious goal last year, and we came up short.

But we did achieve a 10-year high. That 70,000, that is bigger than the Australian and Canadian Armies combined. So it wasn't like we had a bad recruiting year, we just missed the mark that we set.

Having said that, the key point for us is to fill the holes in the existing force structure, fill the manning holes. We have some units, when I became the Chief of Staff of the Army, that were going to major training events at 65 or 70 percent strength. That is unacceptable. We need units going to training at greater than 90 percent strength. In order to do that, we need to make sure that we are filling them at 100 percent strength.

We have also taken action to reduce our nondeployables significantly. When I became the chief, we had 140,000, 150,000 nondeployable soldiers. That has been dropped down considerably. So what was 17 percent high on average for units and nondeployables is now down around 6 or 7 percent.

So it is recruiting, retention, reduction of nondeployables, and ensuring our soldiers are ready to go. That resolves the manning issue for the Army to fill the holes in the existing units.

Mr. CONAWAY. Thank you. I appreciate the explanation.

I yield back.

Mr. GARAMENDI [presiding]. Thank you.

I think it is my turn, the chairman not being here.

General Milley, congratulations on your appointment. We await your confirmation.

General Goldfein, as always, your service is much appreciated.

Secretary Wilson, you are on to new things. El Paso awaits you, and we will miss you.

Esper, you and I are going to be together, so we look forward to that.

General Milley, in your testimony you said that you need $4 to $5 billion this coming year for modernization, long range precision fires, $1.3 billion, combat vehicles, and so forth.

In your testimony, Secretary Wilson, you mentioned the problems at Tyndall and Offutt. You didn't mention the fact that the Marine Corps base at Camp Lejeune was also devastated. Total cost of recovery from those three bases is somewhere around $8 billion. And I assume it is a priority because those are key bases for the American military and our security.

What I don't understand is why the billion dollars from the U.S. Army personnel account was transferred to the counternarcotics account, so it can then be used to build a border wall, when you are giving us testimony that the recovery of these bases is absolutely essential, and I don't understand.

So I am going to ask specifically, Secretary Wilson, what is your view of the transfer of that billion dollars from the Army personnel account to build a wall rather than to backfill the $740 million that you have had to spend to clean up Tyndall Air Force Base? Could it be better spent at Tyndall?

Secretary WILSON. We have had a—I can't think of a time when I was here, and certainly in my service in the Air Force, where we have had a natural disaster like we have seen hit Lejeune and Tyndall and Offutt when there wasn't a supplemental to help with that and we didn't take it from other parts of the service or other parts of the Department. So I think we need a supplemental to recover from the storm damage.

Mr. GARAMENDI. I won't press you, but, in fact, the money is already in the Department of Defense. The decision was made to transfer it for the construction of 150 miles of border fence, rather than Tyndall, Offutt, or Lejeune.

Secretary Esper, what was your view of that transfer? Was it the proper thing to do? Is it more important to build a border wall than to transfer the billion dollars to the Marines for the repair of Camp Lejeune?

Secretary ESPER. Congressman, that is not my call to make. My perspective is prioritization within the Army. You know, obviously, Acting Secretary Shanahan has a broader perspective because he sees all of DOD, and, of course, the White House has a national perspective.

So my ability to prioritize within the Army is what we did. I will tell you, the fiscal year 2019 appropriations from which that was taken met—meets our——

Mr. GARAMENDI. Specifically—excuse me for interrupting—specifically, the money was in the Army account. Could it have been transferred to long range precision fires or maybe combat vehicles, or vertical lift, or maybe air missile defense? Could it have been

transferred there for those purposes, to specifically serve the military's need for high-effect combat with our near-peer adversaries?

Secretary ESPER. Yes, sir. But there is two qualifiers here. One, of course, is it came from the military personnel account. They were soldiers we did not have. And so that is point number one. The fiscal year 2019 budget satisfied our readiness and modernization needs as presented to you all last year.

The second thing is, we came across this in September/October and turned it over to OSD at that time. So this is well before any consideration of, at least to the best of my knowledge, of reallocating money to the 284 account came about.

Mr. GARAMENDI. So the money could be better spent on a 100-mile fence rather than on all the other needs that the U.S. Army has?

Secretary ESPER. Again, not my call.

Mr. GARAMENDI. Including Fort Drum?

Secretary ESPER. Yes, sir. Not my call, Congressman. Again, I see the priorities within the Army.

Mr. GARAMENDI. So it is not your responsibility how money is spent within the U.S. Army?

Secretary ESPER. It is, but you are asking me to make a relative value choice between the Army and a border wall.

Mr. GARAMENDI. Why were we not notified of this transfer?

Secretary ESPER. I am not—I can't answer that question, Congressman. I would have to refer you to OSD.

Mr. GARAMENDI. The final point is that, do not expect transfer authorities in the coming year. Do not expect transfer authorities in the coming year because of what has happened this year.

I yield back my time. I see the chairman is here.

The CHAIRMAN [presiding]. Thank you.

Mr. Cook.

Mr. COOK. Thank you, Mr. Chairman.

Secretary Wilson, sorry to see you are leaving.

First of all, as somebody that went on the CODEL [congressional delegation] to Red Flag, I wish everybody on this committee was there. Great, great insight. Everybody knows I am the dumbest Marine in the world, and I learned more about the Air Force. And if you weren't all in with the F–35, talking to those pilots and everything else—and a lot of it, obviously, was all in a classified mode—it was fantastic. So I encourage you to do it again.

I did have a couple of questions about those Australian AWACS [Airborne Warning and Control System]. They look like something out of "Star Wars." Are we evaluating those capabilities compared with our old AWACS system that is probably older than me, if there is such a thing?

Secretary WILSON. Congressman, it is called a Wedgetail. And maybe I will ask the chief to talk a little bit about Advanced Battle Management and where we are going. We don't just think about particular platforms anymore, but how do we merge data from multiple platforms to get from any sensor to any shooter really quickly.

General GOLDFEIN. Sir, I will just tell you that last year we brought to you a significant change in the way we plan to do business in the future.

And the question we asked was, how do we ensure that a soldier, sailor, airman, Marine that is on the ground, inside of defended airspace, will have visibility on enemy movement on day one of a campaign.

And the current platform-centric approach is not going to be viable past the next few years, because the enemy can hold it too far out to be able to do its job.

So we are transitioning from a platform-centric approach to a fusion of sensors and capabilities so that that soldier that is inside enemy airspace has visibility on day one. Therefore, when we talk about platforms, Wedgetails and other kind of platforms, you will see the Air Force shifting more to a family of systems than a single platform solution.

Mr. COOK. Thank you.

General Milley, the active protective system, I am a big fan of that, I have been after that for years. I guess, are we stopping at 4 armored brigades as opposed to moving on to, what, the 11 or 12 that——

General MILLEY. No.

Mr. COOK [continuing]. I was kind of hoping we would get for the Abrams?

General MILLEY. The short answer is no. We intend to put active protective system on every armored vehicle in the United States Army over time. The four is interim, at the wait point, en route to equipping the entire armored force with active protective systems.

Mr. COOK. By the way, I want to compliment the Army on the outstanding job they have done. And I remember 6 years ago when we were talking about readiness and all the units were C3, C4, it was absolutely horrible. And to come as far as you have, I think, is just outstanding.

I still hold a grudge against you on the fact, on our trip to Europe that you deliberately skipped our trip to Belleau Wood on the Marine Corps birthday. And I understand that it was an all-Army trip, and I had to go into depression training for a month.

But really I just can't compliment you enough on how far the Army has come in readiness. It is all about readiness.

And I know that we are going to have some issues. I am worried about the number of the buy, like everyone else, on the F–35. And I think of the evil word "sequester." If my mother was still alive and I said that she would rinse my mouth out with soap, and I think that speaks volume on how I feel about that. We are going to have some challenges with the NDAA.

But I am very, very happy with the panel and some of the things that have been done.

And I yield back. Thank you.

The CHAIRMAN. Mr. Norcross.

Mr. NORCROSS. Thank you, Chairman.

I would like to thank all of the witnesses.

Secretary Wilson, thank you for your service. Much appreciated and had a great relationship.

And, General Milley, on your nomination, it is good to see a New Jersey-educated, since we are doing the States, a good Princeton grad, on your nomination.

But we have sat here over the last two cycles and heard so much about the next-generation, fifth-generation fighters. I know, General Goldfein, you and I have had this discussion—same thing with you, Secretary Wilson—is that now, after hearing that time after time, there is a shift and a start of the F–15E.

And the discussion had been that the deterioration of the C's are going a bit quicker than you expected. But that happened in approximately the last 9 months. And I continue to get questions from those on my subcommittee and the full committee, how could this change have happened rapidly, and so soon, that the retirement—if you look at an airframe to an airframe, it is an equal.

But do you consider the F–15 and the F–35 equal when it comes to a near-peer competitor, if we were to go to war with China or Russia?

General GOLDFEIN. Sir, no, and not even close. Here is the situation we found ourselves in. You won't find a stronger proponent of the F–35 than the current Chief of Staff of the Air Force. It is a game-changer. But we have to look at it as part of a penetrating joint team that doesn't travel alone. This F–35 is going to be inside of enemy airspace.

You know, sometimes we are guilty of placing a red dome on a PowerPoint chart as though a country can keep us out. The best they can ever do is actually put a block of Swiss cheese, because there is holes there, and it is our job to know where they are and get in and exploit them.

And the quarterback of the penetrating joint team that is capable of doing that, that we bought to do that, that can fuse information and call the audibles we need, is the F–35.

But you got to look at it from the F–35, plus the B–21, plus the RQ–170, plus the X–37, plus a brigade combat team, plus a SOF [special operations forces] team, plus a tactical submarine.

We have invested $135 billion in this budget over the FYDP [Future Years Defense Program] in penetrating capability. But the challenge we find ourselves in is we need both penetrating and standoff, and four aircraft have to fly into the 2030s to give us the capacity we need to fight and win—the A10, the F–15E, the F–16, and the F–15C. The F–15C is not going to make it.

So what we found ourselves with was a capacity shortfall. And we started by saying we are going to keep the F–35 on our program of record. We are the largest customer, we are a tough customer, and our program of record is 1,763. And we are not backing off an inch, and we are not putting a dime of the F–35 into anything else but what we need to do with the F–35.

But we have a capacity challenge. Those F–15Cs are not going to make it. And when we look at options on the table, we have a hotline of F–15EXs—F–15Es. The Saudis and the Qataris have put money into a hotline. And when you look at the operating costs over time, it became the most affordable solution to fill a short-term capacity shortfall. Yes, sir.

Mr. NORCROSS. So you talk about the sustainability of the operational. If the costs were to continue to come down on the F–35, it will now be somewhat slower because you are investing in the F–15.

So how did this come not in the last 4 years, but in the last 9 months? That is what people keep asking me, how did this all of a sudden, in the last 9 months, change to the last 48 months?

General GOLDFEIN. Sir, I think it is important to start with what hasn't changed. And the chairman made the same comment, I believe, in his testimony, is what has not changed is our commitment to the F–35. We just have a capacity shortfall that we have to solve in the timeframe we have to solve it.

We looked at the best cost estimates that we had available to us, which not only procurement, but also operations and sustainment. And by having an F–15 variant replace an F–15, same construction, same hangars, same operating and support equipment, same maintainers, same—so the transition costs are minuscule. And so, therefore, in terms of time and readiness, as long as we do this on top, as a small slice on top of the F–35 and the other penetrating joint capability, this gives us more combat lethality. This is not an either/or discussion. This is an additive discussion.

Mr. NORCROSS. I am almost out of time, but we are going to have further discussion, because we need to make sure we are making what little investment we can make go to the right way, particularly when it comes to that fifth-generation fighter.

Thank you. I yield back.

The CHAIRMAN. Mr. Lamborn.

Mr. LAMBORN. Thank you, Mr. Chairman.

Thank you all for the service you have provided our country.

And, Secretary Wilson, you will be missed. I enjoyed serving with you in Congress, and I enjoyed working with you in your current position. I wish you the best in the future.

For General Goldfein and General Milley, the fiscal year 2020 budget proposal goes a long way towards rebuilding our forces toward readiness and finally investing in modernization, but we still have a long ways to go. We have talked about the risk involved if we don't have $750 billion, but can you be specific, as specific as possible, with what capabilities are at risk if we do not have that top-line amount of 750, what training risks we incur, and what risks we would incur in the event, God forbid, of a major conflict?

General GOLDFEIN. So I will start out.

First of all, let's talk training. For an Air Force, we train both virtually and on our ranges. And on those ranges we have got to be able to replicate the threat that we would expect to meet if we were to send airmen into harm's way. And so what would be at risk is our ability to replicate that threat with the proper environment, both virtually and physically on our ranges, going forward.

What is also, I think, at risk, is the significant movement that we started last year—and Congress supported this—and it was a significant move for the Air Force to shift from a platform solution on command and control and battle management to a network solution going forward.

That is our future in the business of joint warfighting, is to ensure that we are taking every sensor and every shooter and connecting them together so that we can have better decisions and bring effects from all domains simultaneously to overwhelm an adversary, and it has as much of a deterrent effect as it has a

warfighting and winning effect. That will be at risk with lower budgets.

General MILLEY. Congressman, I would say in terms of manning, we would likely have to turn back and not fill the holes that we have been filling.

In terms of training, your larger-scale operations or training exercises will be trimmed back in various places, not only in the continental United States, like at NTC [National Training Center] or JRTC [Joint Readiness Training Center], but also overseas. Right now, for example, we are doing our first emergency deployment readiness exercise, deploying an armored brigade combat team out of Fort Bliss, Texas, all the way to Europe. First time that has been done in probably 25, 30, maybe even 40 years. Exercises like that would come down.

In terms of equipping, spare parts, which are critical to keep our vehicles and helicopters flying, those would probably slow down as well. And I suspect that the broader categories of readiness would degrade proportionate to the amount of money that was less in the budget.

On a broader scale—you asked about conflict with the near peer—the way we evaluate risk is task, time, and troops.

So can the United States Army, in this case, accomplish the task that the combatant commander asks it to do in the various war plans, yes or no, can it accomplish the task? And we know that through various war games, et cetera. Can you do it on time, in the timelines required by the war games? And can you do it at an acceptable level of cost, expressed in casualties of U.S. forces?

We do all those calculations, spend a whole year doing all that. That results in our annual risk assessments that are classified, reported to Congress, Secretary of Defense, and so on.

And I would argue that if the budgets were to drop precipitously, or significantly, that the levels of risk would proportionally go up, and the probability of offering an opportunity to an adversary that we were perceiving to be weak—we were being perceived to be weak, or that we lacked the will to support a large, capable, competent military with both capability technologically and capacity, those would be signals that we wouldn't want to send. So I think risk would go up.

Mr. LAMBORN. Thank you.

And for Secretary Wilson or General Goldfein, it is my great honor to represent the airmen of the Air Force Space Command in Colorado Springs. We are talking a lot these days about the imminence of the threat that our near-peer adversaries pose to our space assets. What benefits would a space-focused either combatant command or a space corps provide for your space warfighters?

Secretary WILSON. Congressman, we are the best in the world at space, and our adversaries know it, and they are seeking to develop the capability to deny us the use of space in crisis or in war.

In fiscal year 2019, the Congress supported a change in about $5 billion in our defense—in our space budget and an addition of $7 billion over the FYDP. This year's fiscal year 2020 budget also represents a significant increase in space spending in fiscal year 2020 and beyond, because it is shifting from a benign to a contested environment. The forces that we have in Colorado, as you well know,

are operating some of our most important space assets, and they are exceptional airmen.

Mr. LAMBORN. Thank you.

The CHAIRMAN. Thank you very much.

Mr. Gallego.

Mr. GALLEGO. Thank you, Mr. Chair.

General Milley and General Goldfein, General Neller, Commandant of the Marine Corps, recently raised the alarm that he was experiencing severe and dangerous deficiencies in the Marine Corps due to unplanned demands placed on the Armed Forces. On March 22, I sent a letter to each of you and to Admiral Richardson asking whether your services also had the same readiness issues associated with unfunded mandates, including the southwest border operations. Do you have an update on when you will each respond to my letter?

General MILLEY. Acknowledge receipt of the letter. Got it, I think it was last week. We are going to respond. The Army staff is working through it, and we will get it over to you shortly.

Specifically, though, the Army and the Marines are fundamentally different in terms of size of scale and scope. So what General Neller wrote, he is representing the Marine Corps and stands alone, and let it stand on its own merit.

[The information referred to was not available at the time of printing.]

Mr. GALLEGO. I understand, General.

General MILLEY. That is not the position of the Army.

Mr. GALLEGO. I will go deeper into questions on that——

General MILLEY. Sure.

Mr. GALLEGO [continuing]. Later. Thank you, though.

General.

General GOLDFEIN. Sir, we will get that back to you right away. And the only thing I would add, tell you, is that probably the largest unfunded mandate that we are facing right now is we are cashflowing Tyndall recovery and Offutt recovery.

[The information referred to can be found in the Appendix on page 109.]

Mr. GALLEGO. Thank you.

General Neller listed serious problems with the current funding mandate. He said the Marines were working in structures compromised by natural disasters, that exercises and engagements with allies around the world had to be cancelled, and that the Corps would have to stop hurricane work in May.

Are airmen or soldiers also working under these same set of dire circumstances as their Marine Corps counterparts? Understanding, obviously, that I understand the difference between Marine Corps, Army, and Air Force.

General Milley.

General MILLEY. That is not the same for the Army, no.

Secretary WILSON. Sir, it is—there is a similarity with the Air Force in that the Marine Corps was hammered by a storm at Camp Lejeune. We were hammered at Tyndall and at Offutt. Last week I had to stop 61 facility projects in 18 States.

If we get to the 1st of May and we still don't have any help, we are going to have to put a pause on Tyndall recovery, where it will

affect flight operations, and we will have people there who will have to continue to work in degraded facilities. And then the decisions that I will have to make in May, and then my successor in July and September, will be similarly difficult.

Mr. GALLEGO. General.

General GOLDFEIN. Sir, same.

Mr. GALLEGO. Have you spoken to Acting Secretary Shanahan about these readiness issues that you just brought up, Secretary Wilson or General Goldfein, about the readiness problems and issues meeting your requirements, specifically in terms of natural disaster recovery?

Secretary WILSON. Yes.

Mr. GALLEGO. Okay. Have either of you spoken to President Trump about his desire for a wall at the southern border outweighing your service funding requirements?

General Milley.

General MILLEY. I have not personally talked to President Trump about that, no.

Mr. GALLEGO. Secretary Wilson.

Secretary WILSON. No.

General GOLDFEIN. No.

Mr. GALLEGO. Great.

Secretary Esper and Secretary Wilson, have you spoken to Secretary Spencer about General Neller's concern and whether they were reflected at all in your services? I know this is kind of redundant, but I want to make sure we are covering all bases.

Secretary ESPER. No, I don't believe we have.

Secretary WILSON. No, I don't believe I have.

Mr. GALLEGO. How can we be confident the money that we authorize or that appropriators send to the Department to meet shortfalls won't be reprogrammed into the future to something that doesn't help the readiness issues that we have been discussing, for other issues or for other programs, such as a wall on the southern border, going into the future?

Secretary WILSON. Sir, in the case of the Air Force, it has to do with recovering from the storm and the need for the supplemental.

Mr. GALLEGO. Right, I understand. But politically speaking, what confidence do I have going into the future that more money, as I said, won't end up at some other project, whether it is the border wall or something else into the future?

Secretary WILSON. Senator, we are trying to work with you on the supplemental.

Mr. GALLEGO. Thank you for the promotion.

Secretary WILSON. I am not sure how to answer your question.

Mr. GALLEGO. I am sure you have already heard many Members of Congress on both sides say that because of this situation, because of what President Trump is forcing us—or what is occurring—it really creates a lot of confidence problems about how we fund our military and whether we have to be stricter into the future in terms of flexibility, which I think also at the end is a detriment.

And I guess it is not really appropriate for you to comment one way or the other, but I think I just want to reiterate what many of my other colleagues, both on the right and the left side of me,

have said in regards to how disturbed we are that money is going to be taken without legislative approval for projects from the military which we have clearly designated as important priorities to us.

But with that, I yield back my time.

The CHAIRMAN. Ms. Stefanik.

Ms. STEFANIK. Thank you, Mr. Chairman. I appreciate all my colleagues' interest today in MILCON projects at Fort Drum. Because of this interest, I expect that you each who have referenced it will partner as we fund this railhead in the MILCON approps bill. But let me state for the record regarding the border security questions. The House Appropriations Committee released a list of vulnerable projects, and that does not include Fort Drum. I think that is important to note for the record.

Moving on to my question, Secretary Esper and General Milley, with the standup of Army Futures Command, can you explain how the new command is interfacing with academia, industry, and the greater S&T [science and technology] enterprise? I know the Army has prioritized advanced prototyping within the RDT&E [research, development, test, and evaluation] budget for fiscal year 2020. Can you expand upon this decision and how you plan to also maintain support for basic research?

Secretary Esper.

Secretary ESPER. Sure, Congresswoman. I think the first part was our selection of Austin, Texas, as the headquarters of Futures Command. We set it right there in a city growing, a lot of capability in terms of research and development. It is embedded in the University of Texas system, and we are not behind walls or barbed wire. We are actually out in the community, we are working with young entrepreneurs and innovators, and we are also reaching out to academia there and in other places.

So for example, a couple months ago I went to Pittsburgh on a recruiting pitch and spent some time at Carnegie Mellon University where we opened up the Artificial Intelligence Task Force. And as we did that, there were a dozen, two dozen companies, and other institutions of higher learning there, so we are trying to involve all parties in this to make sure that we do that.

Critical to that is sustaining predictable—sustained predictable funding for S&T. That is what—and now we have aligned 80 percent of that to our six modernization priorities, so we are making sure we get good ROI [return on investment] on each dollar we invest.

Ms. STEFANIK. General Milley, did you want to add to that?

General MILLEY. AFC [Army Futures Command] has got tentacles throughout the entire Nation, centered in the great State of Texas as previously mentioned, but tentacles throughout academic and S&T and R&D [research and development] throughout the entire Nation.

Ms. STEFANIK. Thank you.

I will yield back the balance of my time to Mr. Waltz.

Mr. WALTZ. Thank you, Representative Stefanik, and thank you all particularly to your families who bear the brunt of all of our service, so thank you.

And Secretary Esper, I just also wanted to—and General Milley, to commend the Army on Futures Command. I started on the M1

tank which hasn't been modernized in 40 years, and that entire vehicle.

But taking a step back, I think the defense strategy is right to shift back to great power competition, but we also can't forget the wars that we are in. We have to be prepared for future years, but we have to be also still focused on the 60 to 70 countries right now as we speak where we have special operators and other folks deployed that need our support.

So shifting over to you, General Goldfein, and to Secretary Wilson, we all know—we don't need to rehash the issues with the A–10 over the years, your predecessors that essentially Congress has forced the Air Force to keep it. Now we have the light attack aircraft that seems to be—procurement seems to be dragging along, and just as a—just very quickly, in 1952, your predecessors on both sides, Secretary of the Air Force, Secretary of the Army, agreed to where Army aviation ends, Air Force aviation begins. I wonder with this kind of seemingly over the years, I don't know, resistance, cultural resistance to the close air support mission, is it time, maybe, to shift that light attack——

General GOLDFEIN. Sir, first let me——

Mr. WALTZ [continuing]. Over to the Army and have them take that on?

General GOLDFEIN. Sir, let me first respectfully push back, if I could.

Mr. WALTZ. Sure.

General GOLDFEIN. I have been fighting side by side with the United States Army my entire career. I have been on the ground. I have been in the air. There is no resistance. No resistance, and I will tell you. We are going to fly to the sound of guns, or we are going to die trying, so we are committed——

Mr. WALTZ. I appreciate that, General.

General GOLDFEIN. So we are committed to close air support.

Mr. WALTZ. We cannot let that pendulum swing too far to fly high, fly fast, fly far while we still are—there is a lot of folks in this town that want to wish those wars away. They are still ongoing. We have dead Green Berets in Niger that had to rely on the French for close air support.

General GOLDFEIN. Sir, I would——

Mr. WALTZ. We need that capability now not years from now.

Thank you.

General GOLDFEIN. Thank you for the opportunity to state without equivocation that we are and we will always be dedicated to supporting on the ground with close air support. Can I talk for a minute about light attack? If I could——

Mr. WALTZ. Absolutely.

The CHAIRMAN. You can talk for 20 seconds about light attack.

General GOLDFEIN. I can't give you a better example of how I believe we have aligned ourselves with Congress, with congressional content on the authorities you gave us to advance the business of light attack. And if there is a follow-up question where I have time, I would love to walk you through just what we have accomplished with those authorities.

Mr. WALTZ. Mr. Chairman, I will be back for a following question.

The CHAIRMAN. Thank you. Just so you know, we have got votes 1, 1:15ish, so we are going to press on and get as much as we can before they call votes or until we are done with witnesses.

Mr. Brown.

Mr. BROWN. Thank you, Mr. Chairman. I think it is critically important that we have an overarching vision for ISR modernization. That is certainly a joint effort. The TAC [Tactical] Air and Land Subcommittee had a pretty good briefing from both the Air Force and the Army on current capabilities and modernization. The Air Force—I know in open sources, I have read that of the 76 squadrons that you are looking to expand to over the next several years, 22 are C2–ISR squadrons.

The COCOM [combatant command] commanders have an unsatiable appetite for intelligence and information, and my concern is that when we are in a contested environment that the Army may not be putting its best foot forward right now in the modernization effort, and so let me ask this question.

