DEPARTMENT OF DEFENSE ACQUISITION REFORM EFFORTS

HEARING
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COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

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FIRST SESSION

THURSDAY, DECEMBER 7, 2017

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DEPARTMENT OF DEFENSE ACQUISITION REFORM EFFORTS

THURSDAY, DECEMBER 7, 2017

U.S. SENATE
COMMITTEE ON ARMED SERVICES
Washington, DC.

The committee met, pursuant to notice, at 10:00 a.m. in Room SD–G50, Dirksen Senate Office Building, Senator John McCain (chairman) presiding.


OPENING STATEMENT OF SENATOR JOHN M. MCCAIN, CHAIRMAN

Chairman M. C. CAIN. The Senate Armed Services Committee meets today to receive testimony on the Department of Defense acquisition reform efforts.

We welcome our witnesses, Ellen Lord, Under Secretary of Defense for Acquisition, Technology, and Logistics; Mark Esper, Secretary of the Army; Heather Wilson, Secretary of the Air Force; and James Geurts, Assistant Secretary of the Navy for Research, Development, and Acquisition.

Acquisition reform is one of the most important and frustrating topics this committee addresses. For years, we have been warned that America is losing its technological advantage. I hope you all have seen the work by RAND on this topic.

That is why the Department of Defense needs acquisition reform, not just for efficiency or to save money. Simply put, we will not be able to address the threats facing this Nation with the system of organized irresponsibility that the defense acquisition enterprise has become.

I want the witnesses to pay attention here, okay?

We are still dealing with a trillion-dollar F–35 program that continues to operate in dysfunction. The Air Force still subsidizes ULA [United Launch Alliance] for space launch with cost-plus-fixed-fee contracts. The Army has sunk nearly $6.5 billion into Win-T, a network that doesn’t work. And the Navy’s LCS [Littoral Combat Ship] program is delayed. The costs are now $6 billion and rising, and many of the key capabilities remain unproven.

That is why this committee enacted the most sweeping acquisition reforms in a generation through the last two National Defense Authorization Acts [NDAA]. And yet, despite that legislation, and in the face of our eroding military advantage, the Department has been unable or unwilling to change.
While the previous administration offered some rhetoric about reform, this committee was disappointed that we saw no meaningful action. Though I remain deeply concerned about the state of our acquisition system, I am encouraged by the early signs from your team. It appears that you are beginning to make progress.

Let me remind you of our expectations.

First, the Office of the Secretary of Defense [OSD] needs to let the services manage their programs. Congress has returned significant authority to the services, but we will be watching closely to make sure that you do business differently and use that authority wisely.

Second, while we have empowered the services, that doesn’t mean you can go and do whatever you like. The services must let OSD set strategy and policy, and do real oversight. That means being transparent, providing data to and following the guidance set by OSD.

Again, we will be watching. This committee takes its own oversight role seriously, and we will rely on you to keep us informed so that we can do our job.

Third, the system must move faster. Time is of the essence. The work of groups like DIUx [Defense Innovation Unit Experimental], the Strategic Capabilities Office [SCO], and the Rapid Capabilities Office [RCO] should become standard practice, not workarounds to the regular system. We need these innovations for major defense acquisition programs, not just science and technology efforts.

Fourth, you need to be willing to take more risk and be willing to fail when you try new things. We recognize that Congress can make that difficult. Keep us informed of your plans so that we can work together, so that we are not surprised when things do not go exactly as planned. We would rather have a small failure that teaches us something early in the acquisition process than deal with a multibillion-dollar program that becomes “too big to fail.”

Fifth, invest in the acquisition workforce and empower them to succeed. Too often, we hear that acquisition personnel are unfamiliar with or nervous about new authorities.

Finally, reform your organizations and business practices to simplify and move faster. The major changes we have instituted through legislation are intended to give you the opportunity to make more detailed changes in your organizations. This is an opportunity to update your organizational structures and internal processes accordingly.

And along those lines, I would much rather that you try and fail than do nothing, okay? And if you keep in contact with us and tell us what you are trying to do and what you are doing, we will be patient for about 5 minutes.

[Laughter.]

Chairman MCCAIN. And finally, reform your organizations and business practices to simplify and move faster. The major changes we have instituted through legislation are intended to give you the opportunity to make more detailed changes in your