And you know, when I look at the eight cross-functional teams, I don't see ISR in there. And while I know when we go to war, you are going to go as a joint force, there are going to be operations and moments out there where you can't rely on the Air Force for whatever reason, not because they are not unreliable but because the contest is too great, so that there is going to be an operational tactical need for ISR capabilities. Where is that in the Army modernization program, and is it reflected in your budget?

Secretary ESPER. So thank you, Mr. Brown, for raising this issue. ISR is critically important, and you have hit the nail on the head. It is how do we adapt our systems or procure future systems to be effective in an environment that is very contested with very capable enemy air defenses and other means. So ISR is part and parcel of several of our cross-functional teams. It is critical.

What comes to mind immediately is long range precision fires in order to do deep targeting. You can look at even the next-generation combat vehicle which is considering organic drones to do over-the-horizon type of capabilities and even down to the soldier lethality CFT [cross-functional team] where soldiers are backpacking small drones to use at the tactical level. That said, we also have an ISR task force within the Army that works at the organic level, the joint and the national level, to make sure we are well integrated. We are pushing hard on this front to make sure we can do this.

I would be remiss as well since you were a helicopter pilot, as part of our future vertical lift we are looking at manned/unmanned teaming, if not fully autonomous, where we can penetrate enemy air defenses and do unmanned with our rotary-wing aircraft the ISR we need to help with the ground force maneuver.

Mr. BROWN. So are there—are you contemplating any force structure changes over the next 10 years?

Secretary ESPER. You know, our Futures Command is working this right now. As we pool multi-demand operations, our new doctrine forward and develop it, they are actually looking at how do we organize the Army differently if need be? How do our formations change? How does all that happen? And this is part and parcel to that.

Chief I don't know if you——

General MILLEY. Yeah. A couple of comments, Congressman. First we are putting 4½ billion dollars into ISR in this budget, so it is not like we are not doing it. It didn't make it into the top six as a stand-alone, but it is embedded within—as the Secretary said, it is embedded within almost every one of those, so ISR is a piece of it.

Thirdly is armies don't fight wars. We fight as a joint force. So it is important to understand, as Congressman Waltz and I know you understand and everybody else. We fight with the Air Force, the Navy, the Marines, and we fight as a combined force with our allies, so all of these things are interoperable, and we leverage each other's capabilities.

I think it was mentioned, for example, the F–35s being the quarterback of the joint force. And we are leveraging these capabilities from space and the air domain. So there is a significant amount of ISR out there. We recognize its importance. We think we are putting in the appropriate amount of money and investment in ISR in this particular budget, and it is embedded within those priorities.

Mr. BROWN. You know, and I appreciate the joint fight, the joint force effort. I just think that there are going to be times when a COCOM commander is going to be out there, is going to make a request for ISR, and the demands are going to be too great. Currently, they have organic capabilities. They are operating now more in uncontested environments. Are those organic capabilities going to be able to survive and be effective in a contested environment? But I think—it sounds like the answer is you are making the investments. It is in the budget.

Let me just use the remaining 20 seconds to say that I am not picking up the A–10 mantle like Representative McSally, but we have got A–10s in the Maryland Air National Guard. I am concerned that they are programmed to be grabbed and taken by fiscal year 2021, but yet we have not yet heard about the replacement airframe, the C–130J. So for the record, if you could just follow up with my office on the status of the field and the C–130J to the Maryland Air National Guard.

I yield back, Mr. Chairman.

The CHAIRMAN. Thank you.

Mr. DesJarlais.

Dr. DESJARLAIS. Thank you, Mr. Chairman, and thank you all for being here today. First, I would like to thank Secretary Wilson for having Under Secretary Matthew Donovan meet with the Arnold Air Force Base's community council yesterday at the Pentagon to address their concerns, so we are grateful for that.

We can't address the threats laid out in the National Defense Strategy without solid investment in our range and test facilities and the associated testing and evaluation workforce, and I should also note the Director of Operational Test and Evaluation recently released a report highlighting the need to improve U.S. infrastructure to conduct operationally relevant testing of the next generations of weapons.

So Secretary Wilson and Secretary Esper, what is your assessment of the U.S. capabilities to fully test hypersonic technology?

Secretary WILSON. Sir, we are actually going to be building some more wind tunnels, hypersonic wind tunnels. I just visited where we are going to be building one in Indiana and then another one at Arnold, and so those are the two places that I am aware of.

Overall on testing and training ranges, there is a significant investment in the Air Force budget in improving our testing and training ranges.

Dr. DESJARLAIS. Okay. And Secretary Esper, I know that you have a fondness for this region of the country because both our wives share the same home county of Franklin, Tennessee, so I would like to get your input on Arnold in the same question.

Secretary ESPER. Yes, sir. On the Army test ranges, particularly as we look forward with regard to our six modernization priorities where we are pursuing anything from directed energy to hypersonics, you know, other systems we know that we need to continue to improve our test ranges and our infrastructure, you know. Sensors, for example, come to mind as you test hypersonics is how do you make sure you have the means to test them and track them and monitor their performance in flight.

Dr. DESJARLAIS. Okay. Second question. What are the services doing to improve and modernize test capabilities within their respective range and test facilities?

Secretary ESPER. I will just pick up and say again, I have been to a couple of our test ranges, whether it is Yuma, Arizona, or White Sands Missile Range. We recognize improvements are needed to each, but it goes to all of our others. We need to look at that, and I think we can come back and give you more detail if you want that.

Dr. DESJARLAIS. Okay.

Secretary WILSON. Sir, our test ranges, and particularly our training ranges, are significantly impacted by the budget, a significant increase. The two that will be most impacted in a positive way are Nellis and JPARC [Joint Pacific Alaska Range Complex] in Alaska. We were going to be trying to bring those to what we call fifth-generation capability and then a number of other improvements in our ranges that are closer to home for many people in the lower 48.

Dr. DESJARLAIS. Okay. And then kind of along the same lines, finally, are we adequately addressing the infrastructure and workforce needs to support the testing and evaluation of current and planned weapon systems?

Secretary ESPER. I think again, that is part and parcel of what we are looking at to make sure we improve. It is a combination of things. It is infrastructure. It is sensors. It may well be people as well. All those things we are looking at because we need to make sure we are postured to do the testing we will need to do in the coming years as we move forward on prototyping new systems and then certainly down-selecting and operationally testing them.

Secretary WILSON. Sir, I think we are okay on testing. I would say that on our ranges, some of the things that are most expensive and difficult to get are the simulated enemy things, and we are adding in more what we call red air or contract red air to be able to imitate bad guys and fly against us.

Dr. DESJARLAIS. That is all I have. Thank you.

I yield back.

Mr. BROWN [presiding]. Thank you. Representative Houlahan will be next.

Ms. HOULAHAN. Thank you so much for all of your time. I have two very brief questions, and one of them has to do with on the very 70, 80 days that I have been in Congress, one thing I have learned about my job here is to make sure that we deliver a budget on time so that you guys can be responsive to that budget and know what to plan for.

And so I share the responsibility with Congress to make sure that that happens, but I also have learned a little bit about the—your responsibility as well on your side of the table to make sure that you provide clear priorities for us.

And so I represent the State of Pennsylvania, and one of the things that has been striking to me is that in the most recent round of budgeting, there has been a reduction or no longer an ask for the Chinook upgrades, for armored multi-purpose vehicles upgrades, and Bradley upgrades. And all of those things were, as of 18 months ago, in the prioritization of the budget and I think have caused a lot of consternation in the Pennsylvania supply chain, I can tell you.

And so my question to you is what changed, you know, over the last 18 months, I guess, Secretary Esper, and General, that would have made you change your minds about the importance of these upgrades?

Secretary ESPER. Congresswoman, I will go first. I would say a few things. First of all, clear guidance from Secretary Mattis at the time with regard to our direction followed up by the National Defense Strategy which said shift from 18, 19 years of counterinsurgency warfare to high-intensity conflict, and that caused us to relook everything we did.

We also rolled out a modernization strategy, I think in May of last year, and then topped it off with the Army vision that I introduced at the beginning of this hearing. So the pivot toward being able to fight and win against near-peer competitors caused us to relook everything and fundamentally shift the direction with regard to how we train, how we man, and how we equip the force, and soon how we organize as well based on new doctrines.

So five major lines of effort there that are driving all this and pulling us in the direction of those modernization priorities that you are referring to.

Ms. HOULAHAN. Sir.

General MILLEY. The same thing, Congresswoman. When the NDS [National Defense Strategy] was published by Secretary—then Secretary Mattis, that represents a fundamental shift, and it is authoritative. It is orders to us that we have to go back and do the analysis, and we have to make the appropriate shifts. If we do not shift, if we continue to produce legacy systems, then we are going to really put at risk, significant risk, very, very high risk, the first battle of the next war where soldiers that are probably yet unborn will be fighting with equipment that we see today, and that will not be a good thing, as you well know from your own service. So we have made a conscious, very, very difficult decision to shift

gears and start laying the groundwork to fund the modernization of the United States Army.

Ms. HOULAHAN. And I really understand that hard decisions need to be made. And I guess one of my questions to you is was there any consideration in making these hard decisions about the impact on the supply chain or the industrial base? In the——

General MILLEY. Absolutely. It was discussed at great length, extraordinary pain, led by Secretary Esper and the whole Army staff, civilian and military, and massive amounts of hours. I can't even describe the level of pain that was throughout all that discussion. Absolutely yes.

Secretary ESPER. I would add as well, we had a number of conversations with the private sector, particularly the CEOs [chief executive officers] and senior leaders from, I think, some of the companies you are referring to. We could only be as transparent as we could with regard to particular cuts, but we were very clear with regard to where we are going, the six modernization priorities. And as I and the other chief senior leaders have messaged for well over a year, that is where we are going. There is predictability. Those priorities are not changing, and that is where we are shifting $30 billion into the future.

So meet us there. Come talk to us about how you can be a player in that future because whoever gets on that bus will have a franchise or work or whatever you want to call it for decades to come after that because that is our new direction.

Ms. HOULAHAN. Thank you, and I look forward to those continued conversations on that.

I only have about a minute left, and so I will try and truncate my question which is what are we doing—I was a lieutenant in the Air Force, an engineer, and I looked up and didn't really understand in the late 1980s, early 1990s, what my career path looked like because of the change in threat.

My question is what are we doing in this area of cyber to make sure that a young lieutenant such as me would look up and understand where they could head in a career in the military?

Secretary WILSON. Congresswoman, over the next couple of months, we have been working for about 18 months looking at how do we evaluate, how do we promote officers, and develop officers for the future of combat. And probably by this summer, we will be rolling out new categories, including separate categories for different kinds of officers.

There are about seven different subcategories so that a cyber officer doesn't have the same things to do in their career as a maintenance officer, and they don't compare to each other because we need to promote to the needs of the service and not just promote everybody like their line in the Air Force.

Ms. HOULAHAN. Thank you so much for your time.

I yield back.

The CHAIRMAN. Thank you very much. Mr. Gaetz.

Mr. GAETZ. Thank you, Mr. Chairman, and I want to begin by joining my colleagues in thanking Secretary Wilson for her service. You are well-thought-of throughout the Air Force, but particularly in my community where we have a number of Air Force assets. I

am grateful for all the time you have spent with the amazing service members in northwest Florida.

My questions springboard off of Dr. DesJarlais' questions about test and evaluation. Right now, we have a problem in the eastern Gulf of Mexico. It is that people want to drill there for oil, and it is where the Air Force tests experimental missiles, among many other things. And I am not a practitioner, but I would expect that testing experiment missiles over oil rigs is probably a bad idea.

There is currently a moratorium in place that protects the Air Force and the military mission that is set to expire in the year 2022. General Goldfein, on the 23rd of June in 2017, you wrote Chairman Bishop a letter. You copied then Chairman Thornberry and myself on that letter. And in part you stated the moratorium that protects the Air Force is essential for developing and sustaining the Air Force's future combat capabilities. The Air Force needs the certainty of the proposed extension to guarantee long-term capabilities for future tests. Emerging technologies such as hypersonics, fifth-generation fighters, advanced subsurface systems will require in large testing and training footprints and increased Air Force reliance on the moratorium far beyond 2022.

General Goldfein, has anything changed regarding the Air Force's position since you sent this information to then Chairman Bishop, and then Chairman Thornberry, and myself?

General GOLDFEIN. No, sir.

Mr. GAETZ. Mr. Chairman, I would seek unanimous consent to enter this letter in the record.

The CHAIRMAN. Hearing no objection, so ordered.

[The information referred to was not available at the time of printing.]

Mr. GAETZ. And I would ask General Goldfein, you know, right now, candidly, the bargaining going on is to trade away space in the Gulf test range for oil companies in exchange for an extended period of time that you say is essential for the Air Force's planning.

If we had a Gulf test range that got smaller rather than larger, what impact would that have on the types of things that we need to test and evaluate given the current National Defense Strategy?

General GOLDFEIN. As we build longer-range capabilities, it is going to require longer-range testing. It is as simple as that. And it is going to have a devastating impact as we really build—as we work into directed energy, as we work into hypersonics, as we work into long-range capability. To make sure we stay ahead of the adversary, we cannot afford to have our ranges get smaller. They have to get bigger.

Mr. GAETZ. And Secretary Wilson, do you have any basis to disagree with General Goldfein as to the need for a Gulf test range that is not getting smaller but getting larger?

Secretary WILSON. No. And in fact, the number one reason that we need to rebuild Tyndall is because of its immediate access to the Gulf test range without going over any population area.

Mr. GAETZ. Well, thank you. Well, Mr. Chairman, I know you appreciate brevity, but I would just state for the record that this is an issue where there is unequivocal—an unequivocal position of the Air Force that they need this. And during the 115th Congress, the special interests who wanted to explore energy won, and we

couldn't get these protections into the NDAA. And so I am hopeful that with the new majority in control that we would listen to the military officials and that we would consider the request that General Goldfein made in 2017 to consider these changes and to consider an extension in the NDAA.

The CHAIRMAN. I would be very open to that request. Just as the gentleman knows, you can have your 5 minutes. We won't rush you on the 5 minutes. It is just when we go over 5 minutes, and you always do a great job of going less than that, so I appreciate that.

Mr. GAETZ. Well, seeking to earn extra credit and in protection of the Gulf test range, I will yield back my remaining 90 seconds.

The CHAIRMAN. It is time off from purgatory. I appreciate that, but we will absolutely work on that issue. It is very important, and I appreciate your asking about it.

Ms. Sherrill.

Ms. SHERRILL. Thank you, and thank you, Secretary Wilson. It has been an honor to get to know you over these first several months of Congress. I am sorry to hear you are headed to Texas instead of the great State of New Jersey. We will miss you, but thank you for your service.

Secretary Esper, as you know, Picatinny Arsenal in my district has an outstanding record in designing, developing, producing, and delivering world-class lethality for all of our DOD components. They are responsible for delivering 90 percent of the DOD's lethality and for the implementation of acquisition, streamlining, and cost-saving initiatives that are modeled—that are a model for how we should be executing all of our acquisition programs.

I am aware of several ongoing efforts to analyze roles and responsibilities of various Army organizations, and given that the workforce at Picatinny is a highly trained and skilled acquisition organization, I am curious because we know that ammunition is in continuous production. It gets produced, and then it is either used in training or set aside for times of conflict, so there is no transition to sustainment for ammunition like there would be in, say, a tank or a helicopter.

So the lifecycle management of those programs should be done by acquisition experts, and I am curious. Can you give us some sense of the—and some detail on the McKinsey study entitled "Transition to Sustainment" or "Roles and Responsibilities." What is the exact topic of those studies, when will each be completed, and when can I and other members of this committee receive the findings of these studies?

Secretary ESPER. So thank you for that question, Congresswoman. Picatinny is a great place. I was there last year, enjoyed really spending time with the workforce. They are wonderful and got briefed on a number of things they are developing to include technologies that are critical to our six modernization priorities. So I had a spectacular visit there.

The Army is reviewing a number of reform proposals. I think what we call the Army Reform Initiative currently contains about 750 different proposals or so that came up from the ranks, from the field, from the commands, and we are working our way through those. That, in conjunction with "night court" which remains un-

derway, we continue to look for reforms so we can shift money appropriately.

There is a look at ammunition sustainment, particularly when you get into the purchasing piece of it. I am not current on where that stands, but that is being looked at between our acquisition folks and our Army Materiel Command jointly together to make sure that we again put it in the right place appropriate to ensure we sustain the force and the readiness of the force. And again, it is another reform initiative to make sure we get maximized efficiency in the service.

Ms. SHERRILL. Would you mind getting back to me just on exactly where you are at with that——

Secretary ESPER. Sure. Will do.

Ms. SHERRILL [continuing]. That process. Thank you.

[The information referred to can be found in the Appendix on page 109.]

Ms. SHERRILL. And the National Defense Strategy also calls for ground forces to reform and prepare to face near-peer adversaries. How are we going to ensure that the ongoing research into long-range ammunition, mortars, and other projectiles has a path to transition into procurement against all the other competing budget priorities so we are not outgunned in future conflicts.

Secretary ESPER. Well, I will take the first stab. I am sure the chief has some points here as well, but obviously we spent a lot of time and money over the last couple years, for example, building up our munitions to ensure we were ready. And I will just leave it at that for now, but we are looking ahead. I mean, there is some incredible capabilities. The extended range of cannon artillery, for example, which will give us 70-kilometers-plus range will—which will allow us to outrange Russian counterparts, it is not just about the gun in that case, but it is about the round. And I believe I actually saw a prototype of the round out at Picatinny, so it is developments like that.

It is as well as the new cased ammunition for the next-generation squad weapon. Also had a chance to witness a demonstration there at Picatinny, so I think Picatinny is on the leading edge of a number of things we are doing when it comes to ammunition, and ammunition is critical if we are going to get the ranges we need to fight and win future conflicts.

Ms. SHERRILL. Thank you very much.

General, did you have anything to add?

General MILLEY. No. I think the Secretary said it all, ma'am.

Ms. SHERRILL. Thank you.

And then one final question. Secretary Wilson, was there a comparison of the cost of performing a SLEP or service life extension on the F–15C versus owning and operating the planned fleet of the F–15X? Anyone.

Secretary WILSON. There was an analysis of that, and the airframe just really isn't going to make it. And so the most cost effective option was to buy off the end of the line the F–15EX.

Ms. SHERRILL. Thank you. Thank you very much. I yield back.

The CHAIRMAN. Thank you. Mr. Waltz.

Mr. WALTZ. Thank you, Mr. Chairman.

General Goldfein, we will pick up that conversation on light attack, and I do want to be very clear. I am not and I don't know of anyone that is doubting the Air Force's march to the guns. I would not be here. I would be dead without the A–10, without the AC–130, without those close air support assets. What I am talking about is capability.

I would also be a rich man if I had a dollar for every time I called up for close air support, and the assets were up getting gas. They didn't have the loiter time that we needed and particularly in remote locations all over Africa and other places where we need it.

So that is my point, and I would appreciate to be able to talk to your team for the record. My point is that capability was needed years ago. It is needed now. With all of the shift to near peer and a lot of that conversation, I fear the pendulum swinging too far and that we are still in the fight as much as many people in this town would wish it away.

So I just appreciate for the record a discussion, a better discussion on when we are going to get those capabilities, particularly special operators.

Switching to space, I believe the Space Corps is the right way to go. Thank you for the hard work and the proposal there. You know, I really think that we are sitting in a point in history. Air Force shifted away from the Army Air Corps in 1947. They needed unique capabilities and people, and I think we are seeing that same shift now with space, with that new—now that new warfighting domain.

On some of your programs, particularly your launch programs, I did want to ask Secretary Wilson, you know. Obviously we need to retain our assured access to space. What are you seeing as the risk and benefits of the Air Force's strategy of selecting its service—two service providers, I understand, for launch?

For the 5-year contract, we just had an award, my understanding, on the RDT&E side for upgrading the launch vehicles to be able to handle the military payloads, so that was just awarded. But before that research is done, we are going to have another award in terms of launch going forward for the next 5 years. How do you rationalize those two, and where do you see that going?

Secretary WILSON. Let me give you a couple things on launch. First, we have had a 24 percent decline in unit cost of launch since 2012, and it is because of a competitive environment and advances in research and development. And we are 76 for 76 on the reliability of our launches.

The guidance that we were working on, and it comes from the Congress, is to end our reliance on the Russian RD–180 engine by 2022, and we are on track to do that. The real challenge is in our most difficult area, the heavy lift area which is where this request for proposal that we expect to issue in April is going to address, the ideas or request for proposal in April for a 2020 decision in order to get off the RD–180 Russian engines by 2022. So the timeline is set by the congressional mandate and by our joint desire to not be reliant on Russian engines.

Mr. WALTZ. Thank you.

One last question shifting over to you, General Milley. There is just a lot of buzz, take it for what you will, in the Special Forces community about a drop in standards for our Green Berets getting through that pipeline, long and difficult pipeline. Some would argue too long. That is to meet the demand that is being placed on our force; 18 years in and counting, I think we are in a generational war.

The capacity-building efforts, I commend what you have done on the SFAB [security force assistance brigade]. Have you looked into that, into this issue, allegations of investigations down at Fort Bragg and retribution on cadre that are trying to raise these issues?

And if you have looked at, you know, what do you make of it?

General MILLEY. We have, and I say we. As you know, the United States Special Operations Command, SOCOM, has title 10 responsibility for all U.S. special operations forces, Army, Navy, Air Force, Marines.

And Tony—under Tony Thomas' leadership and Fran Beaudette who is the commander of the U.S. Army Special Operations Command, both of them have looked at those allegations in depth, and I have looked at it as a Special Forces veteran as well.

So the basic conclusions are yeah, there has been some modification of changes but not to lower standards, to meet standards of an evolving world and evolving demand. So I don't think that the special operations standards in the Q Course, as far as I know, I don't think they have been lowered for any particular reason, and that is what I am getting out of——

The CHAIRMAN. I am sorry.

General MILLEY [continuing]. Lots of people. I am sorry.

The CHAIRMAN. General, the gentleman's time has expired.

General MILLEY. Okay. I am sorry.

The CHAIRMAN. And I certainly take your point that it is a crucial issue, but it is good to know that they are maintaining the high standards, so——

Ms. Escobar.

Ms. ESCOBAR. Thank you, Chairman, and thanks to all of you for being here and for your service to our country.

To Secretary Esper and General Milley, thank you so much for all the time that you took with us recently, with me in particular, to talk about this budget and to answer and address the questions that I had.

Secretary Wilson, good to see you again, and I want to thank you for the multiple conversations that we have had as you transition to El Paso and the great University of Texas at El Paso and to hear me out as I bring forward concerns by the community and talk about the opportunities that lie ahead.

Secretary Esper, in reading over the budget and the memos about the budget, the fiscal year 2020 budget request for military construction, family housing, and BRAC [base realignment and closure] is an increase of over 387 percent, and it includes, please correct me if I am wrong, a backfilling of the funding that was taken by the emergency declaration for the wall?

Secretary ESPER. So Congresswoman, I think you are referring to—I think it is $3.6 billion that was inserted into the Army budget

by the Office of the Secretary of Defense as a placeholder, if you will, along with another $3 billion or so for other emergency-type actions and then I think a couple billion for the bases that were destroyed by hurricanes.

[The information referred to can be found in the Appendix on page 109.]

Ms. ESCOBAR. I just want to go on the record about how deeply concerning it is to me to know that funding was taken. And we have heard from a couple other members here today about our ability to trust that money that we have appropriated won't be moved for purposes that were not intended by this committee or by the Congress.

And so I just want to state publicly how troubling that is to me, and it concerns me especially in light of what we discussed at our classified hearing, Secretary Wilson, about the challenges that the Army faces ahead and the money that is being cash-flowed in order to try to cover some of those challenges, so I just want to express my concern.

I am also concerned about the fact that in this budget, there appears to be a $200 million decrease in family housing, is that correct?

Secretary ESPER. I would have to check on that. I don't believe so. We are actually investing substantial sums of money for MILCON and what we call FSRM [facilities sustainment, restoration, and modernization] which is sustainment and renovation to get our Army family housing up to Q1 and Q2 levels at a much quicker time than what it was before, and I think we are now exceeding OSD standards.

So I would have to come back, and maybe it is a—sometimes what happens is what we propose. For example, last year Congress adds additional money, and then we come up with more money over the proposal, but it looks like less because Congress inserted additional money. So let us do the forensics and come back to you as to how you are reading that.

[The information referred to can be found in the Appendix on page 110.]

Ms. ESCOBAR. I appreciate that. I see that there is an increase in the remediation component——

Secretary ESPER. Right. Yes, ma'am.

Ms. ESCOBAR [continuing]. But this was brought to my attention during a recent veterans town hall meeting that I had in El Paso about the military housing for families, and so I would like to understand that more.

Secretary ESPER. Sure.

Ms. ESCOBAR. And to—one of the things that we learned at one of the other briefings, at least from my perspective, I think it is going to require a significant amount of investment to not just remediate, but I think in a lot of cases probably rebuild.

Secretary ESPER. Right.

Ms. ESCOBAR. So I look forward to a continued conversation on that.

Secretary ESPER. Some of it is, as well, the Army—most of the Army housing is privatized, so a lot of that funding—most all that

funding comes out of what has been capitalized by the private partners.

And Chief, did you want to add something there?

General MILLEY. We can get you the actual forensics, Congresswoman, but I am pretty sure that some of that $200 million or a good part of it is due to some completion of overseas projects in our OCONUS bases, but we will get you the actual numbers.

Ms. ESCOBAR. I appreciate it. As I mentioned, this was something important to some constituents at home, so I would like to learn more.

Secretary Wilson, so again, congratulations on the nomination. I want to ask you about something, a trend that has been disturbing to me, on sexual assault and the Air Force. It remains a serious problem throughout the military, but these trends in our service academies are really of great concern. This February report surfaced that nearly half of female cadets in the Air Force Academy experienced sexual harassment during the 2017–2018 academic year. Another 15 percent reported unwanted sexual contact. Could you tell me what the Air Force has done to address that?

The CHAIRMAN. And I apologize. This is a very, very complicated question to hit you with with 3 seconds to go in the time, so we are going to have to have you submit an answer for that for the record because I know the Air Force has worked on a great many different issues.

So please get back to Ms. Escobar with a detailed explanation. It is just—it is not something you can do in 10 seconds, I don't think.

Secretary WILSON. Yes, sir.

The CHAIRMAN. And with that, the gentlelady's time has expired.

Mr. Bacon.

Mr. BACON. Thank you, Chairman, and I want to thank all of our witnesses here today for sharing us with your expert positions and opinions.

I have a couple of points for questions. I want to, first of all, just congratulate Secretary Wilson for a job well done, and we have great universities too in Omaha for just future reference.

Secondly, on the issue of the F–15, this was an issue forced on the Air Force over a decade ago. There was a desire for doubling the number of F–22s, and that decision was made outside of the Air Force to stop that production. Now we are left with a gap today that we have to fill. So I understand the predicament that you all are in.

And thirdly, when it comes to the reprogramming, I don't think it is optimal, either. I don't think this is the way we should have gone forward, but Congress had the opportunity to work with the President, find a compromise for border funding, and it did not.

It went backwards from the original position, and now today we are left with a crisis with 800 to 900,000 pace coming here illegally, being caught at the border and being swamped, swamping our DHS [Department of Homeland Security], our Border Patrol. Even Jeh Johnson, the Secretary of the DHS under Obama, President Obama, said we have a crisis, so this is something we can't ignore.

Anyway, I appreciate your points on that earlier in the hearings, my first question is to General Milley. My understandings are tank

modernization, our infantry fighting vehicle, our MLRS [Multiple Launch Rocket System] is behind what China and Russia is doing. We have some plans for the infantry fighting vehicle and the MLRS, but should we be concerned that we have this gap that we are—it appears to me that we are outgunned, outranged right now in these areas, and are we doing everything we can to close that gap? Do I have that right?

General MILLEY. We are doing everything we can to close the gap. In terms of outgunned and outranged, typically what people mean by that is outgunned, is your adversary will have more of that type of—more capacity than you do. And in the case of Europe, yes. The Russians could mass more armor than the United States at a point of crisis, perhaps. That is possible.

If you add up all of NATO, though, you get a different number. So the outgunned piece, you have got to be careful, and you have got to do the math, and it can be interesting. With China, the same thing.

So as far as outranged goes, the tanks of the world, all of them, German, American, Chinese, Russian, et cetera, pick your tank, they are all within reasonable ranges and capabilities of each other. The Russian tank has a missile attached to it, ours does not, so they have extended range, et cetera. But I am very confident that the weapons platforms are within acceptable degrees of risk of each other.

The real difference on any tank or any aircraft or anything is the training of the crew. It is the people. It is the skill of the operator. And I would match our skill against anyone.

Mr. BACON. Thank you.

I want to thank Secretary Wilson and General Goldfein for visiting Offutt. Secretary Wilson, could you tell us what will be the impact if we do not get Tyndall and Offutt in a supplemental? You are doing cash flow right now, as you said. What is the impact if we don't get this done in a timely manner?

Secretary WILSON. Sir, we have already had to hold back money for 61 facilities projects in 18 States on the first of May if we don't have—don't start to have funding flow. We are going to have to put the Tyndall recovery on hold.

By the middle of May, we are going to have to stop some aircraft repairs, ground some bombers. Maintenance backlog is going to start to increase because we are having—we are going to have to cash-flow this, and if we don't have a supplemental, we have to take it out of this year's budget.

And then at some point, probably sometime in the middle of the summer, we will have to defer the Offutt recovery.

Mr. BACON. Thank you.

General Goldfein, considering Compass Call on our electronic warfare capabilities, and we have always tried to push for two replacement aircraft a year. And I know this year we were requesting one of the Air Force's. I just think it is hard on a squadron to have one Gulfstream, one EC–130. Could you just explain the problems here, and would you optimally want two a year or just—if you could give us a little background, I would be grateful.

General GOLDFEIN. Yeah. The challenge we have, Congressman, on this one is that we have got to take the aircraft—we have got

to take the equipment from the C–130 and place it on the E–37, so you have got—and we have got to do this while we are meeting combat and command requirements. So limiting ourselves is based on the fact that we have got to maintain C–130s at the same time we bring on the new aircraft and make that transition. And so while we would like to do it faster, what we built was the capability of doing it—essentially build the airplane while it is flying.

Mr. BACON. Concerning the RC–135, I heard from the HAF/A2 [Headquarters Air Force director for ISR] that there is no plan to defund the RCs in the future, that it is the weapon of choice for the decades to come. Is that your understanding?

General GOLDFEIN. It is, but the same work that we are doing in Advanced Battle Management System as we look at what the replacement for Joint STARS [Surveillance Target Attack Radar System] is going to be, we are looking at all of these capabilities. The ones that right now are more platform-centric, to how do we look at all of the sensors that we have and all of the domains and all of the services and use that as our asymmetric advantage as we fuse that information to get greater fidelity and better decision making.

Mr. BACON. Thank you, Mr. Chairman.

The CHAIRMAN. A couple quick comments.

One thing has come up that I don't think this committee has focused on, and I know Mr. Scott mentioned this, we need a supplemental. I appreciate your comment on that and the impact that has had on the military, but also it's had a devastating impact on a large number of communities across the country. We need to work through and get a deal on that.

On the border wall, I don't disagree that there is, without question, a huge problem at the border right now. The problem that we have is that a wall is no solution to any of that. So with all the problems that we have down there, to take, you know, 5, 6, 10, $20 billion, whatever it is to build a vanity wall, that does not solve the problem.

The problem is we have got people pouring up here from south of the border, and I think a thoughtful policy—certainly things have not gotten better since the Trump administration has implemented whatever immigration policies they have wanted to implement. It has gotten worse. And then to say we are going to cut off the funding from Central America, you know, when I think the one country where things have gotten better is El Salvador where USAID [United States Agency for International Development] has been down there helping so that people don't have to flee. Yeah, we have got big problems at the border. The solutions coming out of the White House are making it worse, not better, and I darn sure don't want to take 6, 7, $8 billion out of DOD to build some wall that isn't going to make the situation any better.

So we definitely have to work on that. We are not saying it is not a problem. This is not the solution, and we don't want the money taken out of DOD. So happy to work with you on that.

Ms. Haaland.

Ms. HAALAND. Thank you, Chairman, and thank you all for being here, and thank you for your service to our country.

Secretary Wilson, as you are well aware, the fuel spill on Kirtland Air Force Base resulted in up to 24 million gallons of jet fuel leaving dangerous toxins and contaminants in our ground soil that posed a threat to Albuquerque's clean drinking water.

I have heard from many of my constituents that the Air Force is not clearly communicating its efforts to remediate the spread of those dangerous contaminants, and there is a discrepancy between the progress the Air Force claims and what has been asserted by community stakeholders.

So my question is—or my questions. Community stakeholders have repeatedly expressed that the Air Force has either refused to take their input or refused to share information about the cleanup, leading them to believe that environmental restoration at Kirtland is no longer a priority. Any budget priorities must include a responsibility for this and other contamination that the Air Force has caused in New Mexico, and it has happened at other places too as I am sure you know.

Can you tell us whether the Air Force remains committed to the environmental restoration efforts at Kirtland and elsewhere and protecting the drinking water upon which thousands of Albuquerque citizens rely? And what are you doing to gain back the public trust on that issue?

Secretary WILSON. Congresswoman, we are committed to the Kirtland project. It is a pump and treat project, largely, which will continue over a long period of time.

Ms. HAALAND. Thank you. And of course, as I mentioned, the community stakeholders have a different idea of what the—how that progress is going, and I am hoping that you will or someone will contact them and leave the door open so that they can have some assurance that what they believe and what the Air Force is doing are not two different things.

Secretary WILSON. Happy to work with you on that.

Ms. HAALAND. Thank you. When are you leaving?

Secretary WILSON. The end of May.

Ms. HAALAND. Okay. We might have time, then. Thank you.

My second issue is military housing, and it has already been mentioned by a few of my colleagues, but I wanted to see if we could just—if I could get my issues out there a little bit, go a little bit deeper and more detailed.

But military families have met with House and Senate Members regarding the harrowing impacts that poor military housing conditions have wreaked on their health and safety. These dire conditions range from mold, to vermin, to lead, to roofs and floors caving in.

I grew up in a military family and lived on military—lived in military housing all of my young life. The housing was always a direct reflection of the discipline that my dad's Marine Corps career demanded, and it doesn't seem like it is that way any longer. I know firsthand that service members like my dad have the highest degree of readiness when they know their family's basic needs are being met.

So the services have announced a number of measures to address these issues going forward, but sadly, many families are already suffering the financial hardship from unexpected moves, uncontest-

able security deposit withholdings, repair and medical bills that they don't get reimbursed for, severe health problems, lead poisoning, respiratory issues from black mold, and so it appears that your budget priorities must include that.

I know that it looks like there is a $200 million decrease in the Army's family housing budget and just a modest increase in the Air Force's. What are the services doing to support those families who have experienced the impacts from these poor housing conditions?

Secretary ESPER. Congresswoman, we have instituted a couple dozen initiatives. We provide updates to the committees. I am sure we can get that to you as well if you haven't seen those, but it runs the gamut of everything you have said, and we have completed 100 percent inspections of all of our homes. We have had townhalls. We are negotiating or actually discussing with the CEOs changes to all those policies you talked about, non-refundable policies. We are upstaffing at the Army with regard to our garrisons to ensure that there is 100 percent quality assurance, quality control whenever there is a handover of quarters.

I mean, there is just a couple dozen things we are doing to make sure we take care of our families because they are number one, and this is—you know, this has been an eye opener for everybody. And the Army, the leadership is getting back involved in the housing business, and that is our number one commitment.

[The information referred to can be found in the Appendix on page 110.]

Ms. HAALAND. Okay. That is good.

The CHAIRMAN. I am sorry. The gentlelady's time has expired.

Ms. HAALAND. Thank you.

The CHAIRMAN. Mr. Scott.

Mr. SCOTT. Thank you, Mr. Chairman. Ma'am, gentleman, thank you for being here today.

I was tardy because I was on the floor of the House of Representatives speaking on the need for disaster relief, and I just want to make sure that you are all aware that both bills failed in the Senate yesterday. Both bills failed. The Republican bill failed 44–49, and the Democratic bill failed 46–48. Obviously there is partisan politics going on right now. If the disasters had hit New York or Vermont, I have no doubt that they would have—that assistance would have already been provided.

But I do have a question, Secretary Wilson. Has the administration submitted a request for disaster assistance for disaster supplemental?

Secretary WILSON. The money is actually attached to the fiscal year 2020 budget, so it is in there with an emergency clause, and it clarifies the amount.

Mr. SCOTT. My understanding, though, is that OMB [Office of Management and Budget] has not actually requested a supplemental package. I mean, obviously, we need a supplemental to pass within the next 8 days. And just so—so you understand where the calendar is, 8 days from now we leave for Easter break, and we do not return until April 30th.

Now, I am fine if we don't leave for Easter break until we get a disaster bill done, but I would suggest to you as someone who has been fighting since October to get a disaster bill done that we need

help. We need help making sure people understand the damage that is going to be done if we don't get a bill passed. And I don't think—I don't think most of the Members of Congress recognize the damage that is going to be done to the Air Force and our military readiness, much less the public.

And it is embarrassing to ask you this, but some of you are going to have to get on the news and talk about—and when I say get on the news, it has got to happen now. We have 8 days until we leave until April 30th. And I am just asking for your help, asking for the President to turn it up. This is ridiculous.

Obviously there is partisan politics going on over there, but the truth of the matter is the President could have done more to help with this before now too, and I am asking you for help.

Secretary WILSON. Congressman, you will have every ounce of help that I can provide you including I have been talking publicly about this, sometimes hard to break through, but this has been a priority for the Air Force since October, and we have talked about it, worked together on it.

Mr. SCOTT. Yes, ma'am.

Secretary WILSON. And we are doing everything we can.

Mr. SCOTT. But I have seen no stories on this in the mainstream media, none whatsoever, about what the implications of no disaster bill, Congress taking a 2-week or 3-week break between now and April 30th. If this doesn't get done, and from the standpoint of time, we have tomorrow in which case we have got a major event on the House floor which is going to take up a lot of time.

Then there is a fly-out. So of the 8 days left, 5 are legislative, 3 of the 5 are fly-in and fly-out days where the time is going to be very limited.

I just—you have done a good job of making the point to the choir that this needs to be done. The House has passed two bills. The House has passed two bills. The Senate has yet to pass a bill. And I would just ask that as you leave here, we need people on the news making sure that Congress does not leave for Easter break until a disaster assistance bill is done.

And I will tell you. I think there is very little chance that a bill is done before we leave for Easter break. So with that, Mr. Chairman, I will yield the remainder of my time and maybe somebody has got some good news.

The CHAIRMAN. Well, thank you. I appreciate you emphasizing that issue. It is unbelievably important.

Ms. Luria.

Mrs. LURIA. Well thank you all for being here today.

I would like to start with General Goldfein. In your statement, you said the Air Force need is 386 operational squadrons. Also, in your statement you compared this to the height of the Cold War. Previously you mentioned that was, you know, at the start of Desert Storm that you had 401 operational squadrons.

I am trying to compare the two timeframes, the advancement in technology and lethality of weapons and weapon systems and aircraft that we have and just trying to understand how we are trying to go back to something so close to our Cold War height with all of the advances we have made in our weapons systems. Have we not gained any efficiencies?

General GOLDFEIN. Thanks. No. Thanks, ma'am, and I would characterize it as not going back but absolutely going forward. So here is what we did. To answer the Congresswoman's question of what Air Force do you need to successfully execute the National Defense Strategy with moderate risk?

We started off with a fully burdened campaign plans, the global campaign plans for both the China and the Russia plan. And I say fully burdened because it won't be just the EUCOM [U.S. European Command] commander that will be supported with joint capabilities. It will be the EUCOM commander, the STRATCOM commander, the NORTHCOM [U.S. Northern Command] commander. All commanders are going to need forces.

So we took the fully burdened global campaigns, and then we looked at the assessment of the threat, again, the best threat, and then we ran 2,000 iterations, computer simulations of different force elements and force structures to find the optimum force that we need to be able to execute the strategy. That is what we have laid forward.

Mrs. LURIA. I appreciate the amount of data and analysis that went into that. I was just—for comparison sake and the amount it cost to invest in the squadrons and each aircraft which is increasingly more expensive, I was just trying to get at, really, is there no more efficiency because we have increased lethality, and we have increased capability of aircraft over time?

General GOLDFEIN. Actually, there is, ma'am, built into it. And remember, 401 to defeat a rogue nation that is non-nuclear, 386 to defeat a China or a Russia or nuclear peer.

Mrs. LURIA. Okay. And so, you know, just comparing it to the, you know, Navy's analysis where they come up with, you know, something about half of their Cold War peak number that they are saying they need in ships now, I would really like just an opportunity separate from this forum because we don't have time to understand the analysis that you put into taking—to creating that number, and I will shift now.

What percentage of global combatant commander demand for strike aircraft did you meet last year?

General GOLDFEIN. Say that again, ma'am. I am sorry.

Mrs. LURIA. What percentage of combatant commander demand did you meet worldwide last year both for strike aircraft and for tanker aircraft? I have asked this of the Navy relative to carriers, so I am interested for the Air Force.

General GOLDFEIN. Yeah. So when we did our analysis, interestingly enough, not surprising, long-range aviation was in the most demand. Tankers, bombers.

Mrs. LURIA. Okay. I am just trying to get for combatant commander demand this year. Do you have those numbers? Can you get that back to me?

Secretary WILSON. Is the question are we meeting the combat commander demand?

General GOLDFEIN. I think you are looking for a percentage——

Mrs. LURIA. Yes. What percentage. So I asked each combatant commander about the demand that they had for aircraft carriers, and EUCOM said less than a half, CENTCOM is less than a fifth, and PACOM [U.S. Indo-Pacific Command] is getting 70 percent. So

do you have a percentage equivalent for Air Force assets relative to combatant commander demand?

General GOLDFEIN. We can get you those details, but it is always a trade. And the chairman, as the global integrator of capability——

Mrs. LURIA. Right.

General GOLDFEIN [continuing]. Brings those decisions to the Secretary of Defense.

Mrs. LURIA. I understand that is the GFM [Global Force Management] process.

General GOLDFEIN. That is how we determine that.

Mrs. LURIA. But I now shift to General Milley. The same thing as far as brigade combat teams. Do you have an assessment of what combatant commanders requested this year versus what was provided and where those gaps are?

General MILLEY. We are meeting the global combatant command demand on brigade combat teams, and roughly speaking, about 60 percent of global combatant command demand is for Army forces, so we are meeting it. We are at the margins. We are much less than the 1:2 deployment-dwell ratios. We are spinning hard. And as you know, the size of the Army has reduced significantly from the peak of the surge in Iraq and Afghanistan, although the number of forces required in Afghanistan and Iraq, et cetera, have been roughed as well.

Mrs. LURIA. Thank you.

General MILLEY. We are spinning pretty hard.

Mrs. LURIA. Thank you very much.

In the interest of time, I will shift to another topic for Secretary Wilson. Are you familiar with the 2014 independent review of the DOD nuclear enterprise?

Secretary WILSON. I am not sure I would know it by that name, but—so I am not—I am not sure I can answer the question accurately.

Mrs. LURIA. Okay. Well, my followup was that that particular review, and I believe that General Goldfein was involved in that process as well, and in your position at the time——

Secretary WILSON. The nuclear posture review?

Mrs. LURIA. No. The DOD review of the nuclear enterprise. So it reviewed all nuclear assets including ICBMs [intercontinental ballistic missiles], nuclear deterrents as far as submarines, bombers, our NATO dual-capable aircraft.

General GOLDFEIN. Yes, ma'am. I think what you are referring to is nuclear posture review, and yes, we were involved in that.

Mrs. LURIA. I am not referring to the nuclear posture review, but the assessment that was made in 2014.

So I am out of time, but I will try to follow up you with separately on the question. Thank you.

The CHAIRMAN. Mr. Banks.

Mr. BANKS. Thank you, Mr. Chairman.

Secretary Esper, you were in Indiana a couple of weeks ago, and we appreciate you visiting AM General. I was happy to read the press accounts of your statements about the need to modernize the Humvee as the Army retains it as the workhorse of the tactical vehicle fleet for the coming decades to come.

The Army has requested funding to initiate a nonarmored Humvee modernization program in fiscal year 2020, and I want you to know that my colleagues and I stand ready to support your initiative to modernize the Humvee fleet for the future.

So Secretary Esper, can we also count on your best effort to proceed quickly in this Humvee modernization program?

Secretary ESPER. Congressman, my best effort is to proceed quickly on every modernization program. I am not as familiar with this one, but we are always trying to move quickly. Speed is essential here. It is a key component of acquisition reform.

Mr. BANKS. Appreciate that very much.

Moving on to a different subject. As the Army and the Air Force focus on modernization, one of the major concerns that I have is the competition with our peers in fielding offensive and defensive hypersonic technology.

Secretary Wilson, a few weeks ago, you too were in Indiana visiting Purdue University to see some of the strides that they are making in several areas of advanced technology such as hypersonics. Can you highlight the importance for us of hypersonic technology in a future fight?

Secretary WILSON. Congressman, we think that it is very important to the future fight because it gives us speed and the ability to strike at a standoff range, and it is actually a very good example of where all the three services, but in this case particularly, the Army and the Air Force are working together where the Army had tested a weapon with Navy funding, where the shell worked better than the one we did, but we had some good rockets.

And so we are—we put together a tri-service program to develop a hypersonic weapon, drop it and test it off of a B–52, launch it from the ground or launch it from the deck of a ship. And by working together using best technology, we accelerated the advancement of hypersonics by 5 years.

Mr. BANKS. Can you as well, Secretary Wilson, talk about the role that universities can play in the testing and research of technologies like the advancement of hypersonics?

Secretary WILSON. When we look at the future force, we need to invest in research, development, testing, and evaluation both at the early stages but also in developing prototypes and testing them and moving very rapidly. Our adversaries are innovating faster than we are, and we need to figure out where they cannot go and get there faster to create dilemmas for our adversaries.

Mr. BANKS. So as you head off to higher education, you see an important rule that universities play?

General MILLEY. I absolutely do, and it is—and we are very close to finishing our new science and technology strategy for the Air Force, and it will emphasize partnerships outside of the government laboratories.

Mr. BANKS. Okay. I want to move on to another subject, Secretary Wilson. We have been hearing for quite some time that the Air Force has made a firm decision regarding the future of our strategic bomber force. We are concentrating on the old and the new. The new is the B–21 penetrator. The old is the B–52, a pre-Vietnam-era aircraft that has served our Nation well, but it is old.

And the Air Force has embarked on a commercial engine replacement program [CERP]. Secretary, the Air Force's fiscal year 2019 budget justification document forecasted fiscal year 2020 funding for this program at $312 million. However, the fiscal year 2020 budget exhibits reflect a funding level of just $175 million for B–52 CERP, or $137 million less. What is your expected timeline to complete this program to ensure our B–52s will be able to continue operating at a critical piece of our strategic plan?

Secretary WILSON. Congressman, I will have to get back to you on the specific laydown of the funding and give you a detailed answer if I could.

[The information referred to was not available at the time of printing.]

Mr. BANKS. I appreciate that. Are any fundamental changes to the acquisition strategy for this important upgrade for the B–52 fleet, are there any?

Secretary WILSON. No. We are modernizing the bombers. We are, of course, buying the B–21, the long-range standoff weapon, and modernizing the intercontinental ballistic missiles. The other part that is not often mentioned in the importance of the nuclear deterrent is nuclear command control and communication, and about three-quarters of that is in the Air Force as well.

Mr. BANKS. Okay. We will look forward to seeing some more of those answers for the record. I appreciate your testimony very much, and I yield back.

The CHAIRMAN. Mr. Moulton.

Mr. MOULTON. I thank you, Mr. Chairman, and I thank you all very much for your service.

Secretary Wilson, we will miss you, and so I figured I would start with you. I have significant concerns about our current and future competitiveness with Russia and China, as you know, particularly in space, cyber, and artificial intelligence [AI]. I know you have been an advocate for more investment in these areas, in these next-generation capabilities. And you have testified before, in front of this committee, that we currently can match China in AI.

As you depart your position, do you believe our current level of investment and level of focus on AI will be sufficient to compete with China over the next 30 years?

Secretary WILSON. Congressman, 30 years is a long time. I think it is an absolute priority. And when we come out with our science and technology strategy, one of the things that it will emphasize is speed and complexity, and particularly speed to decision making, which means that algorithms and gathering vast amounts of information and understanding that information quickly will be one of the keys to success in future warfare.

Mr. MOULTON. So China's made a commitment of $150 billion between now and 2030, which is only 11 years away. I think the number in this year's budget was $927 million for the Department of Defense on AI. Do you feel comfortable?

Secretary WILSON. I don't think any of us can feel comfortable with respect to artificial intelligence.

Mr. MOULTON. Thanks. Secretary Wilson, in your testimony, you stated that our potential adversaries are rapidly fielding capabilities that approach our own, and in order to prevail in conflict, we

will need systems that can penetrate contested environments or have long-range effects. What does a sixth-generation fighter need to be able to do, that the current fighters can't?

Secretary WILSON. Congressman, I am not—I may defer to the chief here on some things, but this isn't something that I am—that I feel really comfortable talking about in open session. But the sixth generation is probably still pretty far off. We are focused on buying the fifth generation, but—Chief?

General GOLDFEIN. We are not—Congressman, we are not committed to a platform, per se. We are committed to some key technologies——

Mr. MOULTON. How soon do we need to make these commitments?

General GOLDFEIN. Well, we have already made—what you will see in our budget is a commitment to next generation of air dominance. Speaking at the unclassified level, I will just tell you that there are some key technologies that we are advancing, that we believe will come together and be very important to going forward. One of those——

Mr. MOULTON. How soon will we need those capabilities, General?

General GOLDFEIN. Well, we are going to need those certainly into the 2030s.

Mr. MOULTON. Into the 2030s?

General GOLDFEIN. Absolutely.

Mr. MOULTON. These are capabilities that the F–35 has or does not have?

General GOLDFEIN. Some that the 35 has, and some that the 35 is going to complement, and that is about as far as I can go in this forum.

Mr. MOULTON. Okay. General, you have been fighting admirably for more resources for your service. And I just ask you, do you agree with this statement, quote, if I had more money, I would put it into lethality, not bureaucracy.

General GOLDFEIN. Yes.

Mr. MOULTON. Okay. So that was your service secretary testifying against the creation of a space force. Secretary Wilson continued, quote, the Pentagon is complicated enough, we are trying to simplify. This will make it more complex, add more boxes to the organizational chart, and cost more money.

So what has changed about the Pentagon in the last year and a half—year and a half—since that testimony, to change your opinion on the bureaucracy, vis-a-vis a space force?

General GOLDFEIN. I will tell you, for me, sir, what changed was, the decision that both the Department, the Air Force, and the White House made, to build a force inside the Department of the United States Air Force. Because for me, as a warfighter, it became recognizable in the business of space warfighting, and business of joint warfighting, because there really is no such thing as war in space. There is war——

Mr. MOULTON. So, in other words, you are supportive of a space force created within the Air Force?

General GOLDFEIN. Yes. I am.

Mr. MOULTON. But not supportive of a space force created outside of it?

General GOLDFEIN. That is correct. And I would——

Mr. MOULTON. Then why do we need the bureaucracy of a space force? Isn't the Air Force capable of doing these things?

General GOLDFEIN. The Air Force is fully capable——

Mr. MOULTON. Okay, great. Secretary Wilson, Admiral Stavridis has written, Trump is right to warn that we might be attacked from space someday and of the need to be ready for it. But we are being attacked from cyberspace right now, and that demands an immediate response. He is arguing for the need for a cyber force ahead of a space force. Do you agree or disagree with Admiral Stavridis?

Secretary WILSON. I think Admiral Stavridis highlights an important problem that is also reflected in our budget, which is the need to make sure that we are resilient with respect to cyber capabilities and that we develop more tools for cyber——

Mr. MOULTON. Would you agree with his prioritization, that cyber right now, because we are literally being attacked daily by Russia and China, is more important than space?

Secretary WILSON. I think they are both important.

Mr. MOULTON. Thank you. I yield back.

The CHAIRMAN. Thank you.

Ms. Torres Small.

Ms. TORRES SMALL. Thank you all for your service, and thank you specifically to Secretary Wilson. We will miss you, and I am also hopeful that there are some things we can work on together in this last dwindling time that we have.

New Mexico Air National Guard is the only Air National Guard in the country without an operational flying mission, and it is one of just three States without its own aircraft. Yet the Air National Guard enterprise is based on established capstone principles that set the foundational framework for mission set application throughout the 54 States and territories.

Specifically, one of those capstone principles is to allocate at least one unit-equipped wing and flying squadron to each State. Secretary Wilson, are States that are currently unable to align with these core principles, due to divestiture of aircraft in the past, given priority for new mission opportunities?

Secretary WILSON. Congresswoman, the way we do new missions in the Air Force is to look at what are the requirements of those missions and which bases or States or localities are the best to be able to accomplish those missions. As you know, I have a strong—a big part of my heart in the New Mexico Guard, and my husband was a "Taco." He was a member of the New Mexico National Guard. Their loss of their F–16 aircraft was, I know, devastating to the members of the Guard and the State of New Mexico. And I hope long term that they are able to develop a mission. One of the things that I think is important is for those units to look at how can they partner with Active Duty forces and meet an operational Air Force need.

Ms. TORRES SMALL. Switching now to another topic that is incredibly important for New Mexico, and across the country, as we see increasing impacts, when it comes to PFAS [per- and polyflu-

oroalkyl substances]. Last week, I expressed my deep concerns to Acting Secretary Shanahan on the lack of leadership by the Department of the Defense to proactively address the PFAS contaminants at military establishments.

Secretary Wilson, I want to convey that the Air Force has showed that same lack of urgency when it comes to PFAS contaminants, particularly in New Mexico. Secretary Wilson, please explain what efforts the Air Force has taken to work with the communities affected around Cannon Air Force Base and now Holloman Air Force Base.

Secretary WILSON. When the EPA [Environmental Protection Agency] identified PFAS and PFOA [perfluorooctanoic acid] as emerging contaminants, the services—all of the services went out and surveyed our sites. We looked at, I think it was 297 different sites where we might have been using this firefighting foam. We have replaced a hundred percent of our firefighting foam. We have surveyed the drinking water on each of our bases. We have done 110 detailed site inspections. We are providing alternative water at 21 locations.

There is not currently a cleanup standard. And we have reached out to both the Department of Agriculture as well as the EPA and Health and Human Services to try to encourage them to establish a cleanup standard. There are some things we can do under existing law, to be able to prevent further migration of any plume, but—and we are doing that where we have identified problems.

Ms. TORRES SMALL. So my real concern is a lack of ownership by the Department of Defense and the Air Force specifically about this issue. It came up at the last hearing as well, EPA standards were brought up, and also in some of our conversations and conversations with staff about a lack of authority to do certain things, that were having real impacts on consumption and water in New Mexico.

So I want to make sure that we are working together to address this, rather than trying to pass the buck. So what is it that the Air Force needs to be able to do more, to start acting to collect—to stop increased plume spreading?

Secretary WILSON. We do have the authority to prevent any further migration of the plume and also to provide clean water, both on base and off base, to people who are affected. The Department of Agriculture has some other authorities with respect to agricultural products which we don't have the authority to do. I would say that one of the things that is important is that less than 4 percent of this chemical was sold for firefighting foam, and a very small percentage of that, for the military firefighting foam.

So there is 1,100 commercial airports, and this particular chemical is used in waterproofing, it is used on the coatings for fast-food wrappers. It is prevalent. And so there is a national issue, of which we are trying to get after the part we are responsible for.

I have to say, almost no one else even wants to look. And so I think—I think, you know, we are trying to do what we can with the authorities we have for the things we are responsible for. But 96 percent of the problem is not even identified.

Ms. TORRES SMALL. I would ask that you prioritize addressing——

Secretary WILSON. Absolutely.
Ms. TORRES SMALL [continuing]. The part that we know.
Secretary WILSON. Absolutely.
Ms. TORRES SMALL. Thank you. I yield my time.
The CHAIRMAN. Thank you.
Mr. Thornberry.
Mr. THORNBERRY. Thank you, Mr. Chairman. I just want to thank our witnesses and make one observation. Going back to Secretary Wilson's initial comments about the Air Force we need. For many—for a number of years on this committee, a frustration among a number of members that service chiefs and secretaries were not really giving us their best military judgment about what was needed to execute the mission that they were given.

And I think—I just want to emphasize, I think it is important for us to hear from you, the Army you think you need to carry out the missions you have been given, the Air Force that you need—and it may or may not come to pass. But under the Constitution, it is our responsibility to build and support, provide and maintain the military forces. And we have—we will have to have a conversation about what is acceptable risk, what is not.

But as I have been listening to all of the different items under discussion here, it just reinforced to me, the need that we hear from the people in you-all's position about what you believe it takes to do what you have been asked to do. And then the process will proceed from there.

I think you-all have done that today, and I appreciate it.

The CHAIRMAN. Thank you. And I completely agree with Ranking Member Thornberry on that. I think it is very helpful for us to hear from you on that. I think, you know, the next step is, okay, if we are not able to do what it is we are asking you to do, I always submit that there are—well, there is three options, the last one of which I will close with in a second. One is, okay, we need to buy more stuff.

Two is, we need to change what the mission is. You know, it may be that we are asking you to do things that don't need to be done, and stretching you too thin from other things that do need to be done. And that is the piece that I don't think this committee traditionally does as much as it should of drilling, you know, what is the mission, why are we doing this, why do we say we need that. And that is a part of it I want to examine.

And the other piece is something that I really want to thank Mr. Thornberry for his work on this, and that is the issue of how we spend the money at the Pentagon. And what I have always wanted to hear more from our witnesses is, not just, okay, here is where we are short, but here is where, you know, we are spending money that frankly we don't need to be spending, or here is an area where, you know, we looked at the books and, oh my gosh, we spent $3 billion on this and we shouldn't have. And we want to fix that.

Because it would be a lot easier for us up here to advocate for more money for you if we knew it was being well spent. And sadly—the audit is not just an esoteric thing, it is not just, oh, gosh, we would really like to sort of see it. It is not like a teacher writing on your paper, show your work. You know, it really mat-

ters, because we don't know where the money's going. We can't figure out whether we need to spend it.

And without question, because of the mess where we don't adequately account for all the money that is spent in the Pentagon, a ton of money has been wasted. And a lot of the problems, I submit, on the F–35, on all these programs that we had, on future combat systems, on the expeditionary fighting vehicle, all these programs that were just—you know, on the aircraft carriers, that were nightmares from the start, in terms of how much they wound up costing, could have been reduced if we knew what we were spending the money on, if we had an adequate accounting system within the Pentagon.

So we are going to continue to emphasize making progress on that, because it is all connected. You save money there, then you got more money to meet, you know, the demands that you have outlined to us.

And I agree with the ranking member, you outlined them very well.

So, with that, I thank you very much for your testimony, and we are adjourned.

[Whereupon, at 1:16 p.m., the committee was adjourned.]

# A P P E N D I X

APRIL 2, 2019

## PREPARED STATEMENTS SUBMITTED FOR THE RECORD

APRIL 2, 2019

RECORD VERSION

STATEMENT BY
THE HONORABLE MARK T. ESPER
SECRETARY OF THE ARMY

AND

GENERAL MARK A. MILLEY
CHIEF OF STAFF
UNITED STATES ARMY

BEFORE THE

HOUSE ARMED SERVICES COMMITTEE

FIRST SESSION, 116TH CONGRESS

ON THE POSTURE OF THE UNITED STATES ARMY

APRIL 2, 2019

NOT FOR PUBLICATION
UNTIL RELEASED BY THE COMMITTEE

## Contents

Introduction ..... 1
Strategic Environment ..... 2
Readiness ..... 3
Modernization ..... 5
Reform ..... 8
Allies & Partners ..... 10
People & Values ..... 11
Conclusion ..... 12

## Introduction

America's Army stands ready today to deploy, fight, and win our Nation's wars. The Army has made great progress in recent years, recovering from depleted levels of readiness following extended periods of sustained conflict and reduced defense spending. Our near-peer competitors, however, capitalized on this period to advance their own positions by modernizing their militaries and reducing the overmatch we held for decades. Aligned with the National Defense Strategy (NDS), the Army is pursuing a path to ensure we stay ahead of our competitors and remain ready and lethal into the future.

The Army's *Vision* and *Strategy* outline the force needed to prevail over the threats of the future, along with the plan for building that Army. To accomplish this, the Army's efforts are focused on three priority areas: building readiness for high-intensity conflict against strategic competitors; modernizing our doctrine, equipment, and formations to conduct multi-domain operations; and reforming our personnel system, business processes, and fiscal management to ensure our resources are put towards the highest priority activities. Additionally, the Army will continue to take care of its people, live the Army Values, and strengthen our alliances and partnerships to sustain long-term success in wartime and peace.

We are grateful to Congress for the strong and timely support provided to the Army in the Fiscal Year 2019 (FY19) appropriations. Receiving this funding on time reduced risk to short term readiness and allowed us to make significant investments towards our six modernization priorities. In order to achieve the defense objectives in

the NDS and meet our goals as outlined in the *Army Vision*, we must receive predictable, adequate, sustained, and timely funding in the future. The Army's total FY20 budget request is $182.3B, consisting of $150.7B for base requirements and $31.6B for Overseas Contingency Operations requirements. This request provides the resources the Army needs to build readiness, while modernizing for the future.

## Strategic Environment

The Army faces a global security environment that continually grows more competitive and volatile. The challenges are many: the reemergence of great power competition; a resilient but weakening post-World War II order; accelerating technological advancements empowering state and non-state actors; and persistent threats to the Homeland. The Army must be ready now, and in the future, to confront this challenging strategic environment. We must have an Army prepared for high-intensity conflict, modernized to extend overmatch against near-peer adversaries, and trained to fight as part of the Joint Force alongside our allies and partners, all while sustaining our ability to conduct irregular warfare.

The modern battlefield encompasses all domains – air, land, sea, space, and cyber-space – and is increasing in geographic scale. Near-peer competitors, like China and Russia, are aggressively pursuing modernization programs to erode American overmatch. They have developed sophisticated anti-access and area denial (A2/AD) systems, fires, cyber, electronic warfare, and space-based capabilities that generate layers of stand-off to disrupt the deployment of military forces, deny the build-up of combat power, and separate Joint Force capabilities in time and space. These capabilities may embolden more aggressive behavior in the conventional realm. China's military modernization program aims to transform the People's Liberation Army into a modern, mechanized, Information Age force in the next one to two decades and a world-class military capable of strategic force projection and warfighting by mid-century. Their military strategy seeks to protect Chinese interests outside of Asia and into Europe, the Middle East, and Africa. Furthermore, Russia is likely to threaten our interests for the next 20 years as they attempt to regain control of historic spheres of influence and shape European economic and security structures in their favor. Although we may not face China and Russia directly, we are likely to face their systems and methods of warfare as they proliferate military capabilities to others.

Regional state adversaries, namely North Korea and Iran, also present significant challenges as they pursue advanced capabilities and weapons of mass destruction to gain regional influence and ensure regime survival. Additionally, transnational terrorist organizations continue to pose a threat to our Homeland and our interests, as well as

our allies and partners. The Army must be prepared to defeat and deter highly capable adversaries while disrupting violent extremists and simultaneously defending the Homeland.

Today, the Army contributes to our Nation's efforts to counter these challenges by providing Combatant Commanders over 179,000 Soldiers in more than 140 countries, including 110,000 Soldiers deployed on a rotational basis. This includes over 30,000 Soldiers supporting operations in the Middle East and Afghanistan; 8,000 Soldiers supporting NATO operations and the European Deterrence Initiative; and over 17,000 Soldiers providing a forward American presence on the Korean Peninsula. Additionally, Army forces remain prepared to respond to other contingency requirements, both abroad and at home. Concurrently, the Army is investing in the research and development of the next generation of weapons and equipment needed to stay ahead of our adversaries. Through a disciplined prioritization of resources, the Army will remain postured to defend the Nation in an increasingly dangerous world.

## Readiness

America's Army stands ready today to defeat any adversary that threatens our Nation and our national interests. We have made great progress in rebuilding warfighting readiness, which remains the Army's number one priority as we increase lethality to prepare for the future. Ready forces must be organized, trained, and equipped for prompt and sustained ground combat. This ensures the Army can deploy, fight, and win decisively in high-intensity conflict against any adversary, anytime, and anywhere. Over the past year, the Army balanced our force structure, increased manning in combat units, filled equipment shortfalls, and improved deployability to build readiness across the force. From September 2016 to December 2018, we increased the number of ready Brigade Combat Teams from 18 to 28, and more broadly, increased readiness across all Army units by nearly 11%. We achieved these readiness gains despite sustained operational demand for Army units. Our FY20 budget request sustains this momentum, so the Army can achieve our readiness objectives by 2022.

The Army has implemented several readiness initiatives to reorganize for high-intensity conflict against near-peer competitors. We are increasing combat readiness by working to fill our operational units to 100 percent of authorized strength this year and 105 percent of strength by the end of 2020. Furthermore, we reduced the non-deployable rates of Soldiers from 15 percent in 2015 to six percent today. We anticipate achieving our goal of five percent non-deployable Soldiers by the end of this year. This equates to thousands more Soldiers ready to deploy in support of global

contingency operations. We also rebalanced our force structure to increase lethality by initiating the conversion of two Infantry Brigade Combat Teams to Armored Brigade Combat Teams, our most potent battlefield formation. Furthermore, we plan to modestly grow the Regular Army to 480,000 with associated growth in the Army National Guard and the Army Reserve in 2020. This growth will allow the Army to fill critical gaps in the near term in cyber, air and missile defense, and fires while we develop the necessary force structure and end strength needed to execute Multi-Domain Operations.

Another critical element of readiness is training. We overhauled Army basic training to develop more lethal, disciplined, and resilient Soldiers. This includes extending Infantry One Station Unit Training from 14 weeks to 22 weeks. Initial reports show a significant reduction in attrition and injuries with significant improvements in physical fitness, land navigation, and marksmanship skills based on the additional training time and a reduced Drill Sergeant to trainee ratio. Other branches may see similar adjustments through FY24.

Army collective training focuses on high-intensity conflict, with an emphasis on operating in complex terrain, electronically degraded environments, and under constant surveillance. Training is tough, realistic, iterative, and task focused. We eliminated or reduced over 85 individual training requirements to unburden commanders and allow them to focus on training their units. In the Army National Guard and the Army Reserve, we increased the training days for select units to increase the pool of reserve component units available to support operational requirements. Additionally, we maximized capacity at our combat training centers to meet Army force readiness requirements. The Army will execute 26 Decisive Action Training Environment rotations for Brigade Combat Teams and six other mission specific rotations for a total of 32 combat training center rotations in FY19. Moreover, we continue to develop a Synthetic Training Environment which will integrate live, virtual, constructive, and game-based training environments into a single platform to increase home station training repetitions and enhance training realism in a variety of scenarios and locations.

We also approved the new Army Combat Fitness Test (ACFT) to fundamentally improve our fitness culture, reduce injuries, increase deployability, and increase the probability that a Soldier survives on the battlefield of the future. We have focused our fitness standards on the skills needed to fight in sustained close combat where physical toughness and endurance will be pushed to the extremes of human capacity. We began field-testing the ACFT in 2018 with 63 units across the Total Army and will begin full implementation this year. By the end of FY20, the ACFT will be the fitness test of record for all Soldiers.

Increasing readiness is also about improving our equipment. To this end, Army Materiel Command increased the spare parts inventory and ammunition stockpiles. The Army also redistributed equipment to Focused Readiness Units, which remain at higher readiness levels to support global response. Furthermore, we are making progress towards achieving ground and aviation equipment readiness goals Army-wide.

To further improve equipment readiness and enhance our power projection capabilities, the Army uses prepositioned stocks to quickly execute operational plans and conduct contingency operations. We budgeted $1.7B in FY19 and FY20 to improve the readiness of Army Prepositioned Stocks. Additionally, we initiated a Configured-for-Combat effort to equip Army Prepositioned Stocks with combat enablers such as communications, modernized weapons, and counter-measure systems in order to speed our ability to build combat power. This reduces the time it takes to build combat power by weeks and significantly reduces the amount of strategic airlift previously required to deploy early entry Army forces. Follow-on forces will continue to rely on modern and ready strategic lift assets, especially sealift, to deliver ready and lethal ground forces in support of the Joint Force. We must continue to invest in robust power projection platforms and strategic lift capabilities to ensure we can rapidly deploy and operate anywhere in the world.

Through these readiness initiatives, the Army is getting stronger by the month in manning, training, and equipping the force. With Congressional support, our FY20 budget will allow us to continue to increase readiness and build lethality.

## Modernization

While we continue to build readiness, the Army must also prepare for the future. This includes modernizing our doctrine, equipment, processes, and organizational structures to extend our overmatch against any competitor on any battlefield. Guiding our modernization effort is our Multi-Domain Operations concept, which identifies the threats and challenges we will face in the future. Great power competitors like China are developing capabilities to create standoff intended to frustrate our ability to build combat power and maneuver at will. To counter this, the Army will need to integrate our capabilities with the Air Force, Navy, and Marines even more in the future. The Army's new Multi-Domain Operations concept describes how we will synchronize our capabilities across all domains in support of the Joint Force.

The Army is using the Multi-Domain Operations concept to inform future force development through numerous iterations of experimentation and analysis, including field experimentation with Multi-Domain Task Force pilots in the Indo-Pacific region and Europe. Our future success depends on modernized equipment, evolving doctrine, and the organizations essential to ensure overmatch against our competitors. These elements will work in concert to increase our combat capabilities across all domains.

As a major step towards developing the capabilities needed for Multi-Domain Operations, we reorganized our entire modernization enterprise for greater speed and efficiency. Last year, the Army made its most significant organizational change in over 40 years by establishing the Army Futures Command (AFC). We stood up AFC in the innovation hub of Austin, Texas with a focus on providing unity of command and unity of effort for the modernization enterprise. For the first time, one commander is driving concept development, requirements determination, organizational design, science and technology research, and solution development. We located AFC outside of a traditional Army installation to increase their accessibility and ability to collaborate with industry and academia. Through these partnerships, AFC will identify and deliver new capabilities with greater speed and more efficient use of our resources.

To guide AFC, the Army established a clear set of modernization priorities that emphasize rapid maneuver, overwhelming fires, tactical innovation, and mission command. Our six modernization priorities will not change, and they underscore the Army's commitment to innovate for the future. We have one simple focus – to make Soldiers and units more capable and lethal. Over the last year, we identified $16.1B in legacy equipment programs that we could reinvest towards 31 signature systems that are critical to realizing Multi-Domain Operations and are aligned with these priorities. The six Army modernization priorities are:

- Long Range Precision Fires – We will improve the range and lethality of cannon artillery and increase missile capabilities to ensure overmatch at each echelon. Army artillery weapons, including Extended Range Cannon Artillery and the Precision Strike Missile, will neutralize and dis-integrate adversary A2/AD networks, from extended ranges, to create windows of opportunity for the Joint Force to exploit. The Extended Range Cannon Artillery is on schedule for delivery in FY23. It will protect and support maneuver forces in the close and deep operational maneuver areas with an extended range out to 70km and increased 6-10 rounds/minute volume of fire. The Army has requested $1.31B for Long Range Precision Fires in the FY20 President's Budget to accelerate prototyping and initial fielding.

- Next Generation of Combat Vehicles – The Army will modernize the next generation of combat vehicles through technology development, experimentation, and prototyping to ensure overmatch against near-peer competitors. These vehicles will employ greater firepower, mobility, and protection to successfully maneuver on more lethal battlefields. They will have manned and unmanned variants for combined arms maneuver, and be built with future growth in mind. The first prototype will arrive in FY21 to accelerate experimentation and initial fielding. We requested $2.0B in the FY20 President's Budget to deliver an initial capability.
- Future Vertical Lift – We will increase our competitive aviation advantage with next generation aircraft to penetrate contested airspace and support independent maneuver from greater distances through extended range, endurance, and lifting capacity. The most important FVL investments at the moment are the Army's development of the Future Armed Reconnaissance Aircraft, designed to address the gap left by retirement of the Kiowa, and the Future Long Range Assault Aircraft. An additional investment includes integrating unmanned aerial systems, which we will prototype in FY24, for manned/unmanned teaming and improved lethality, situational awareness, and survivability. Over $797.2M is included in the FY20 President's Budget to develop initial designs and unmanned demonstration systems.
- Army Network – The Army Network supports mission command and the continuous integration of combined arms and Joint capabilities. We will deliver a resilient and secure tactical communications network effective in the most challenging contested and congested electromagnetic spectrum and cyber environments. This network includes advanced information technology, hardware and software, and a reduced electromagnetic signature. We have allocated $2.28B in the FY20 budget to build our integrated tactical network as part of our network restructuring.
- Air and Missile Defense – Advanced air and missile defense will protect our forces from adversary aircraft, missiles, and drones to enable joint operations. This includes both theater systems and short-range air defense, like the Mobile Short-Range Air Defense with directed energy technologies. The FY20 budget includes $1.4B to rapidly deliver an initial capability by FY22.
- Soldier Lethality – We will equip and train Soldiers to extend overmatch through increased lethality, mobility, and survivability against emerging threats. This includes improved weapons, sensors, body armor, and training. The FY20 budget includes $1.18B for prototyping, development, and procurement of the Next Generation Squad Automatic Weapon and Squad Rifle, Enhanced Night Vision Goggles, Integrated Visual Augmentation System (HUD 3.0), and Synthetic Training Environment.

Eight Cross Functional Teams (CFTs), aligned under AFC, lead the development of these modernization priorities. The CFTs streamline Army acquisition processes to

reduce the requirements process, shorten acquisition time, and, by engaging Soldiers early in development, ensure fielded systems are affordable and meet warfighter needs. This approach demonstrates our commitment to good stewardship of taxpayer dollars. In addition to this organizational realignment, we updated acquisition policies. Our new intellectual property policy will encourage private industry to work with our CFTs to develop innovative solutions to maintain technological overmatch.

The Army is taking a holistic approach to modernization so we can achieve multi-domain dominance by 2028. Next generation equipment, combined with modern doctrine and formations, will allow the Army to maintain overmatch on future battlefields.

## Reform

Over the past year, the Army aggressively pursued reforms to free up time, money, and manpower for our highest priorities and to empower subordinate commanders to make more effective and timely decisions. In addition to our detailed program review process, we are executing the Army Reform Initiative, instituting fiscal discipline, scrutinizing contract management and contract services, and working towards financial auditability. Through these reform efforts, we realigned over $30B across the Future Years Defense Program (FYDP) for higher priority programs to build readiness and increase lethality.

In our most significant reform effort, Army Senior Leaders conducted a detailed review of Army equipping programs for the FY19 and FY20 budgets. Through this in-depth, time intensive process, we eliminated, reduced, or consolidated nearly 200 legacy programs to reallocate funding towards our modernization priorities. While each of these programs had value, we must continue to make hard choices to ensure we spend each dollar wisely and remain aligned with Army priorities.

Through the Army Reform Initiative, we garnered over 700 ideas to eliminate, delegate, consolidate, or streamline Army policies, programs and practices. Inputs included work efficiencies, business process improvements, and structural realignments. For example, through our installation management reform effort, we are realigning Installation Management Command under Army Materiel Command and consolidating staff functions to garner personnel savings and improve efficiency. This integration of sustainment and installation functions provides the ability to prioritize resources on key requirements for both combat readiness and Soldier and family support. Additionally we have an ongoing headquarters reduction effort across multiple levels of command. The goal of the Army Reform Initiative is to eliminate redundancy

and delegate authorities and resources to the lowest appropriate level of command. This allows for rapid actions and decisions while simultaneously saving resources for higher priorities.

To improve fiscal discipline, we implemented the Command Accountability & Execution Review (CAER) to optimize the purchasing power of the Army's operating budget. This Army-wide program educates Army leaders on fiscal stewardship, updates policies to increase purchasing power, and creates a scorecard of key performance indicators to measure progress. While still early, CAER has generated a marked improvement in the efficient execution of the Army's budget for FY18 and we anticipate greater success in FY19.

In 2018, contract management and contract services reform saved the Army $1.6B across the FYDP by eliminating contract redundancies, improving contract competition processes, and using data analytics for contracting decisions. We continue to implement category management and increased emphasis on the use of strategic sourcing contracts to improve management of services acquisitions. This year, we found service acquisition efficiencies in Army rotary-wing aircraft and ground system maintenance programs, food services, and the use of advanced data analytics. We saved over $400 million and are on pace to reach over $1B in budget savings from improved contract management in FY19. These savings and their reinvestment into modernization are crucial to the Army and our progress towards the force of the future.

The Army completed its first full financial statements audit in FY18, and the audit findings are an important part of our larger reform effort. We fully support these audits, which help the Army identify ways to improve resource management and business practices. We are aggressively implementing corrective action plans and are on track to achieve auditable financial statements across all accounts by FY22.

Another major area of reform is the directed reorganization of our medical capabilities across the Army. Readiness is the primary focus throughout this effort because the Army will continue to be responsible for a ready medical force trained in clinical skills that are critical to wartime missions. As we transition medical treatment facilities to the Defense Health Agency, we are working to ensure we retain the necessary combat medical support at each echelon to maintain readiness and deliver premier military health care on the battlefield and in garrison. This reorganization provides us an opportunity to optimize the Army medical structure and plan for future medical capabilities.

The Army will continue to pursue savings in time, money, and manpower that we can reinvest into our top priorities. These aggressive reform efforts, will sustain our momentum as we build readiness and increase lethality to prepare for high-intensity conflict against great power competitors.

## Allies & Partners

America's network of allies and partners is an unrivaled strategic advantage the Army is actively working to enhance. Every day, the Army works to strengthen alliances and build new partnerships through security cooperation and security assistance. A continued commitment to our allies and partners helps us compete against great power competitors and bolster deterrence. In support of our allies and partners we established Security Force Assistance Command (SFAC), which will consist of six subordinate Security Force Assistance Brigades (SFABs) - five Regular Army and one Army National Guard. The SFABs are specialized units whose core mission is to train, advise, assist, enable and accompany allied and partner nations. SFABs reduce the demand on conventional Brigade Combat Teams enabling them to focus on high-intensity conflict against near-peer threats. The Army deployed its first SFAB to Afghanistan in support of the Afghan National Army to validate the proof of concept, and we will apply what we learned to the second SFAB deployment this year.

The Army works with Combatant Commanders to ensure our security cooperation efforts support their priorities as we work to increase interoperability and build partner capability. Interoperability ensures we can train and fight alongside our allies and partners more effectively and efficiently so we are ready to face any threat together. In FY18, the Army executed $115M on 58 multinational exercises with 95 allies and partners. In FY19, we programmed $165M for multinational training exercises to increase interoperability.

In Europe, we are leading a multinational battlegroup in Poland as part of NATO's Enhanced Forward Presence mission to deter Russian aggression. Last summer, our Soldiers participated in Exercise Trident Juncture alongside forces from every other NATO ally and two of our closest partners, Sweden and Finland. This was the largest NATO exercise conducted in recent years, and it demonstrated both the Alliance's commitment and collective defense capability. We will continue these efforts as we prepare for the division-level Defender exercise in 2020, which will exercise the Army's force projection capabilities. We also maintain close training and exercise relationships with Ukraine and Georgia, key partners in the region for promoting peace and security.

Likewise, in the Indo-Pacific region we are deepening cooperation with our allies to protect our national and shared interests. The U.S. Army presence in the Republic of Korea and Japan deters North Korean aggression and protects U.S. interests. Assigned and rotational forces participate in combined training exercises, such as Yama Sakura in Japan and Yudh Abhyas with the Indian Army. These exercises strengthen our relationships and build interoperability. Furthermore, we are testing the Multi-Domain Task Force in exercises through our Pacific Pathways program to determine the right capability mix to counter Chinese A2AD capabilities. We will continue to use regional training and exercises to work with new partners and leverage multi-component and inter-service integration. This helps us to expand the competitive space and counter Chinese influence throughout the region.

We are assisting our partners around the world in building military capabilities to enhance security. The Army, through its security assistance enterprise, supports Combatant Command theater security cooperation plans. We will continue to prioritize security assistance programs to counter key threats and achieve shared defense objectives with our allies and partners.

## People & Values

The Army's greatest strength is our people – the intelligent, adaptable, and professional Soldiers, Civilians, and Families who sacrifice for our Nation. We take care of our people by ensuring our Soldiers are ready for combat with modern doctrine, equipment, and realistic training while simultaneously providing their families with the resources they need to thrive at home. Furthermore, our continued commitment to the Army Values ensures we foster strong and resilient units built on a foundation of trust.

Comprehensive reform of the Army's personnel management system is a top initiative for 2019. To remain the most lethal ground combat force in the world, we must continue to attract, develop, and retain the best people our Nation has to offer. A competitive labor market for America's most highly skilled talent complicates this effort. We thank Congress for the Defense Officer Personnel Management Act (DOPMA) reforms and additional authorities in the FY19 NDAA, and we will incorporate these into our new Talent Management Strategy. We are moving the Army towards a market-based assignment process with more flexible career models along with updates to our promotion system and retention incentives.

The Army faced significant challenges in meeting our FY18 recruiting goals, however, we remain committed to quality over quantity. Despite these challenges, we

recruited over 70,000 new Soldiers into our ranks, the most in any single year since 2010. To meet our FY19 recruiting goals, we changed our approach to increase the pool of qualified applicants so we can attract the best talent and improve diversity in our ranks. We restructured our accessions enterprise to ensure unity of effort across the Army, manned our recruiter positions at 100%, realigned resources to increase our recruiting capacity, and improved our use of technology. Additionally, we centered this recruiting initiative in 22 major metropolitan areas across the Nation to expand our reach using micro-targeted web advertising and local marketing. This revised strategy expands recruiting across the Total Army to increase awareness of the opportunities for service and to better connect the Army to the American people.

Taking care of Army families remains a top priority, and we are taking steps to improve quality of life programs across our installations. This year we increased staffing rates at Army child care centers, and we are implementing new policies to improve spouse employment opportunities. Given recent reports of deficient conditions in some of our family housing, the Army has taken immediate action to ensure we are providing safe, high quality family housing. We are visiting all Army housing and inspecting all barracks to identify health, life, and safety issues that exist. We will work with the Residential Communities Initiatives (RCI) companies to remediate these issues immediately, and over the long term, to improve work order resolution, customer satisfaction, and communication with residents. We are also reviewing and standardizing partnership agreements and incentive structures to ensure we hold the RCI companies accountable for providing quality housing. The Army is fully committed to providing a safe and secure environment on all of our installations where our Soldiers and Families can thrive.

The Army Values form the bedrock of our profession and guide us in all that we do. The Army's Senior Leaders have asked everyone to recommit themselves to these Values, and we demand that every member of our Army team treat each other with dignity and respect. Across the Total Army, we continue to focus on eradicating sexual harassment and sexual assault from our ranks. Over the past several years, we have placed a high priority on our prevention efforts, and the Army will continue to improve the effectiveness of our prevention efforts moving forward. This starts by ensuring that the perpetrators of sexual assaults are held accountable and that the victims are protected without fear of retribution. Additionally, we are reinforcing leader responsibility for building a climate of trust and professionalism that emphasizes the Army Values. We are taking a similar approach with other essential programs including Equal Opportunity, Suicide Prevention, Alcohol and Drug Abuse Prevention, and Resilience.

## Conclusion

The Army mission remains constant: to deploy, fight, and win our Nation's wars by providing ready, prompt, and sustained land dominance by Army forces across the full spectrum of conflict as part of the Joint Force. Our Army is ready today to win in the unforgiving crucible of combat. We are supporting the National Defense Strategy and expanding the competitive space by increasing our lethality through our modernization effort, strengthening American alliances through combined operations and training, and reforming our business practices to be the best stewards of the resources Congress has provided. The Army thanks Congress and the American people for their continued strong support, which enables our ability to accomplish our mission. By providing predictable, adequate, sustained, and timely funding, Congress will ensure America's Army remains the most capable and lethal ground combat force in the world.

**Dr. Mark T. Esper**
**Secretary of the United States Army**

Dr. Mark T. Esper was confirmed by the U.S. Senate, Nov. 15, 2017, and sworn in as the 23rd secretary of the U.S. Army, Nov. 20, 2017.

As secretary, he has statutory responsibility for all matters relating to the U.S. Army, to include the recruitment, organization, training, equipping, and care of 1.4 million active duty, National Guard, Reserve Soldiers, Department of the Army Civilians and their Families.

For the past seven years, Esper was a senior executive at the Raytheon Company as vice president for Government Relations. From 2008-2010, Esper served concurrently as executive vice president for the U.S. Chamber of Commerce's Global Intellectual Property Center and as vice president for Europe and Eurasian Affairs. From 2006-2007 he served as COO and executive vice president of Defense and International Affairs at the Aerospace Industries Association.

Esper also has extensive experience working on Capitol Hill. He served as national security advisor for Senate Majority Leader Bill Frist; policy director for the House Armed Services Committee; and as a professional staff member on the Senate Foreign Relations and Government Affairs Committees where he was responsible for national security issues. Esper also served as the legislative director and senior policy advisor to Senator Chuck Hagel.

His Pentagon experience includes serving as the deputy assistant secretary of defense (Negotiations Policy) in the Office of the Secretary of Defense and earlier on the Army staff as a war planner. Esper was also chief of staff of the Heritage Foundation, and taught at Missouri State University's Department of Defense and Strategic Studies program in Fairfax, Virginia.

Esper is a 1986 graduate of the U.S. Military Academy and received his commission in the Infantry. Upon completion of Ranger and Pathfinder training, he served in the Regular Army for over a decade, including service in the 1990-1991 Gulf War with the 101st Airborne Division. He later commanded an airborne rifle company in Europe. Following active duty, he served in both the Virginia and District of Columbia National Guard, and Army Reserve before retiring in 2007.

Esper holds a Master of Public Administration degree from the John F. Kennedy School of Government at Harvard University, and a doctorate in Public Policy from George Washington University. He is a recipient of the Department of Defense Medal for Distinguished Public Service. Among his military awards and decorations are the Legion of Merit, Bronze Star Medal, the Kuwait Liberation Medal, Kuwait Liberation Medal – Saudi Arabia, and the Combat Infantryman Badge.

Esper and his wife Leah have been married for 28 years and have three adult children.

**General Mark A. Milley**
**39th Chief of Staff**
**United States Army**

General Mark A. Milley assumed duty as the 39th Chief of Staff of the U.S. Army August 14, 2015 after most recently serving as the 21st Commander of U.S. Army Forces Command at Fort Bragg, North Carolina.

A native of Winchester, Massachusetts, General Milley graduated and received his commission from Princeton University in 1980. He has had multiple command and staff positions in eight divisions and Special Forces throughout the last 35 years.

He has served in command and leadership positions from the platoon and operational detachment alpha level through Corps and Army Command including the 82nd Airborne Division and the 5th Special Forces Group at Fort Bragg, North Carolina; the 7th Infantry Division at Fort Ord, California; the 10th Mountain Division at Fort Drum, New York; the 2nd Infantry Division in Korea; the Joint Readiness Center at Fort Polk, Louisiana; the 25th Infantry Division at Schofield Barracks, Hawaii; the 101st Airborne (Air Assault) at Fort Campbell, Kentucky; and the 1st Cavalry Division and 3rd Infantry Division in Baghdad, Iraq.

He commanded the 1st Battalion, 506th Infantry, 2nd Infantry Division; the 2nd Brigade, 10th Mountain Division; served as the Deputy Commanding General for the 101st Airborne (Air Assault); and served as the Commanding General for 10th Mountain Division. While serving as the Commanding General, III Corps and Fort Hood, he deployed as the Commanding General, International Security Assistance Force Joint Command and Deputy Commanding General, U.S. Forces – Afghanistan. Additionally, he served on the operations staff of The Joint Staff as the J33/DDRO, and as a Military Assistant to the Secretary of Defense at the Pentagon.

His operational deployments include the Multi-National Force and Observers, or MFO, Sinai, Egypt; Operation JUST CAUSE, Panama; Operation UPHOLD DEMOCRACY, Haiti; Operation JOINT ENDEAVOR, Bosnia-Herzegovina; Operation IRAQI FREEDOM, Iraq; and three tours during Operation ENDURING FREEDOM, Afghanistan. He also deployed to Somalia and Colombia.

General Milley's education includes a Bachelor's Degree in Political Science from Princeton University, Master's Degrees from Columbia University (International Relations) and from the U.S. Naval War College (National Security and Strategic Studies). He is also a graduate of the MIT Seminar XXI National Security Studies Program.

General Milley and his wife have been married for more than 30 years and have two children.

His awards and decorations include the Defense Distinguished Service Medal; Army Distinguished Service Medal with two bronze oak leaf clusters; Defense Superior Service Medal with two bronze oak leaf clusters; Legion of Merit with two bronze oak leaf clusters; Bronze Star Medal with three bronze oak leaf clusters; Meritorious Service Medal with silver oak leaf cluster; Army Commendation Medal with four bronze oak leaf clusters; Army Achievement Medal with one bronze oak leaf cluster; National Defense Service Medal with one bronze service star; Armed Forces Expeditionary Medal with two bronze service stars; Afghanistan Campaign Medal with two bronze service stars; Iraq Campaign Medal with two bronze service stars; Global War on Terrorism Service Medal; Korea Defense Service Medal; Humanitarian Service Medal; Army Service Ribbon; Overseas Service Ribbon with numeral 5; NATO

Medal with bronze service star; and the Multi-national Force and Observers Medal. He is authorized to wear the Combat Infantryman Badge with star; Expert Infantryman Badge; Master Parachutist Badge; Scuba Diver Badge; Ranger Tab; Special Forces Tab; Joint Chiefs of Staff Identification Badge; Joint Meritorious Unit Award; and Meritorious Unit Commendation and the French Military Parachutist Badge.

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE

HOUSE ARMED SERVICE COMMITTEE

SUBJECT: FISCAL YEAR 2020 NATIONAL DEFENSE AUTHORIZATION BUDGET REQUEST FOR THE DEPARTMENT OF THE ARM AND THE DEPARTMENT OF THE AIR FORCE DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR 2020

STATEMENT OF: HEATHER WILSON
SECRETARY OF THE AIR FORCE

GENERAL DAVID L. GOLDFEIN
CHIEF OF STAFF OF THE AIR FORCE

MARCH 27, 2019

NOT FOR PUBLICATION UNTIL RELEASED BY
THE HOUSE ARMED SERVICE COMMITTEE

# USAF Posture Statement
## Fiscal Year 2020

DEPARTMENT OF THE AIR FORCE
PRESENTATION TO THE COMMITTEES
AND SUBCOMMITTEES OF THE
UNITED STATES SENATE
AND THE HOUSE OF REPRESENTATIVES
1ST SESSION, 116TH CONGRESS



STATEMENT OF:
THE HONORABLE DR. HEATHER WILSON
SECRETARY OF THE AIR FORCE

GENERAL DAVID L. GOLDFEIN
CHIEF OF STAFF, UNITED STATES AIR FORCE

NOT FOR PUBLICATION UNTIL RELEASED
BY THE U.S. SENATE COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON DEFENSE

# AIR FORCE POSTURE STATEMENT
## FISCAL YEAR 2020 PRESIDENT'S BUDGET REQUEST

STATEMENT OF:
THE HONORABLE DR. HEATHER WILSON
SECRETARY OF THE AIR FORCE

GENERAL DAVID L. GOLDFEIN
CHIEF OF STAFF, UNITED STATES AIR FORCE

## STRATEGIC ENVIRONMENT

Great power competition remains the central challenge to U.S. prosperity and security. A rapidly growing China and resurgent Russia aim to coerce their regional neighbors, undermine long-standing alliances, and displace American influence from critical regions around the globe. These great power competitors are challenging U.S. dominance in all warfighting domains: air, land, sea, space, and cyberspace. Additionally, they are confronting us with threats below the level of open conflict, through information warfare, ambiguous or denied proxy operations, and subversion.

To face these challenges, the United States Air Force must compete, deter, and win across the five priority missions of the National Defense Strategy:

- Defend the homeland,
- Provide a safe, secure, and effective nuclear deterrent,
- Defeat a powerful conventional enemy, while we
- Deter opportunistic aggression, and
- Disrupt violent extremists in a cost-effective manner.

In Fiscal Year 2020, we will continue to build a more lethal and ready Air Force, while fielding tomorrow's Air Force faster and smarter.

## AN AIR FORCE IN DEMAND

Last year, Congress appointed an independent and bipartisan National Defense Strategy Commission to study the global security environment and forces necessary to prevail in an era of great power competition. Their conclusion unequivocally stated: "regardless of where the next conflict occurs or which adversary it features, the Air Force will be at the forefront."

*"Regardless of where the next conflict occurs or which adversary it features, the Air Force will be at the forefront."*

*–National Defense Strategy Commission*

As the joint force prepares for peer conflict, the Air Force continues to be in very high demand. Our Airmen perform strategic and vital missions in all domains, across the spectrum of conflict, and from 65 feet below ground to our highest geosynchronous orbits.

More than 21,000 Airmen are deployed around the globe, employing unrivaled air, space, and cyber power from over 179 locations. Last year, our Airmen conducted more than 50,000 sorties and 3,400 precision airstrikes alongside joint and partner forces in the campaign to defeat ISIS. In Afghanistan, the Air Force executed 44,400 sorties in support of our Afghan partners, and targeted Taliban and extremist networks with more weapons than any time in at least 5 years. Our mobility forces transported over 1.25 million personnel, 1 billion pounds of warfighting equipment and supplies, and evacuated more than 5,400 patients for critical medical care. To bolster allies and partners, we increased NATO interoperability and readiness through the European Deterrence Initiative, and Air Force bombers flew over 60 sorties through our Continuous Bomber Presence in the Indo-Pacific. Airmen also delivered 152,000 short tons of relief supplies across Southwest Asia, supporting those who are displaced and suffering, and demonstrating U.S. commitment to building a stable and peaceful region.

The Air Force also performs global, strategic, and critical missions from our homeland. We maintain our nuclear force at the highest state of readiness: last year our Airmen conducted 16,425 intercontinental ballistic missile alert tours and 350 missile convoys across three missile wings and five states. In space, we operate 80 satellites that provide communications, command and control, missile warning, nuclear detonation detection, weather, and the Global Positioning System (GPS) for the world. Our Airmen also support a global intelligence, surveillance, and reconnaissance (ISR) network, and last year completed nearly 57,000 missions, collected over 437,000 hours of full motion video, and produced over 1 million intelligence products for our warfighters and policymakers. Every day, our Airmen stand ready on a moment's notice to intercept airborne threats to our homeland, and they defend Air Force and Department of Defense networks from our adversaries' persistent cyber-attacks.

We can only meet these demands with predictable budgets driven by the National Defense Strategy. In Fiscal Year 2019, the Department of Defense received its first on-time appropriation in over a decade. That agreement required substantial effort by the Congress, and we are grateful for your support and confidence.

However, continued budgetary uncertainty threatens to disrupt the progress we are making. Substantial budget cuts would erase the gains we made over the last three years and inflict substantial damage to our national defense. In 2013, in the wake of sequestration, we were forced to stand down one-third of our combat flying squadrons. We cancelled large-scale exercises and lost over one million work-hours of depot maintenance.

*"A return to sequestration would erase the gains we made over the last three years and inflict substantial damage to our national defense."*

***Despite nearly 30 continuous years of combat, no enemy in the field has done as much to harm the readiness of the Air Force than the combined impact of artificial spending restrictions, worsened by operating for 10 of the last 11 years under continuing resolutions of varied and unpredictable duration.***

Let's be clear. We cannot fully implement the National Defense Strategy to protect America's vital national interests with unpredictable and constrained budgets. We must come together to find a way forward.

## THE AIR FORCE WE NEED HAS 386 OPERATIONAL SQUADRONS

The National Defense Strategy calls on us to compete, deter, and win against near-peer competitors and across a wide spectrum of priority missions.

Last year, in Congressional testimony, you asked us what we needed to implement the National Defense Strategy – not "What is the Air Force we can afford?" but "What is the Air Force We Need?" We didn't know, and we should know. You put that question in the 2018 National Defense Authorization Act, when Congress directed us to study the forces and capabilities we require to implement this strategy.

Using our current operational plans and future defense planning scenarios projected into the 2025-2030 timeframe, the Department of the Air Force conducted thousands of simulations and wargames to answer this question. Our analysis produced an unmistakable conclusion: the Air Force is too small for what our nation needs. We currently have 312 operational squadrons – the clenched fist of American air and space power. To implement the National Defense Strategy and prevail over our highest priority competitors, we determined that the Air Force must grow to 386 operational squadrons.

To put this in context, at the height of the Cold War, in 1987, the Air Force had 401 operational squadrons. Four years later it would combat the Iraqi military in Operation Desert Storm, and decisively defeat Saddam's forces in just 43 days. Despite a shrinking budget and force size, the Air Force continued flying combat missions in the region, and added significant new demands and missions in the wake of 9-11.

The independent and bipartisan National Defense Strategy Commission also asserts the need for greater capacity in an era of great power competition. We cannot credibly face our future with the Air Force of today, evolved over two decades for counterinsurgency and counterterrorism operations. We must grow and meet our adversaries from a position of strength.

Our study also shows more of the same isn't the best answer. The Air Force we need must evolve to incorporate advanced technology and wield cutting-edge capabilities in new and innovative ways. Together with our joint partners, we are developing Multi-Domain Operations as our new warfighting framework.

*"Our study also shows more of the same isn't the best answer. The Air Force we need must evolve to incorporate advanced technology and wield cutting-edge capabilities in new and innovative ways."*

While our land, sea, air, space, and cyber forces have become more joint and coordinated, they are not sufficiently integrated for the future fight. Multi-Domain Operations will integrate U.S. and allied forces across all warfighting domains. This concept will rely on a joint and interconnected network of sensors, weapons, and platforms. Forces will rapidly share information and present our warfighting commanders unprecedented levels of knowledge. With information superiority, we will simultaneously converge warfighting effects from all domains and produce intractable dilemmas for our adversaries.

Ultimately, Multi-Domain Operations will be executed by our operational squadrons, the combat power of the Air Force. Not all squadrons are the same size, and not all squadrons fly airplanes. The National Military Strategy directs a balanced "boxer's stance" of military readiness, and our operational squadrons form the clenched fist of American resolve. But a fist is nothing without the power of the body – our supporting squadrons – behind it. These squadrons repair our aircraft, manage and secure our infrastructure, keep our logistics and supplies flowing, and support our Airmen and their families. Our operational and supporting squadrons will fight together, so they must grow and modernize together.

## AMERICA IS BUILDING A MORE LETHAL AND READY AIR FORCE

Our National Defense Strategy directs a more lethal and ready force, prepared to defeat our adversaries in high-end combat. This past year, we focused the additional resources provided by Congress on our pacing squadrons, the 204 operational squadrons required in the opening days of a peer fight. With these resources, we are more ready for major combat operations today than we were two years ago. More than 90% of our pacing squadrons are ready to "fight tonight" with their lead force packages – the first Airmen to deploy at the beginning of a conflict. When we include their follow-on forces, these pacing squadrons are on track to reach 80% readiness before the end of Fiscal Year 2020, 6 years faster than originally projected. As our front-line squadrons meet their readiness goals, we will also ensure the remainder of our operational squadrons reach the 80% readiness mark by 2022, as we continue to build toward the 386 operational squadrons we require.

> *"We are more ready for major combat operations today than we were two years ago. More than 90% of our pacing squadrons are ready to "fight tonight" with their lead force packages."*

**PEOPLE AND TRAINING.** Readiness recovery is first and foremost about people. Recently authorized increases in end strength helped eliminate a shortage of 4,000 Active Duty maintainers. In two years we closed this gap and are working to build expertise in these young Airmen. While Air National Guard and Air Force Reserve maintainers still face manning challenges, our FY20 budget continues this end strength growth by adding 4,400 Airmen and 5,143 civilians to the Total Force.

To address our aircrew shortage, we are implementing initiatives to increase the number of pilots we train, season them in operational units, and retain experienced aircrews.

Last year we produced 1,211 pilots, 146 more than originally expected. This budget builds on our progress and will produce 1,480 pilots in 2020. We are also exploring how to use new technologies in our "Pilot Training Next" program, where we are using virtual reality and more simulators to train pilots better and faster. As we season these young Airmen, some of our new Active Duty pilots will begin their flying careers with a Guard or Reserve squadron and benefit from the deep experience we have there. We are also pursuing quality of life and quality of service reforms to retain our aircrew. Our new Talent Marketplace gives Airmen greater transparency on their assignment process, and we are reducing the number of year-long deployments to improve stability and reduce the burden on families.

Our Airmen are shifting their focus to great power competition, and we must train and equip them for the high-end fight. This budget proposal includes funds to modernize our live and virtual ranges and infrastructure to provide relevant and realistic training capabilities against our most advanced threats. The Nevada Test and Training Range, the Joint Pacific Alaska Range Complex, the Utah Test and Training Range, the Space Test and Training Range, and several smaller range complexes will receive targeted funding to better replicate the capabilities of our peer adversaries. We are exploring ways to expand contract adversary air – aircrews who are trained to fly as "bad guys" – from a single test case to up to three locations, freeing our Airmen to practice their own skills rather than spend time simulating the skills of our adversaries. This budget includes 1.1 million peacetime flying hours, the maximum amount of sustainable training, to prepare our Airmen to fight alongside allies and partners as vital members of our joint force.

**COST-EFFECTIVE MAINTENANCE AND LOGISTICS.** We are focusing on innovative ways to maintain and supply our aging fleets. Last year, a team of Airmen conducted a detailed sustainment review and produced 45 recommendations to ensure our aircraft and equipment are ready to meet Combatant Commander timelines. We are fielding innovative technologies to streamline supply chains, drive engineering improvements, and manage our fleets. We are using data to make our maintenance personnel more efficient and effective, and we are testing analytic tools and monitoring sensors to match industry best-practices, known as "conditions based maintenance." By being able to better predict when a part will fail, we can improve readiness while saving time and money – initial tests on several E-3 and C-5 components show the potential to reduce up to 30% of unscheduled maintenance. And we're making reforms cost-effectively. Our Oklahoma Depot is now completing major repairs on our KC-135 fleet 40% faster and at half the cost of recent industry contract proposals.

*Last year, a team of Airmen conducted a detailed sustainment review, and produced 45 recommendations to ensure our aircraft and equipment are ready to meet Combatant Commander timelines.*

A ready force needs a modernized logistics system to power it. Last year, we established the Rapid Sustainment Office to improve readiness and drive down the cost of repairs by using advanced manufacturing technologies. Through partnerships with universities and industry, this office is identifying emerging technologies that can reduce the cost of maintaining our weapons systems.

We will scale these reforms across the Air Force. This budget includes $16.4 billion in weapon system sustainment to support our home station and deployed fleets. We are striving to achieve 80% Mission Capable Rates in our F-16, F-22, and F-35 fleets by the end of this fiscal year. We will continue to focus on supply inventory, increasing our maintenance capacity, enhancing our training and proficiency, and moderating our operational tempo to help our maintainers meet this goal.

**AVIATION SAFETY.** We will not compromise safety as we prepare our Airmen and align resources for great power competition. Last year, the Air Force experienced an uncharacteristic increase in in-flight mishaps and fatalities for manned aircraft. The safety of our Airmen remains a top priority, so we initiated several actions to bolster our mishap prevention programs, including additional safety

training and operational pauses to discuss risk. Our mishap rates are decreasing toward historic averages, and we will continue to improve these programs over the next fiscal year. We are thankful for Congress' support and interest in this important issue. We look forward to working closely with our joint teammates and the newly created National Commission on Military Aviation Safety, established by Congress in the 2019 National Defense Authorization Act.

**A SAFE, SECURE, AND EFFECTIVE NUCLEAR DETERRENT.** The Air Force provides two-thirds of our nuclear triad and 75% of our nuclear command, control, and communications capability. We demand the highest standard of readiness from the Airmen who manage and safeguard our nuclear enterprise. The triad remains the ultimate guarantor of American, allied, and partner security, and underpins America's military power and diplomacy worldwide. As our adversaries continue to modernize and expand their nuclear weapons and delivery systems, the National Defense Strategy, Nuclear Posture Review, and National Defense Strategy Commission all reaffirm America's need for a modernized triad of air, sea, and land-based nuclear weapons, tied together by a resilient command and control architecture. These forces deter nuclear and non-nuclear strategic attack, assure our allies and partners, achieve our objectives if deterrence fails, and hedge against an uncertain future. Today, we perform these missions with the smallest and oldest nuclear enterprise in our history. It is imperative that we sustain our existing triad and replace these aging systems. Our budget proposal fully funds our major nuclear modernization programs.

Our Ground Based Strategic Deterrent will replace the aging Minuteman III intercontinental ballistic missile, first deployed in 1970. These ground-based missiles are the most responsive leg of the triad, given their long range and constant state of readiness.

Our Long Range Standoff Weapon will replace the Air Launched Cruise Missile and improve bomber lethality and survivability through 2060. Our modernized B-52, B-2, and upcoming B-21 bombers are the most visible and flexible leg of the triad. They can be deployed to signal resolve, and their sustained flight times and ability to be recalled increase stability and Presidential decision-making time.

Finally, we are modernizing our nuclear command and control system to ensure the President has uninterrupted access to his leadership team and command of nuclear forces, under all conditions, without fail.

Since the end of the Second World War over 70 years ago, every President and every Congress has supported the nuclear triad as a vital element of our national defense. We must continue to do so.

*"Since the end of the Second World War over 70 years ago, every President and every Congress has supported the nuclear triad as a vital element of our national defense. We must continue to do so."*

**MODERNIZATION.** America's potential adversaries are rapidly fielding capabilities that approach our own. We must retain our technological edge and equip our Airmen with highly advanced and lethal tools to prevail in high-end combat.

As we design our future Air Force, we are examining different operating concepts to frustrate our opponents and defeat them in combat. We will need systems that can penetrate contested environments or remain outside these zones and employ long-range weapons and effects. We are investing $1.5 billion to test and prototype game-changing technologies to cement our warfighting advantage, including hypersonic weapons, directed energy, and adaptive jet propulsion. Our next-generation penetrating bomber, the B-21 Raider, is proceeding on schedule and building on three years of successful development. It will be able to deliver both gravity bombs and the Long Range Standoff Weapon to hold adversary targets at risk around the world. High-end conflicts will require the long-range capability of an advanced bomber fleet, and the B-21 is central to the expanded bomber capacity and capability we need.

Our aerial refueling capability underwrites the global nature of Air Force power and enables the rapid deployment of aircraft. We recently welcomed our first KC-46 tankers and are proposing to buy 12 more KC-46 tankers in Fiscal Year 2020.

The future fight will require a robust network architecture and battle management system. This budget funds our continued transition to the Advanced Battle Management System, a family of systems that will fuse data from multiple platforms across all warfighting domains. Nearly every system on the battlefield will contribute data to this network, and through advanced analytics, commanders will understand the battlespace and be able to direct forces faster than our adversaries. To develop the capability for successful Multi-Domain Operations, we are upgrading legacy command and control nodes and have established an architecture to ensure the many programs that must connect and share information will work together. We are also upgrading and modernizing our electronic warfare systems, organizations, and analysis capability to dominate the electronic spectrum.

*“We remain committed to the F-35 and its game-changing capabilities, and will continue purchasing 48 aircraft each year.”*

We remain committed to the dual-capable F-35 and its game-changing capabilities, including its ability to deliver nuclear weapons, and will continue purchasing 48 aircraft each year. No other weapons system is designed to fuse information and make split-second decisions inside defended enemy airspace. As the quarterback in the air fight, this aircraft combines the capabilities of our joint, allied, and partner teammates to deter or defeat our adversaries.

While budget increases are making a significant difference and restoring the readiness of the force, our analysis indicates that we must purchase additional aircraft in the future to fully implement the National Defense Strategy. Our current fighter force of 55 squadrons is too small.

At the same time, our F-15C fleet is aging, with two-thirds of the fleet past its certified service life. This fleet is expensive to maintain, and F-15C capability against advanced threats is diminishing over time. Our budget proposes to replace the F-15C with a modernized successor by purchasing the F-15EX. We propose to buy 80 aircraft over the next 5 years. This decision allows us to benefit from foreign partner investments in the F-15 line to begin cost-effectively replacing our F-15C fleet.

**CYBER DOMINANCE.** Every day, Airmen encounter sophisticated and persistent adversaries in cyberspace, some of whom are now peer competitors in this domain. To meet this challenge, we are producing innovative cyber capabilities to repel these threats, defend our networks, and support Combatant Commanders around the globe. These capabilities also strengthen domestic cybersecurity efforts, and helped counter adversary attempts to interfere in last year's election.

Our FY 20 budget submission advances how we train and equip cyber forces for Multi-Domain Operations. We are investing in new capabilities to identify network threats and vulnerabilities, and are designing countermeasures to mitigate risks to our weapon systems. Last May, our Cyber Mission Forces achieved operational capability four months faster than predicted. We will continue leading joint efforts to supply these Airmen with a new, integrated cyberspace operations suite, the Unified Platform. To fully harness this capability, the Joint Cyber Command and Control system will provide Combatant Commanders cyber situational awareness and battle management of these forces. We face an increasingly contested cyber domain, and these investments will provide the tools we need to prevail in both competition and conflict.

**ACCELERATING DEFENDABLE SPACE.** Our adversaries have recognized the advantages we gain from operating in space, and are developing capabilities to deny us the use of space in crisis or war. They are developing weapons that can blind or jam satellites with directed energy and electronic warfare, target ground sites and infrastructure through cyber-attacks, or physically destroy or damage our satellites with missiles or dual-use, on-orbit spacecraft. While we all would prefer that space remain free of conflict, we will deter and defeat these threats in order to secure the satellite constellations that power our military forces and civil societies.

In January of 2018, we transitioned the National Space Defense Center from an experimentation and planning office with weekday business hours to an around the clock operations center to protect and defend our assets and interests in the space domain. In July, we transitioned the Joint Space Operations Center to a Combined Space Operations Center, integrating the efforts of allies, partners, and commercial industry.

*"Our FY20 budget builds on our advances and further accelerates efforts to protect and defend our ability to operate in space. We propose a $14 billion investment in our space portfolio in FY20, a 17% increase over our FY19 budget."*

In the 2019 budget, we proposed a significant change to our space plans. With the support of Congress, we added nearly $1 billion to the FY19 Air Force space program. Our FY20 budget builds on our advances and further accelerates efforts to protect and defend our ability to operate in space. We propose a $14 billion investment in our space portfolio in FY20, a 17% increase over our FY19 budget. It frames our warfighting approach and changes how we prototype and field innovative space technologies to stay ahead of our competitors. This budget includes $55 million for the demonstration of technology for a proliferated satellite constellation. In partnership with the Defense Advanced Research Projects Agency, we will assess the future of small, low-cost platforms.

The Department of Defense recently submitted legislation to establish the Space Force as a new armed service within the Department of the Air Force. This legislation would consolidate missions from across the Department into a single Space Force. It would establish a civilian Under Secretary of the Air Force for Space and a Chief of Staff of the Space Force who would be a member of the Joint Chiefs of Staff. This proposal capitalizes on the Air Force being the best in the world at space, and given the new era of strategic competition, is the right move to posture us for the future.

Finally, we are devoting greater time and resources to train and develop our space operators as true warfighters. They will be the cornerstone of U.S. Space Command, our newest Combatant Command.

## WE ARE FIELDING TOMORROW'S AIR FORCE FASTER AND SMARTER

An era of great power competition demands we rethink the way we buy things. China is innovating faster than we are, and fielding game-changing forces. We cannot win this contest with an acquisition system from the Cold War. We must move fast to stay competitive, and we are fundamentally transforming what we buy, how we buy it, and from whom we buy it.

The 2016 and 2017 National Defense Authorization Acts restored responsibility for acquisition to the Services, and granted us new authorities to accelerate prototyping and fielding. With these authorities, we are changing the way we buy things to get capability from the lab bench to the warfighter faster.

*"We cannot win this contest with an acquisition system from the Cold War. We must move fast to stay competitive, and we are fundamentally transforming what we buy, how we buy it, and from whom we buy it."*

Our experience shows that delegating authority works. Last summer we set a goal to strip 100 years of unnecessary schedule from our program plans. So far, we have saved over 78 years and are closing in on our milestone.

Three contributing factors are making us faster. The first is prototyping. For example, in hypersonics, we are leveraging available technology from across the Department of Defense to build, fly, and buy our nation's first operational boost-glide weapon five years earlier than anticipated. For our Next-Generation Overhead Persistent Infrared Missile Warning satellites, we are competitively prototyping a new sensor, retiring this key risk nearly a year earlier, while also strengthening the industrial base for future programs.

The second contributing factor to increase speed is the use of tailored acquisition strategies. We have empowered our workforce to structure decisions around the specific needs of their programs, as opposed to the generic milestones of the traditional acquisition process. Recently, our F-15 Eagle Passive/Active Warning Survivability Systems split its Milestone C decision into two tailored reviews, accelerating fielding by 18 months at no additional cost.

The third major effort to increase speed to the warfighter is agile software development. The decades-old "waterfall" process for developing software is too slow, very expensive, and often doesn't work at all. We are making a wholesale shift to agile development, putting acquirers and operators together to make rapid incremental software improvements. We proved the concept with a new tool to plan air refueling at the Combined Air Operations Center at Al Udeid Air Base, where we command the air war against ISIS, Al Qaeda, and the Taliban. Our agile software tool saved the Air Force millions of dollars in fuel each month, reduced the requirement by two tankers and ten aircrews, and delivered a modern software planning tool to operators in months, not years.

We established the Kessel Run Experimentation Laboratory to continue applying agile development for the warfighter and stood up a Program Executive Office Digital to develop and proliferate best practices across the Air Force. So far, major programs like F-22, the Unified Platform for cyber warfare, and the Protected Tactical Enterprise System are reaping the benefits of shifting to agile development, accelerating delivery of tools to the warfighter.

*"Using authorities given to us by Congress is not just faster, it's giving us better results. We are able to find design flaws earlier in the development period, fix them faster, and ultimately save money with better products."*

Using authorities given to us by Congress is not just faster, it's giving us better results. We are able to find design flaws earlier in the development period, fix them faster, and ultimately save money with better products. Our B-52 Commercial Engine Replacement Program will use digital models of new engines to compare their performance, with greater levels of confidence in the results. Not only will we save more than three years from normal development timelines, we expect to achieve up to 30% greater fuel efficiency by prototyping these models.

Our recent Light Attack Experiment was conducted under these authorities and taught us important lessons we would not have learned through a traditional acquisition process. This experiment sought to test whether an existing commercial aircraft could perform as a combat capable and cost-effective platform to support the global campaign to counter violent extremism. Key to the experiment was the development of an intelligence gathering and information sharing network that will improve interoperability with allies and partners. Based on available aircraft that met experimental criteria, we focused last year on only one aircraft type and intend to expand the experiment in this budget to include additional aircraft types (rotary, unmanned, turbojet) and improved technologies. Additionally, we intend to continue our close partnership with industry and allies to further this technology as we determine the best strategy going forward. We remain committed to developing a cost-effective and increasingly networked counter-violent extremist capability to deepen these partnerships and directly support the National Defense Strategy.

We are also committed to competition. The Air Force saved over $15 billion dollars through robust competition with the National Security Space Launch, Global Positioning Satellite IIIF, the UH-1N helicopter replacement, and the T-X jet trainer.

Our Space Enterprise Consortium is removing barriers to entry for small business and non-traditional vendors, and these companies now make up nearly 80% of the Consortium's 235 partner organizations. By removing bureaucracy and giving authority to our Program Managers, our Space and Missile Systems Center is awarding prototype contracts in 90 days, twice as fast as traditional contracting.

"Our Space Enterprise Consortium is removing barriers to entry for small business and non-traditional vendors, and these companies now make up nearly 80% of the Consortium's 235 partner organizations."

Technology is evolving faster than ever before, and we are acquiring the intellectual property, data, and software rights to keep pace with this change. When we retain ownership, contractors must compete to sustain and improve these systems, producing better performance and lowering costs. We have already secured these rights in our UH-1 helicopter replacement and T-X jet trainer programs, and we will continue pursuing these ownership rights to flexibly modernize our force.

As we increase competition we are leading innovative approaches to contracting with small businesses and start-ups, and last year we awarded over $11 billion to such companies. By law, we must spend $660 million through our small business innovation and technology transfer programs, and want to make partnering with the Air Force easy and energizing. We created a new mechanism to get dollars into the hands of small businesses faster than before. By combining government credit card payments with one-page contracts, we created a small-dollar contracting process that will "pay in a day." Last November, we sought to award 50 small business contracts in 50 hours. We surpassed our expectations and more than doubled our goal, awarding 106 contracts in only 42 hours.

"America's small businesses and start-ups are engines of innovation, and we are developing creative ways to employ their talents."

We just completed our inaugural Pitch Day to build on this success. We invited entrepreneurs and start-ups to pitch revolutionary solutions to Air Force problems. During the two-day event, 51 businesses won contracts and were immediately paid up to $158,000, often within 15 minutes of their presentations. America's small businesses and start-ups are engines of innovation, and we are developing creative ways to employ their talents.

These authorities do not sidestep key decisions or oversight, and we will not sacrifice quality for speed. Early prototyping informs the Department of Defense and Congress about a program's feasibility before making costly decisions to buy it. We are mindful of the trust placed in us, and are committed to giving you more transparency about how we are using new authorities than what is required for traditional procurement. We will soon release our second annual report on acquisition, giving you all our results, and we will provide you reports on our prototypes and experiments three times a year.

## AN AIR FORCE TO COMPETE, DETER, AND WIN

The United States faces an increasingly complex global security environment, characterized by overt challenges to the free and open international order and the re-emergence of long-term, strategic competition between nations. To meet these challenges, the Air Force is evolving to project unmatched power through the air, space, and cyber domains. We are prioritizing our readiness to fight tonight and are on track to meet our readiness goals. The new authorities Congress has given us are allowing us to field tomorrow's Air Force faster and smarter. We must rebuild the capacity we lost and field a force that will compete, deter, and win for the American people.

**Dr. Heather Wilson**
**Secretary of the Air Force**

Dr. Heather Wilson is the 24th Secretary of the Air Force and is responsible for the affairs of the Department of the Air Force, including the organizing, training and equipping and providing for the welfare of 660,000 Active-Duty, Guard, Reserve and civilian forces their families. She oversees the Air Force's annual budget of more than $132 billion and directs strategy and policy development, risk management, weapons acquisition, technology investments and human resource management across a global enterprise.

Dr. Wilson has more than 35 years of professional experience in a range of leadership and management roles in the military, higher education, government and private industry. Before assuming her current position, Dr. Wilson was president of the South Dakota School of Mines & Technology, an engineering and science research university.

From 1998 to 2009, Dr. Wilson was a member of the U.S. House of Representatives, where she served on the House Armed Services Committee, the House Permanent Select Committee on Intelligence and the House Energy and Commerce Committee.

Before being elected to Congress, Dr. Wilson was a cabinet secretary in New Mexico's state government responsible for foster care, adoption, juvenile delinquency, children's mental health and early childhood education.

From 1989 to 1991 Wilson served on the National Security Council staff as director for defense policy and arms control for President George H.W. Bush during the fall of the Berlin Wall and the collapse of the Warsaw Pact.

From 1991 to 1995 and again from 2009 to 2013 Wilson was in the private sector. In 1991, she founded Keystone International, Inc., a company that did business development and program planning work for defense and scientific industry. She served as a senior advisor to several national laboratories on matters related to nuclear weapons, non-proliferation, arms control verification, intelligence and the defense industrial base. Wilson also served on the boards of two publicly traded corporations as well as numerous advisory and non-profit boards.

Dr. Wilson was an Air Force officer from 1982 to 1989. She graduated from the U.S. Air Force Academy in the third class to include women, and earned her master's and doctorate degrees as a Rhodes Scholar at Oxford University in England.

Wilson was a collegiate rower at Oxford and is an instrument-rated private pilot.

**General David L. Goldfein**

Gen. David L. Goldfein is Chief of Staff of the U.S. Air Force, Arlington, Va. As Chief, he serves as the senior uniformed Air Force officer responsible for the organization, training and equipping of 685,000 active-duty, Guard, Reserve and civilian forces serving in the United States and overseas. As a member of the Joint Chiefs of Staff, the general and other service chiefs function as military advisers to the Secretary of Defense, National Security Council and the President.

Prior to assuming his current position, General Goldfein was the Vice Chief of Staff of the U.S. Air Force, where he presided over the Air Staff and served as a member of the Joint Chiefs of Staff Requirements Oversight Council and Deputy Advisory Working Group. Before serving as the Vice Chief, General Goldfein was the Director, Joint Staff, the Pentagon, Arlington, Va.

General Goldfein received his commission from the U.S. Air Force Academy in 1983. He is a graduate of the U.S. Air Force Weapons School and is a command pilot with more than 4,200 flying hours in the T- 37, T-38, F-16C/D, F-117A, MQ-9 and MC-12W. He has flown combat missions in operations Desert Shield, Desert Storm, Allied Force and Enduring Freedom.

**WITNESS RESPONSES TO QUESTIONS ASKED DURING THE HEARING**

APRIL 2, 2019

## RESPONSE TO QUESTION SUBMITTED BY MR. GALLEGO

General GOLDFEIN. The CSAF replied to Rep Gallego on 12 June 2019. In the letter (attached), he addresses the Congressman's concerns on the effects of unfunded mandates, including southern border operations. [The letter was not available at the time of printing.] [See page 38.]

---

## RESPONSE TO QUESTIONS SUBMITTED BY MS. STEFANIK

General MILLEY. The Army supports the Defense Health Agency (DHA) assuming full administration, direction and control of Medical Treatment Facilities (MTFs) with the goal of maintaining high quality of care for our beneficiaries, seeking greater efficiencies in healthcare services, while the Military Departments continue to focus on readiness. For the Army, Phase I consisted of Womack Army Medical Center (WAMC) at Fort Bragg, NC, transitioning to DHA on 1 Oct 2018. Since the transition, Regional Health Command-Atlantic (WAMC's previous higher headquarters) continues to provide to WAMC a significant amount of its administration and management support such as human resources, resource management, information management operations, and logistics. DHA developing the necessary structure, processes, and resources to provide healthcare delivery capability and oversight at all echelons. The Army analysis is that DHA will not meet their functional transition plan for the remaining MTFs without an established Plan of Action and Milestones to facilitate the transfer of thirty-four required MTF administration and management functional capabilities from the Military Departments to DHA. We are collaborating with the Office of the Secretary of Defense, Defense Health Agency and the other Services to improve 21 DHA's transition plan with conditions-based milestones and establishing a human capital transition strategy to retain vital work force expertise. The Army recommends that DHA focus on the transition of the MTFs and the rollout of the Military Health System Electronic Health Record as a matter of priority and includes appropriately scoping DHA's Combat Support Agency role and continue further planning for additional entities (such as research and training) with execution after a synchronized MTF transition is successfully completed. [See page 28.]

---

## RESPONSE TO QUESTIONS SUBMITTED BY MS. SHERRILL

Secretary ESPER. The Army contracted with McKinsey & Co. (McKinsey) to complete two distinct efforts relevant to life cycle management activities. The Transition to Sustainment project covered the synchronization and workload transition between the Program Executive Offices (PEO) and the Lifecycle Management Commands (LCMC) for systems and equipment. McKinsey delivered the guidebook documenting the process to establish transition-to-sustainment plans for systems and equipment in September 2018. The Army expects to finalize the guidebook in the fall of 2019; after which time, Army will provide a copy to Congress. The Joint Program Executive Office Armaments and Ammunition (JPEO A&A) coordinated a facts-based independent assessment (lead by McKinsey & Company) of the management of the ammunition industrial base. The assessment covers the Class V ammunition enterprise roles and responsibilities for managing government-owned, contractor-operated facilities. The final report titled DoD Ammunition Enterprise Organizational Assessment is not an official Army position, but was conducted to provide information and make recommendations for Army Senior Leader consideration. We anticipate a decision from the Secretary of the Army in the near future. [See page 49.]

---

## RESPONSES TO QUESTIONS SUBMITTED BY MS. ESCOBAR

Secretary ESPER. Yes, the $3.6B includes backfill funding. [See page 52.]

Secretary ESPER. There is not a $200M reduction to baseline funding. The difference between the FY19 and FY20 request for Army Family Housing is almost entirely due to the $189M drop in the construction account from FY19 to FY20. The FY19 budget was the Army's largest Family Housing construction request since FY09 due to large, one time, project costs associated with overseas housing. The Army has programmed several large Family housing construction projects since FY15, averaging $172M per year over the past 6 years. Last year, Congress funded the last of four projects totaling $241M to construct new high-rise towers at Camp Walker, KO (USAG Daegu), while simultaneously funding the third increment of a $302M high-rise construction program at Camp Humphreys, KO, and a $95M construction project at Vicenza, Italy. With our FY20 budget request, we have returned to baseline funding levels and will be able to meet the OSD goal of 90% good or adequate (Q1/Q2) Family Housing inventory. [See page 52.]

---

**RESPONSES TO QUESTIONS SUBMITTED BY MS. HAALAND**

Secretary ESPER. The Army is taking immediate steps to identify and resolve maintenance and customer service concerns in both Army owned and Residential Communities Initiative (RCI) privatized housing inventories. Army Commanders have conducted 100% home visits and barracks inspections at all Army installations, to immediately identify and addressall life, health, and safety deficiencies. In cases where the deficiency could not be corrected within 24 hours, the Army or RCI companies have paid to relocate Families to adequate quarters and then later returned them to their homes. In some cases, the RCI company offered Families a different home and paid all moving and incidental expenses. RCI companies are appropriately reimbursing residents for certain claims associated with damage or loss of property. No Family will be denied medical treatment resulting from health concerns associated with housing hazards. The Army's RCI companies have suspended the utility billing program and stopped charging non-refundable pet fees. RCI companies may still charge pet deposits which will be refunded upon lease termination, unless damages are present. Residents can contest the deposit through their Army leadership, housing advocate, and the representative of the RCI Company. Reimbursements made by RCI companies are not included in the Army's budget. The Army is responsible if a reimbursement is for Army Owned Housing. Where there are questions regarding reimbursement from the RCI Company or the Army, residents are encouraged to involve their chain of command and the installation's Garrison leadership. Residents who have suffered unreimbursed economic harm caused by negligent conduct attributable to either the Army or a RCI company can pursue claims for damages. [See page 57.]

Secretary ESPER. There is not a $200M reduction to baseline funding. The difference between the FY19 and FY20 request for Army Family Housing is almost entirely due to the $189M drop in the construction account from FY19 to FY20. The FY19 budget was the Army's largest Family Housing construction request since FY09 due to large, one time, project costs associated with overseas housing. The Army has programmed several large Family housing construction projects since FY15, averaging $172M per year over the past 6 years. Last year, Congress funded the last of four projects totaling $241M to construct new high-rise towers at Camp Walker, KO (USAG Daegu), while simultaneously funding the third increment of a $302M high-rise construction program at Camp Humphreys, KO, and a $95M construction project at Vicenza, Italy. With our FY20 budget request, we have returned to baseline funding levels and will be able to meet the OSD goal of 90% good or adequate (Q1/Q2) Family Housing inventory. [See page 57.]

## QUESTIONS SUBMITTED BY MEMBERS POST HEARING

APRIL 2, 2019

## QUESTIONS SUBMITTED BY MR. WILSON

Mr. WILSON. General Milley, in your testimony you commented on Iron Dome having a successful track record and the Army's report on Iron Dome says it provides "the best value to the Army based on its schedule, cost per kill, magazine depth, and capability against specified threats." The acquisition requires an "above threshold reprogramming" request for FY19 funds.

Is the "Iron Dome" an interim solution or an enduring solution? When do you plan on submitting the request to Congress? What would be the impacts to national security if the request is not approved? How can we move more quickly to a program of record and fielding of the system?

General MILLEY. Iron Dome is an interim solution for indirect fire protection capability against rockets and cruise missiles. The Office of Management and Budget submitted an above threshold reprogramming package to Congress on April 22, 2019. The Secretary of Defense certified there is a critical need for the United States Army to deploy an interim cruise missile defense capability. As outlined in the 2018 National Defense Strategy, we must develop layered regional missile defenses to deter aggression by near-peer adversaries. If the FY18/19 above threshold reprogramming request for funding of Iron Dome is not approved, this capability will be significantly delayed. The timeline for fielding will be approximately 18 months after contract award. Congress approved the FY19 above threshold reprogramming (ATR) request for the purchase of two Iron Dome batteries, and to fund the experimentation and analysis of configurations to inform the enduring solution. The Army decision point will determine if an update to the requirements is warranted and if the Army will pursue components of Iron Dome (Missile Firing Unit and TAMIR interceptor) as part of the enduring solution. When the ATR request has been approved and contracts awarded, the Army will determine the feasibility to meet the FY19 NDAA September 30, 2020 deployment date.

Mr. WILSON. General Scaparotti testified earlier this month to the Senate Armed Services Committee that there are possible shortfalls with intelligence, surveillance, and reconnaissance assets in Europe.

Can you describe how this budget will address shortfalls in intelligence, surveillance, and reconnaissance capabilities?

General MILLEY. Since 2017, the Army has been working closely with United States Army Europe (USAREUR) and United States European Command (EUCOM) to address theater specific intelligence requirements. These efforts have informed the Army's needs for additional Army intelligence capacity and capability in Europe for the Fiscal Year (FY) 2020 budget. In addition to these needs, continued support to the European Deterrence Initiative (EDI) funding is necessary. EDI funding has been important to improve our ISR capabilities to address ISR shortfalls in Europe. Listed below are some specific examples of how the Army in the FY20 budget and with additional EDI funding will address EUCOM's ISR shortfalls. The Army is preparing to deploy three Guardrail Common Sensor (GRCS) aircraft to Europe in FY20 to address shortfalls in indications and warning systems. Improvements in electronic intelligence and cyber sensors will enable the GRCS to provide the Ground Commander a tactical collection capability, currently absent in theater. The Army is developing an integrated signals intelligence (SIGINT), electronic warfare (EW), and cyber capability to improve ground intelligence collection capability and capacity. This new quick reaction capability can target modern tactical peer/near-peer signals of interest in support of ground combat maneuver elements' cyber and EW activity. This capability will address intelligence gaps dealing with Russian threats in Eastern Europe and the Baltics. The Army is modernizing six Prophet systems to replace the current systems in USAREUR to improve SIGINT and EW capabilities for the ground commander. This modernization of the architecture framework (both hardware and software) will facilitate the rapid integration of signals collection. The Army also is developing the next ground based system, the Terrestrial Layer System (TLS) which will integrate SIGINT, EW, and cyber into a common ground platform at the brigade combat team level. The Army will continue the Advanced Miniaturized Data Acquisition System (AMDAS) Dissemination Vehi-

cle (ADV) pilot program to support the 1st Infantry Division's operational needs in Europe for expeditionary access to national capability.

## QUESTIONS SUBMITTED BY MR. TURNER

Mr. TURNER. Based on Russia's disruption of GPS during NATO's Trident Juncture drills last year, reports of China's investment in missiles that can take out GPS satellites, and reports out of Israel about Syria jamming and spoofing GPS, we have become increasingly concerned about future access to GPS in contested environments and operations.

This especially concerning as Russian air defense systems are further limiting accessing.

What is the U.S. Air Force doing to field cost-effective non-GPS-reliant precision munitions with stand-off capability in the near-term?

Have you surveyed allies and partners to see what capabilities they have and whether they can be fielded more quickly than a developmental program?

General GOLDFEIN. The U.S. Air Force continues to work to ensure our ability to deliver precision munitions in all conditions including GPS-contested environments. We have a family of systems that can operate in different ways to address these threats. We will be happy to come brief you and your staff on this subject.

The Air Force recently participated in the Five Power Air Senior National Representatives (SNR) First AltNav Exploration Group Meeting, 20–21 March 2019, in Germany. We are also actively engaging with IT, UK, FR, and GE to identify viable non-GPS solutions.

## QUESTIONS SUBMITTED BY MR. COURTNEY

Mr. COURTNEY. Section 1707 of the Space Force proposal asks for authority to involuntarily assign military and civilian personnel to the Space Force. That includes members of the Army, Navy, and Marine Corps, who could be ordered to join the Space Force even if they commissioned as officers in another service. Doing that would clearly impact the families as well because a Space Force career could be totally different than the Army or Navy career they were planning on. Civilians could also be involuntarily placed into a totally different career path or place of work as well.

How do you plan on managing this reassignment of military and civilian personnel without negatively impacting their careers and/or families? Is this broad authority to involuntarily assign personnel really necessary—couldn't you simply rely on volunteers instead?

Secretary WILSON. The Air Force will minimize involuntary military transfers to the greatest extent possible through the use of voluntary transfers using the monetary and non-monetary incentives at our disposal. The legislative proposal provides for involuntary transfer authority in the unlikely event that we are not able to satisfy mission requirements through details and or inter-service voluntary transfers. Involuntarily transfers would be an option of last resort if for example a mission was completely transferred from the AF and the incumbent individuals have skills not available through other means. These transfers would be handled on a case-by-case basis. The Air Force will seek to minimize any negative impacts to career development using existing policies and procedures.

For the civilian force, in the case of a major reorganization such as this, civilian employees would transfer in place to the Space Force with the realignment of the mission and billet to which the employee is assigned, with no loss in pay. Employees would also have the ability to volunteer to transfer to vacant Space Force positions for which they qualify. If the individual does not desire to transfer with their position, the agency will make every attempt to place the individual in another position for which they are qualified in order to minimize the potential for adverse impact.

## QUESTIONS SUBMITTED BY MR. GARAMENDI

Mr. GARAMENDI. Secretary Esper, I recently returned from Kuwait, where I saw the Army's prepositioned stocks at Camp Arifjan and the soldiers and civilians who work tirelessly to ensure they are ready for battle. Can you explain what the Army is doing to ensure resiliency for this vital mission given Camp Arifjan's location and the threat of Iranian ballistic missiles? How is the Army thinking about the posture and location of its prepositioned stocks in the Gulf in light of this threat? How is the Army coordinating with the Marine Corps to seek opportunities for joint facili-

ties, storage, and maintenance capabilities to get equipment covered and reduce the maintenance cost associated with wear and tear from equipment being stored exposed to the heat and environment?

Secretary ESPER. The range and quantity of Iranian missiles means that the Iranians can hold locations in the Persian Gulf at risk. Therefore, the Army partners with the Joint Force and our Allies to provide protection against Iranian capabilities. The U.S. military possesses the ability to quickly adjust posture to deter Iranian aggression, and as we continue to implement the National Defense Strategy, we will retain the ability to dynamically employ the force across the globe. The Army is also cooperating with the other military Services and our Allies to efficiently maintain our prepositioned stocks. The Army coordinates regularly with the Marine Corps and other Services within the Joint Staff-led Global Prepositioned Materiel Capabilities Working Group. These efforts seek joint efficiencies in prepositioned storage. The Army prioritizes indoor storage for equipment with the most intensive maintenance requirements and those needed first in a contingency. Currently, 70 percent of the prepositioned equipment is stored indoors, which significantly reduces unscheduled maintenance.

Mr. GARAMENDI. In 2016 the Pentagon set the cost at the Ground Based Strategic Deterrent (GBSD) program's Milestone A decision at $85 billion in then year dollars, but called for a more up-to-date estimate by March 2018 given that the $85 billion figure was at the lower end of an independent CAPE office estimate that projected the cost as high as $150 billion. Both estimates were far higher than the Air Force's initial estimate

Has the Air Force produced an updated cost estimate for the GBSD program? If so, what is it? If not, when can we expect an updated estimate?

Secretary WILSON. The Service Cost Position update estimated for March 2018 was delayed due to the implementation of an updated Security Classification Guide. In June 2019, an updated Service Cost Position was presented in conjunction with the OSD Cost Assessment and Program Evaluation (CAPE) Independent Cost Assessment. It is pending public release.

Mr. GARAMENDI. According to the 2018 NPR, the life of the Minuteman III "cannot be extended further." However, neither RAND in a 2014 report nor the Air Force's 2014 analysis of alternatives determined that another life extension is infeasible. Moreover, at a March 28 HASC hearing, Lieutenant General Richard Clark, USAF, Deputy Chief of Staff, Strategic Deterrence and Nuclear Integration said: "We have several of the [Minuteman III] components that are becoming obsolete. The propulsion system, the guidance system, even the ability to provide the solid rocket motor fuel, we only have one more opportunity to do that for these weapons." Why did the NPR claim that the life of the Minuteman III "cannot be extended further"?

Secretary WILSON. The Minuteman III Intercontinental Ballistic Missile (MM III) weapon system is 39 years past its designed service life and must be recapitalized due to capability shortfalls, asset attrition, evolving security environment, degrading infrastructure and critical system component age-out.

The NPR statements with regards to extending the service life of MM III are based on the funding requirements to overhaul all the systems/components without additional operational capabilities necessary in the evolving threat environment. To do so would be fiscally irresponsible. GBSD, the MM III replacement system, is being designed with mature technologies and an open architecture to intentionally lower the life-cycle costs and provide the flexibility to address identified/unidentified future capability gaps of the ground component of the nuclear triad.

Additionally, there are components of the MM III, which can no longer be life extended but would require remanufacturing, and in some cases would necessitate significant development work due to the obsolescence of the technology.

Mr. GARAMENDI. In 2017 the CBO projected that $17.5 billion could be saved over the next 30 years by delaying development of a new ICBM by 20 years and instead extending the life of the Minuteman III by buying new engines and new guidance systems for the missiles. Crucially, however, this approach would save $37 billion through fiscal year 2036 when the vast majority of nuclear recapitalization spending is scheduled to take place, including other Air Force priorities such as the B–21 Bomber. Do CBO's estimates comport with the Air Force's estimate of the cost to sustain the Minuteman III relative to GBSD through 2036?

Secretary WILSON. The Air Force's assessment does not align with the CBO's projected savings. The Ground Based Strategic Deterrent Analysis of Alternatives released in 2014 indicates that it is more efficient to develop a new ICBM capability rather than sustain the current Minuteman III.

CBO focuses on the replacement of flight systems (propulsion and guidance), but additional ground systems would also require development/replacement due to parts

obsolescence and other sustainability challenges to maintain the Minuteman III capability 20 years beyond the current end of life. The CBO projection also does not address the increasingly complex global security environment and the need to modernize the nuclear force to counter competitors' coercive strategies as outlined in the National Defense Strategy. Additional ICBM capability will be required to address the need for payload increases to surmount competitors' defensive system improvements enabled by rapid technological advancements.

Mr. GARAMENDI. The 2018 NPR stated that the Minuteman III missiles "will have increasing difficulty penetrating future adversary defenses." Which adversaries have the capability to defend against a large-scale ballistic missile attack?

Secretary WILSON. [The information is classified and retained in the committee files.]

---

## QUESTIONS SUBMITTED BY MR. SCOTT

Mr. SCOTT. I commend you on making Army Readiness and Modernization your top priority. In addition, your focus on collective training emphasizes high-intensity conflict, utilizing complex terrain, and operating under degraded environmental conditions:

1. Please explain why the U.S. Army does not have an urban warfare school despite having one for arctic, jungle, desert, and mountain warfare?

2. General Milley, in October 2016, said the Army needs "to man, organize, train and equip the force for operations in urban areas, highly dense urban areas, and that's a different construct. We're not organized like that right now." How has the Army prepared or changed for major operations in dense urban environments since October 2016?

3. From the platoon level through the battalion level at the Combat Training Centers (CTCs), are you currently able to meet all your training requirements? What gaps do you foresee for potential future conflicts?

4. The Joint Urban Operations Office closed with the Joint Forces Command in 2011 leaving the Department of Defense without an executive agent for urban operations. Any major combat operations in an urban area in the future will clearly be a joint operation. How is the joint force preparing for major combat operations in dense urban environments? What changes should be made for the joint force to do so?

Secretary ESPER and General MILLEY. 1. The U.S. Army Training and Doctrine Command (TRADOC), Maneuver Center of Excellence, the proponent for urban warfare doctrine, has published the Army Tactics, Techniques and Procedures (ATTP) 3–06.11, "Combined Arms Operations in Urban Terrain." These tactics, techniques, and procedures are incorporated in unit training events. TRADOC has not developed a requirement for an urban warfare school given that many installations have their own urban warfare training sites. Urban warfare training at these home station sites can be supplemented by training at well-developed existing urban training sites—Mascatatuck at Camp Atterbury, IN; Shughart-Gordon at the Joint Readiness Training Center at Fort Polk, LA; and Tiefort City at the National Training Center Fort Irwin, CA.

With regard to other schools, there are two primary U.S. Army Schools that instruct mountaineering/cold weather related courses; the Northern Warfare Training Center and the U.S. Army Mountain Warfare School. The Army does not have a jungle or desert warfare school. Instead, individual units, based on geographic location and anticipated mission, conduct training in these geographic and climatic regions. For example, the 25th Infantry Division in Hawaii operates a troop school that provides a Jungle Operations Training Course for 25th Infantry Division Soldiers.

2. In 2018 the Army revised its primary doctrine manual ATP 3–06, Urban Operations, and the Army is currently working with the Joint Staff J–7 to revise Joint Publication 3–06, Joint Urban Operations. The Army established, and continues to refine, urban training programs at the Maneuver Center of Excellence, Fort Benning, GA, and also established a leader's dense urban and subterranean orientation course at Fort Hamilton, NY, in coordination with New York City. The Army has determined the collective urban training requirements and plans to further develop urban training facilities based on those requirements at its combat training centers.

Beginning in 2017, the Army developed and designed a comprehensive approach to prepare for future operations; specifically addressed in the Multi-Domain Operations 2028 (MDO 2028) concept. MDO 2028 identified operations in dense urban environments as a major challenge and incorporates essential success factors such

as the need to man, organize, train and equip the force for success in an urban environment.

The Army completed a major study on urban operations in Mosul with recommendations across 31 Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities and Policy (DOTMLPF–P) capabilities to improve urban operations. Army Futures Command identified necessary capabilities and is exploring potential solutions to meet the needs of dense urban operations.

3. Yes. Army Combat Training Centers (CTCs) are able to build on home station training to prepare units for current known operational requirements and for decisive action in major combat operations against contemporary threats. The CTCs constantly examine ways to better prepare forces. For example, CTCs have increased the use of enemy drones, jamming, chemical attacks, unmanned aerial system sorties, indirect fire, and are planning to increase CTC capability to train forces in dense urban terrain. Army CTCs remain ready to adapt to specific requirements of any long-term contingency or named operation by providing mission rehearsal exercises for rotational forces. In the coming decade, the Army will develop operational concepts and training for multi domain operations. The CTCs will need to replicate civilians on the battlefield, dense urban terrain, and other complex terrain as parts of the operational environment (OE). OE factors that must be realistically replicated in CTC training include peer/near-peer opposing force capabilities in cyber, space, deception, electronic warfare, and artificial intelligence threats.

4. The Army, as part of the Joint Force, prepares to conduct land combat operations in any and all operational environments, including dense urban environments. Army training follows Joint and Army doctrine for the conditions of the dense urban environment: Joint Publication 3–06, "Joint Urban Operations"; Army Techniques Publication 3–06, "Urban Operations"; Army Tactics, Techniques and Procedures 3–06.11, "Combined Arms Operations in Urban Terrain"; and Army Techniques Publication ATP 3–06.1, "Multi-Service Tactics, Techniques, and Procedures for Aviation Urban Operations."

Mr. SCOTT. The Air Force has suffered significant severe storm damage at both Tyndall Air Force Base and Offutt Air Force Base.

1. Please explain your supplemental funding needs to repair damage at these bases?

2. What effects do continual delays of disaster funding have on your ability to conduct day to day operations?

3. What are you prepared to do if you do not receive the supplemental funding?

Secretary WILSON. Thank you for your support in helping the Air Force get FY19 supplemental funding. Although already passed, the response to your question is below.

1) After the $200M reprogramming approved by Congress, the Air Force requires $1.1B in FY2019 and $3.9B in FY2020/FY2021 of supplemental funding for Tyndall AFB and Offutt AFB. FY19 immediate needs for Tyndall AFB include approximately $550M in Facilities, Sustainment, Restoration and Modernization (FSRM) & Support and approximately $150M in Military Construction (MILCON) Planning & Design. FY19 immediate needs for Offutt include approximately $120M in FSRM and approximately $234M to replace the damaged RC–135 Simulator.

In FY20, Tyndall needs approximately $893M in FSRM and Support and approximately $2,534M in MILCON; Offutt's FY20 need is approximately $300M in MILCON.

2) Continual delays of disaster funding affects ability to conduct day-to-day operations. On 1 May 2019, the Air Force stopped its Tyndall recovery while limiting aircraft maintenance repairs on 15 May 2019. Projected on 1 July 2019, the Air Force will have to limit recovery for Offutt and will cut flying operations by 1 September 2019.

3) Without supplemental funding now, the Air Force must cut critical facility and readiness requirements, driving Air Force wide operational risks and negatively impacting recovery. These include: a) Stop Facility Repairs Air Force Wide: Defers 61 required facility projects at bases in 18 states across the U.S., impacting airfields and critical base facilities. b) Stop Tyndall Recovery: Stops all new work on Tyndall as of 1 May; delays the return of full base operations, severely impairs flight operations and forces personnel to continue to work in degraded facilities. c) Cut Aircraft Repairs: Curtails aircraft repairs creating various maintenance backlogs. d) Limit Offutt Recovery: Beginning 1 July, defers all Offutt recovery efforts, with the exception of immediate health and safety needs; delays facilities assessment and mitigation efforts, increasing damage from mold and water. e) Cut Flying Operations: Cuts 18,000 training flying hours starting 1 September, slowing our readiness recovery.

Mr. SCOTT. We have had several conversations about the Joint Surveillance Target Attack Radar System (JSTARS) and the Advanced Battle Management System

(ABMS) over the past few years. Now that the decision has been made to maintain the current fleet of JSTARS aircraft through 2034 while the Air Force transitions to ABMS, I am focused on the Air Force's Battle Management and Intelligence, Surveillance, and Reconnaissance (ISR) enterprise. With consistent resourcing shortfalls, the Air Force and the Department of Defense must field capabilities that exceed the current Battle Management-ISR enterprise, while ensuring the men and women at Robins Air Force Base receive all the assistance they need to make a seamless transition.

1. Previously, you have assured me the ABMS mission will remain at Robins Air Force Base as JSTARS phases out. What is the Air Force's plan to begin MILCON for ABMS at Robins Air Force Base?

2. Secretary Wilson, we have also discussed the personnel numbers associated with ABMS and the importance of the Guard component to Robins. When can I expect a final determination on the number of employees, Airmen, and civilians, that will be assigned to ABMS?

Secretary WILSON. The Advanced Battle Management System (ABMS) Analysis of Alternatives (AOA) Team will complete the ABMS AOA by this summer. Once the ABMS AOA is approved later this CY, the AF will begin designing and building the ABMS organizational construct to include required manpower and MILCON for all units and locations that will be part of ABMS.

---

## QUESTION SUBMITTED BY MR. COOK

Mr. COOK. Dr. Esper, I was happy to hear about the Army's commitment to putting APS on all vehicles. What is the Army's schedule to do so on legacy vehicles? I see limited procurement budget devoted to putting APS on either Abrams or Stryker in either FY 20 or the rest of FYDP. I am concerned with this delay in procurement and what it means for having a fully protected and capable Army against peer and near-pear adversaries. You have made significant headway in increasing readiness and ensuring the Army is able to fight tonight, ensuring a greater percentage of ABCTs have APS would seem like part of that strategy.

Secretary ESPER and General MILLEY. The Army remains committed to providing increased protection for our vehicles and their crews. The Army is pursuing Non-Developmental Item-Active Protection Systems (NDI–APS) as an interim solution to protect key combat vehicles in a select number of armored brigade combat teams (ABCTs) as we work towards an integrated Program of Record (POR) solution for all of our combat vehicles. The Army selected Trophy as the NDI–APS solution for the M1A2SEPV2 Abrams tank and will procure a total of four ABCT sets of Trophy. The Army plans to field the first set of Trophy APS in Fiscal Year 2020 (FY20) for the M1A2SEPv2 tanks in one of the pre-positioned ABCT sets in Europe. The Army plans to field the remaining three sets to Continental United States-based units. The Army selected the Iron Fist Light Decoupled (IFLD) system for the Bradley and that system is undergoing Urgent Material Release (UMR) testing now. If successful with UMR testing, the Army will procure and field IFLD for Bradley's in one of the Europe pre-positioned ABCT sets in FY22. The Army tested the Iron Curtain system for the Stryker platform and determined the system was not suitable for use on the Stryker. As a result, we are concluding testing and characterization on two other systems as we seek an effective way ahead for the Stryker platform.

---

## QUESTIONS SUBMITTED BY MR. KIM

Mr. KIM. What is the status of acquisition for the Cyber Persistent Training Environment and how do you coordinate the proposed capabilities and limitations of the Cyber Persistent Training Environment with the Unified Platform that the Air Force is developing?

Secretary ESPER. The Persistent Cyber Training Environment (PCTE) program is on cost and on schedule, and it is currently supporting limited Cyber Mission Forces (CMF) training today, including two large multi-service training events that were conducted in February and March 2019. The PCTE program is executing an agile and streamlined acquisition strategy that delivers platform upgrades every six months—the next upgrade drop is scheduled for Summer 2019. The PCTE program office is engaged in ongoing discussions with the U.S. Air Force's Unified Platform (UP) program office as both platforms mature in support of their separate missions supporting cyber operations. PCTE's mission to improve the training and readiness of the CMF will incorporate either virtually or physically any unique capabilities from UP to ensure the training on PCTE is relevant and realistic.

Mr. KIM. As the acquisition strategy for the Persistent Cyber Training Environment (PCTE) and other programs get executed, the cybersecurity of the mid and lower levels of the Defense Industrial Base (DIB) become critical, as well as the supply chain logistics for the PCTE and other acquisition programs.

How do 2nd, 3rd, and 4th level Defense Industrial Base (DIB) suppliers end up being cyber protected? For example, prime suppliers (e.g. Lockheed and NG) are offered cybersecurity assistance by USG, but not 2nd, 3rd, etc. DIB suppliers.

Secretary ESPER and General MILLEY. The PCTE program office takes cybersecurity very seriously. The hardware hosting the PCTE software training platform is procured using Government contracts that provide appropriate restrictions on suppliers based on Federal Acquisition Regulation and Defense Federal Acquisition Regulation clauses in the contracts. For all acquisition programs, the Army is directly involved with several DOD-led efforts targeted toward shoring up the cybersecurity posture of the Defense Industrial Base (DIB), throughout all tiers of the supply chain.

First, the voluntary DOD DIB Cybersecurity Information Sharing Program, established under 32 Code of Federal Regulations (CFR) Part 236, provides cyber threat information and cybersecurity best practices to DIB participants.

Second, the DOD Protecting Critical Technology Task Force was established to serve as the primary mechanism to bring to bear all of the Department's technology protection efforts. This includes strategically assessing compliance of DFARS 252.204–7012 for all defense contracts and subcontracts containing controlled unclassified information, until a cybersecurity maturity model certification has been established to incentivize improved cybersecurity across the DIB.

Third, the DOD Office of Small Business Programs has recently established cybersecurity training as a component of the DOD Mentor-Protégé Program in accordance with Section 1644 (Assistance for Small Manufacturers in the Defense Industrial Supply Chain and Universities on Matters Relating to Cybersecurity) of the FY19 NDAA. This training is educating the small business manufacturing community about cybersecurity requirements and challenges. Furthermore, the Army is conducting a cybersecurity operations center pilot program intended to provide small and medium-sized companies with cybersecurity assistance including assessments, training, incident response, and mitigation of vulnerabilities.

Mr. KIM. Please tell me about the progress of the cyber Unified Platform, specifically the status of Service Oriented Architecture and Minimum Viable Product.

Secretary WILSON. USCYBERCOM officially accepted Unified Platform's first set of capabilities (previously known as minimum viable product (MVP)) on 9 April 2019, which consisted of ten capabilities that were made immediately available to the Cyber Mission Force. Increment 2, scheduled for July 2019, will integrate Air Force capabilities. In line with NDAA 16 guidance and a Service Oriented Architecture (SOA) approach, UP utilizes an agile development/operations acquisition approach focusing on connecting and integrating existing Service capabilities. These standards strengthen data and information sharing and enhance lethality through full-spectrum cyber effects synchronization. Future increments will provide new and enhanced capabilities to the Cyber Mission Force.

Mr. KIM. How are you coordinating with the other services the future integration of their Cyber Mission Forces with the Unified Platform?

General GOLDFEIN. All Armed Services submit relevant cyber operations requirements to USCYBERCOM's Cyber Requirements Evaluation Board (CREB) board for review, coordination and validation. In addition, all services and other key DOD stakeholders engage in a monthly requirements board which aligns, rationalizes and prioritizes development and delivery efforts for implementation for Unified Platform ensuring applicability to the Cyber Mission Force.

Mr. KIM. In my district I have Joint Base McGuire-Dix-Lakehurst. The Joint Base is the largest employer in my district with over 65,000 direct and indirect jobs. Under my district's New Jersey Air National Guard 108th Wing, I have the 140th Cyber Squadron.

The 140th Cyber Squadron is relatively new in the DOD cyber ecosystem. So far the unit provides one full Cyber Protection Team (CPT) that can support a variety of defensive cyber operations.

What is your vision and strategy to fully utilize Guard and Reserve units in the larger Air Force cyber mission?

General GOLDFEIN. The Air Force is committed to a Total Force integrated approach to resourcing and executing the cyber mission. Some of our most experienced cyberspace operations Airmen reside in the Air Force Reserve and Air National Guard, to include the Airmen of the 140th Cyberspace Operations Squadron. We continuously provide 19 Cyber Protection Teams (CPT), one of which is sourced from the Air National Guard (ANG). New Jersey, along with Maryland, Washington,

Kansas, Texas, California, Pennsylvania, Virginia, Iowa, Michigan, and Idaho, supply member to support that CPT. We currently plan and program ANG mobilizations for 6 months, and these Airmen serve in the same capacity as their Regular counterparts. The National Guard Bureau retains the responsibility of identifying, selecting, and mobilizing the specific ANG unit to fulfill this task. Air Force Reservists contribute to the Total Force cyber mission as Individual Mobilization Augmentees (IMA), often assigned to augment Regular Air Force units, and Traditional Reservists, assigned to Associated Reserve Unit. Reserve units augmenting Air Force Cyber organizations are located in Florida, Nebraska, Texas, Virginia, Georgia, Colorado, Oklahoma, California, Alabama, and Illinois.

Guard, Reserve, and Regular Airmen and their units train to same standard and must maintain the same level of readiness. Thus, finding the proper balance for our Guard and Reserve to utilize their talents and expertise as Citizen Airmen, while maintaining their civilian commitments, is critical. These Airmen are talented and active members of the private sector cyberspace industry, and bring unequaled skills and experience, invaluable to the service of our country. Any transition from great power competition to armed conflict will require Guard and Reserve cyberspace Airmen as an effective counter against our competitors. Our Total Force Cyber Mission cannot be accomplished without sufficient and predicable resources, including funding and legislation, from Congress.

Mr. KIM. What can Congress do to ensure our cyber Guard/Reserve units are being used to their full extent?

General GOLDFEIN. We need to ensure the Reserve Components are sufficiently funded to keep pace with the rapidly changing technology in this evolving mission set. To do so, we need Congress to fully support cyber funding in the FY20 budget.

---

## QUESTIONS SUBMITTED BY MS. HORN

Ms. HORN. Last month we saw a suspension of delivery of the KC–46A, which is an important part of the mobility triad, the next generation of aerial refueling tankers and is the replacement for the KC–135. In addition to the leftover debris and tools found on these newly delivered planes, there are reports of software and hardware issues with the remote vision system on the KC–46.

What is the Air Force doing to ensure we don't see more problems with this platform and to make sure these planes get delivered on schedule; and how will this impact the Airforce Logistics Centers, specifically Tinker?

How long until this remote vision system issue will be addressed and what impact will that have on the long term cost of the contract?

Secretary WILSON. The Air Force takes Foreign Object Debris (FOD) and other quality/workmanship issues on the KC–46 aircraft very seriously. The Air Force has appropriate mechanisms in place and Boeing will be held accountable to the fixed priced contract's specifications in parallel with aircraft acceptance. Regarding the Remote Vision System (RVS), the Air Force and Boeing entered into a legally binding written agreement for the RVS fix at Boeing's expense. Implementation will take 3–4 years. The Air Force does not project additional delays to delivery schedules, or delays to aircraft inductions into Tinker AFB for depot maintenance.

---

## QUESTIONS SUBMITTED BY MS. HOULAHAN

Ms. HOULAHAN. What steps are you taking to ensure cyber issues are robustly covered by the intermediate and senior service military education programs and that graduates understand the information domain is an equal warfighting space? Are you building cyber career tracks to ensure promotion opportunity for both enlisted and officer ranks? Can a 2nd lieutenant entering the cyber workforce feel confident that he can build an exciting 25-plus-year career toward the general officer ranks?

Secretary ESPER. As part of Intermediate Level Education, the Command and General Staff College (CGSC) currently teaches, Introduction to Cyberspace, as part of its core curriculum, providing an overview of what constitutes the cyberspace domain, major military considerations in cyberspace, brief case studies, and the doctrinal foundation of cyberspace operations. The curriculum also includes an introduction to the information joint function and to U.S. Cyber Command as a unified combatant command responsible for cyberspace operations. Select faculty and student SMEs are involved in the development of cyber/information warfare scenarios/products to support and assist in driving cyber considerations for Large Scale Combat Operations in next year's Advanced Operations Course scenario.

The Army War College's School of Strategic Land power for colonels and lieutenant colonels addresses cyber issues within the framework of information as an instrument of national power, as one of five domains of war, and as one of seven joint warfighting functions. Cyber war and cyber power issues are interwoven across required and elective courses, in comparison and in combination with other domains (land, sea, air, and space). Warfighting courses also drive students to consider why information was added as a joint function, how a combatant commander may leverage information, and the integration of operations and information.

In addition to Senior Service College at the Army War College, there are three other venues that align their coursework to cyber interests: the National Defense University's College of Information and Cyberspace; the Senior Service College Fellowship at Carnegie Mellon University's Institute for Politics and Strategy; and the Fellowship at the University of Pittsburgh's School of Computing and Information (Cybersecurity).

At the senior service military education level (General Officer), the information domain and warfighting cyber challenges are robustly covered throughout all general officer education and development in the Army Strategic Education Program suite of courses. Additionally, the Nominative Leaders Course for Command Sergeants Major addresses cyber force development issues and resourcing for cyber capability development within the Army budget/force management lessons.

Yes, the Cyber Corps builds and maintains career tracks that provide healthy viable career paths, ensuring progression and promotion opportunities, for officers, warrant officers, and enlisted Soldiers. Career paths are reviewed and updated annually with input from the various cyber operational units. Career progression is expected to include strategic, operational, and tactical assignments. The Cyber Corps is also instrumental in the Force Design Update and the Command Plan cycles ensuring appropriate ranks and skills are available at each echelon to meet mission requirements as organizations with cyber personnel requirements are created and/or modified. Moreover, the Army's Talent Management Task Force studied cyberspace career fields as a case-study on how to effectively close talent gaps. These findings will be considered to further refine career tracks in cyber, electronic warfare, and information operations, for Soldiers and Army Civilians in the Regular Army, the Army National Guard, and the Army Reserve.

Yes, a 2nd Lieutenant may be assured of a healthy and viable career path through Colonel as a Cyber Officer, with potential for General Officer appointments. Assignments for Cyber Officers are available at the strategic, operational, and tactical levels, which includes Army, Joint, Interagency, Intergovernmental, and Multinational assignment as well as key developmental and broadening opportunities. Additionally, we anticipate future Cyber Corps growth within the force structure, creating exciting positions at various ranks and levels.

Ms. HOULAHAN. If the Army is postponing/cancelling CH–47F Block 2 because you want to use the money for other priorities, how are you going to fund the recapitalization of the Chinook fleet? How does the estimated cost of recapitalization compare with the estimated cost of Block 2 upgrades? How do you plan to sustain the Chinook fleet for the next 20–30 years without Block 2?

Secretary ESPER and General MILLEY. As highlighted during our recent testimony, we led an extensive review of our entire equipping portfolio. This initiative was intended to realign resources into our six Modernization Priorities rather than ask Congress for an unrealistic increase in our budget. During this process, we determined that we had insufficient investment in Future Vertical Lift platforms, to include our Future Attack Reconnaissance Aircraft (our top aviation priority) and Future Long Range Assault Aircraft programs. Given the threats outlined in the National Defense Strategy from strategic competitors such as Russia and China, these are critical requirements needed to meet our aviation reconnaissance capability gap and to replace the aging UH–60 fleet, which has an average age of 15 years.

To address these resourcing shortfalls, we decided to accept risk in our youngest rotary wing fleet, the CH–47F, by halting the Block II upgrade for our conventional forces. The Army analysis of alternatives determined that the CH–47 fleet readiness for combat operations remains sufficient as long as the Army reaches full rate production by Fiscal Year (FY) 2030 to either recapitalize the CH–47F Block I or procure the CH–47F Block II or pursue an entirely new Future Heavy Lift Aircraft (FHLA) that has the range, speed, payload, and survivability need in a future high intensity conflict. Lifecycle costs to recapitalize the current CH–47F is projected at about $30 million (M) per aircraft, compared to about $31M for a remanufactured CH–47F Block II helicopter. The analysis of alternatives determined that the Army must begin procurements of either a Block II remanufactured helicopter or the recapitalization of the Block I by FY28 and reach full-rate production by FY30. The

Army plans to address the decision to remanufacture or recapitalize the CH–47F, or pursue an entirely new FHLA aircraft in future budget cycles.

Ms. HOULAHAN. I understand the Reserve Officers Association wrote to you, Secretary Esper, on March 15, 2019, arguing for the Army to "jumpstart the acquisition of waste management incinerators with the eventual goal of equipping all combatant commands to eliminate the toxic threat posed by burn pits." This letter also indicated that Army Soldier Systems Center, PM Force Sustainment Systems, has evaluated and validated technology for the safe and effective incineration of waste in an expeditionary environment.

What is the status of the Army's evaluation of technologies for the safe disposal of toxic waste in expeditionary environments, and would you support investment in this technology?

Secretary ESPER. The Expeditionary Solid Waste Disposal System (ESWDS) program has successfully completed testing. We supported the technology for this development effort. The Army realigned procurement funding in FY19, however, based on higher Army modernization priorities. As the Army continues to review its investments in modernization, we will continue to consider ESWDS against other priorities based on future operational needs and available funding.The Expeditionary Solid Waste Disposal System (ESWDS) program has successfully completed testing. We supported the technology for this development effort. The Army realigned procurement funding in FY19, however, based on higher Army modernization priorities. As the Army continues to review its investments in modernization, we will continue to consider ESWDS against other priorities based on future operational needs and available funding.

Ms. HOULAHAN. What steps are you taking to ensure cyber issues are robustly covered by the intermediate and senior service military education programs and that graduates understand the information domain is an equal warfighting space?

Secretary WILSON. Air University's intermediate and senior developmental education (IDE and SDE) programs graduate over 700 joint and international officers each year. Both the in-residence and distance learning programs challenge students to think differently about the new realities of conflict and competition in the twenty-first century. The following provides an overview of the educational program elements that ensure Air University's intermediate and senior-level graduates understand the importance of cyber and the information domain.

- Air Command and Staff College (ACSC) Resident Program: The Air Command and Staff College educates and develops air-minded joint leaders. Its rigorous 10-month program offers various courses and lessons where cyber and information domain are the explicit focus of the discussion:
  - –Airpower course: lesson on The Evolution of Cyber Warfare
  - –Warfare Studies course: lessons on Irregular and Hybrid Wars; lesson on Cyber
  - –International Security I course: lesson on International Order, with a focus on Cyberspace
  - –International Security II course: lesson on National Security Decision-making and Regional Security, with specific focus on Resurgent Russia and Hybrid Warfare
  - –Joint Warfare Course: lessons on Joint Operations in the Space and Cyber Domains
  - –Multi-Domain Operational Strategist concentration (MDOS) lessons:
    - Mastery of Domains: Electromagnetic Spectrum
    - Cyber 1, Cyber 2, Cyber 3; taught at Top Secret level
    - Cyber College Joint AWC/ACSC Electives
    - The Utility of Cyberspace as an Instrument of National Power
    - Foundations of Advanced Cyber Thinking & Strategy
- Air War College (AWC) Resident Program: The Air War College educates and develops senior military and civilians joint leaders. Its rigorous 10-month program highlights cyber and the information domain primarily in the Warfighting core course, with specific lessons including:
  - –Future Environment
  - –Future Air Force Programs and Technology
  - –Cyberspace, Today and Tomorrow
  - –Multi-Domain Command and Control
  - –Rapid Global Mobility
  - –Adaptive Domain Control
  - –Joint Airpower in Integrated Air and Missile Defense
- Air University's eSchool of Graduate PME:

ACSC Distance Learning (IDE—On-Line Master's Program): The eSchool's Air Command and Staff College distance learning (DL) intermediate developmental edu-

cation (IDE) program exists to produce a more effective field-grade officer serving in operational-level command and staff positions. The demanding program consists of 10 eight-week courses (six core courses and four concentration courses) with specific focus on cyber and information domain as follows:

–The Airpower Studies course, with eight weeks of facilitated learning, includes core lessons on space and cyber capabilities as force enhancers and critical enablers to traditional airpower missions.

–The Joint Air Operations course is also an eight-week facilitated experience, with numerous lessons focused explicitly on the importance of cyber and information operations. These lessons include Cyberspace Operations (CO); Information Operations (IO) and Cyberspace Operations Relationship; Information and Cyberspace Superiority; Cyberspace and Information Operations Vulnerabilities; Integrating IO and CO at the Operational Level; Strategic approaches to cyberspace based on perspectives from Clausewitz and Sun Tzu; and, JFACCs integration of joint force IO and cyber capabilities in airpower planning and execution

Intermediate Developmental Education—Distance Learning 6.0 (non-degree awarding): In addition to its Master's Degree program, the eSchool of Graduate PME offers a non-degree distance learning (DL) version of intermediate developmental education (IDE). Focused learning on cyberspace and the information domain occurs throughout the DL 6.0 program, with specific lessons embedded in the following courses: Warfare studies, Airpower studies, Applied Warfare (with several specific assignments on synthesizing cyber and information ops into campaign planning), Joint Airpower Operations, and Applied Joint Warfare (with assignments on integrating cyber effects)

Intermediate Developmental Education—Distance Learning 7.0 (forthcoming, non-degree awarding): The next evolution of the eSchool's IDE DL program (DL 7.0) offers an even more explicit focus on cyberspace and information operations. This next version of the course will include threaded student/faculty discussions on these lesson topics, all of which have a strong cyber component, specifically, Contested Domains, Cyber Superiority, Cyber Interdiction, Joint Functions and Cyberspace, and Space and Cyber in Stability Operations

Senior Developmental Education—Distance Learning 18.0: The eSchool's Air War College distance learning (DL) SDE 18.0 program provides a strategic "air-minded" curriculum that prepares graduates to provide strategic leadership, appropriate expertise and critical thinking in support of national security objectives. This senior-level DL course includes:

–15-hour Course on Airpower and National Strategy with focus on integration of air, space and cyber

–45-hour Course on Space and Cyberspace Operations

–3-week facilitated course on Applied Airpower and Security Studies, with focused discussions on: Cyber and space operating environments; AF operating environment in the 21st Century; Developing an effective cyber deterrence strategy; and Waging Cyber War the American Way

---

## QUESTIONS SUBMITTED BY MS. TORRES SMALL

Ms. TORRES SMALL. The New Mexico Air National Guard has an abundance of underutilized facilities and infrastructure coupled with ideal flying weather, ranges, training synergies, and tremendous capacity to grow in terms of manpower. Additionally, Kirtland AFB, due to its full scale services from AF medical facilities to base housing and other support functions is ideally suited for the bed down of the active duty airmen that would be required for an active association. Finally the community of Albuquerque is extremely supportive unlike some states that have received new missions recently. Secretary Wilson, can you tell us if these factors are, in fact, important considerations in the AF basing process and, if they are not, why aren't they?

Secretary WILSON. The Air Force strategic basing process uses a criteria-based analysis, tailored to the specific mission under consideration, to identify locations best suited to support any given mission. The approach takes into consideration well-defined evaluation criteria in the following four categories: mission, capacity, environmental, and cost. The Air Force also applies "best military judgement" to address considerations outside the specific, quantitative criteria. The facility, range and weather characteristics you cited are considered under the mission, capacity, environmental, and cost categories, while a qualitative assessment of community support attributes is considered through the application of best military judgement, where necessary to support a mission.

## QUESTIONS SUBMITTED BY MS. ESCOBAR

Ms. ESCOBAR. Recently, HASC received a request from DOD to reprogram $1 billion in Army personnel funds for fencing—in my district, in El Paso—as well as in Yuma.

Was this fencing a priority the Army identified? What does the Army assess is the military necessity or value of this fencing?

Did OSD relay an assessment of the military value of this fencing to the Army at any time before or after informing you of reprogramming?

Secretary ESPER. DOD determined it was a priority to support the DHS mission on the Southwest Border. DOD has the authority and responsibility to provide upon request certain types of support, such as is being conducted on the Southwest Border, to agencies of the United States for counterdrug activities, including Sections 124 and 284 of Title 10, U.S. Code. In the exercise of this authority, there is no existing requirement to identify an additional military purpose, as the Department of Defense counterdrug mission is clearly established in law.

Ms. ESCOBAR. Fort Bliss is critical to our military's force generation capabilities—getting forces and equipment to a conflict quickly and efficiently when needs arise. As you know, Fort Bliss is one of just two MFGIs in the Army. Our troops are already engaged in snap deployment exercises that improve our readiness, such as some of our 1st Armored Division is currently engaged in Poland.

Knowing that stable investment is critical: Please explain how this budget reflects our modernization needs? Are we on pace to overmatch our near-peer competitors and the scale of investment they have provided?

Secretary ESPER and General MILLEY. Fort Bliss is critical to the Army's current and future readiness. As you know, we are in the midst of transforming one of the existing brigade combat teams into an armor brigade combat team. The Army's Fiscal Year (FY) 2020 budget request provides momentum to achieve the Army's Vision for 2028 of a force that is well organized, trained, and equipped for prompt sustained ground combat against near-peer competitors such as Russia and China. The FY20 base budget request for research, development and acquisition is $34.0 billion. There is an increase in Research, Development, Test and Evaluation programs in the near term to account for the work we are doing to research, design, develop and test new systems. This will flatten out as more funding is invested around the FY22/23 timeframe in order to begin procuring next generation weapons systems and equipment. In terms of the size of defense budgets, a direct comparison of the U.S. budget and that of our adversaries is complex, as our potential adversaries have different missions, different priorities, different values, and different investments in everything ranging from soldier pay to housing.

Ms. ESCOBAR. General Milley, you've repeatedly identified the Army's priorities as 1) Readiness and 2) Modernization.

The committee received the Army's UPL/UFR list. Does each item identified on that list directly contribute to either readiness, or modernization, or both?

Do the fencing projects identified in the DHS RFA directly contribute to readiness. If so, please describe how the projects contribute to readiness.

Do the fencing projects identified in the DHS RFA directly contribute to modernization? If so, please describe how the projects contribute to modernization.

Can you attest that this project in no way adversely affects the Army's readiness? Please explain.

Are there opportunity costs to pursuing these projects? For example, what other requirements were not funded because funds were used to support the DHS RFA?

To you knowledge, why were UFRs not funded ahead of requests from outside departments? Please identify any internal guidance that requires such a prioritization.

General MILLEY. Everything on the unfunded requirements (UFR) list is linked to modernization and readiness. The Army's FY19 budget was sufficient to support Army readiness and modernization requirements. The funds allocated by DOD to the border-fencing projects fall within DOD's purview. The Army returned approximately $1 billion in personnel funds in FY19 to DOD when the Army recognized it would fall short of recruiting goals. DOD utilized these funds according to their priorities. DOD has the authority and responsibility to provide upon request certain types of support to agencies of the United States for counterdrug activities, including Sections 124 and 284 of Title 10, U.S. Code. In the exercise of this authority, there is no existing requirement to identify an additional military purpose, as the Department of Defense counterdrug mission is clearly established in law.

## QUESTION SUBMITTED BY MS. HAALAND

Ms. HAALAND. The Air National Guard enterprise is based on established Capstone Principles that set the framework for aircraft in the 54 States and territories. Specifically, one of those Capstone Principles is to allocate at least one unit-equipped wing and flying squadron to each State. Yet the New Mexico Air National Guard is the only one in the country without an operational flying mission and one of three States—New Mexico, Virginia, and Washington—that lack ownership of aircraft. Please explain what the Air Force is doing to address the lack of a unit-equipped wing and flying squadron in the New Mexico Air National Guard and to address aircraft ownership in New Mexico, Virginia, and Washington.

Secretary WILSON and General GOLDFEIN. While we recognize the value and intent of the ANG's Capstone Principles, our Strategic Basing Process does not give specific priority to states based on their alignment with them. We do, however, work hard to ensure the enterprise we define for each basing action is as inclusive as possible.

The Strategic Basing Process evaluates candidates through a number of important factors (e.g., suitability of existing facilities, capacity to absorb additional mission, location demographics and environmental factors) and all three components are fully represented.

As mission demands evolve and resource constraints remain, the Air Force continues to ensure it leverages the collective talent and experience of the Regular, Guard and Reserve Forces to compete, deter and win.

---

## QUESTIONS SUBMITTED BY MRS. LURIA

Mrs. LURIA. 1. At the end of this fiscal year, what metrics will you use to look back and say the Army accomplished its objectives in line with the five priority missions in the National Defense Strategy?

2. What metrics will you use to look back and say you provided a good return on investment for taxpayers.

3. Can you provide me with the list of all metrics you will use?

Secretary ESPER. The Army staff is currently assessing the best metrics to use. I envision a number of possible metrics nested under four broad objective areas: 1. Measure progress toward building readiness for high-intensity combat in large scale operations, e.g., unit readiness recovery for large scale combat operations. 2. Measure progress toward a more resource-sustainable approach, e.g., speed of key processes (especially acquisition). 3. Measure progress toward modernization for multi-domain operations, e.g., development of priority modernization program efforts (for next generation combat capabilities, including long range precision fires and integrated air and missile defense). 4. Measure progress toward strengthening alliances and partnerships, e.g., fiscal savings from burden sharing with allies and partners, and the level of interoperability with key allies and partners.

Return on investment to the American tax payer is measured by Army readiness levels to meet National Defense Strategy requirements. Once the Army selects metrics, it will leverage the Army Campaign Plan to review and assess progress toward its strategic goals and objectives.

Mrs. LURIA. What percent of global combatant commander requests for brigade combat teams did the Army meet this year?

General MILLEY. The Army met 100 percent of the global combatant commander requests for brigade combat teams.

Mrs. LURIA. 1. At the end of this fiscal year, what metrics will you use to look back and say the Air Force accomplished its objectives in line with the five priority missions in the National Defense Strategy?

2. What metrics will you use to look back and say you provided a good return on investment for taxpayers.

3. Can you provide me with the list of all metrics you will use?

Secretary WILSON. The Air Force uses a complex variety of analytical and assessment tools and metrics to evaluate our ability to achieve the priority missions in the National Defense Strategy. We do comprehensive assessments that show how our investment portfolio aligns to specific NDS strategic guidance and priorities. This not only lets us better articulate our budget priorities but it lets us prepare to better address key future shortfalls.

To help us better understand operational effectiveness in both current and potential future scenarios we evaluate operational performance (lethality) and risk using a variety of tools and metrics, including robust all domain war-games, modeling and simulation, and statistical analysis methods. We assess our ability to execute specific campaign objectives and mission requirements in support of the National De-

fense Strategy, that in turn helps us identify where additional investment may be necessary. As the November 2018 National Defense Strategy Commission recommended in their report, the AF continues to work very hard to "... link objectives to operational concepts to programs and resources."

Mrs. LURIA. Are you familiar with the 2014 Independent Review of the DOD Nuclear Enterprise? That report recommended quarterly meetings with the Secretary of Defense on required corrective actions which the Secretary started in 2014. Are these meeting still occurring? If no, have all of the corrective actions from the two independent reports done in 2014 been corrected?

Secretary WILSON. Yes, the Office of the Secretary of Defense (OSD) and the Services continue to address the list of recommended actions from the 2014 Independent Review of the DOD Nuclear Enterprise. Within the Department, this activity is referred to as the Nuclear Enterprise Review (NER). Overseeing this activity is the Nuclear Deterrence Executive Review Group (NDERG), which is chaired by the Deputy Secretary of Defense and meets twice per year to consider progress on reconciling the 130 recommendations included in the NER. To support this effort and to ensure progress between NDERG meetings, the Department leverages two subordinate level meetings: the Nuclear Deterrence Working Group (NDWG), which meets every two weeks, and the Nuclear Deterrence Senior Oversight Group (NDSOG), which meets quarterly. However, only the NDERG possesses the authority to close NER recommendations and closure is only considered when the owning Service provides data-driven evidence indicating the recommendation has been resolved. In 2014, the NDERG was tracking 130 recommendations as part of the NER. Since that time, 70 have been closed and eight are in the process of closure. Additionally, the NDERG will consider several recommendations for inclusion on an enduring list of metrics that will be continuously monitored by OSD and the Services through assessments, inspections, and the NDERG process.

Mrs. LURIA. 1. In your statement you said the Air Force need is 386 operational squadrons. You also compared this to the height of the Cold War where the Air Force had 401 operational squadrons. Why doesn't the advancement in technology on our airframes today reduce the number of operational squadrons instead of being so near Cold War levels?

2. The Navy's new requirement for ships is about half peak Cold War levels so I am very interested in the data behind this number. We don't have the time here but I would like a separate briefing on exactly how you arrived at that number.

3. What percent of global combatant commander demand for strike aircraft did you meet last year?

4. For tanker aircraft?

General GOLDFEIN. The National Defense Strategy provided the foundation for the Air Force's 386 operational squadrons, which include, among others, space and cyber missions that were absent during the Cold War. We would be happy to provide a CLASSIFIED briefing that provides the detailed analytical foundations for the Air Force's 386 operational squadron requirement.

Advancements in technology have certainly increased our Service capabilities, however foreign governments have also leveraged advancements in commercial and military technologies as well, while at the same time many have increased their national investment in military capability. We have to prepare for the current and anticipated future threats we will face in accordance with the National Defense Strategy priorities.

We would be happy to provide details global combatant commander demand for Fighter/Attack ("strike") and Tanker aircraft over the past year in a classified environment.

○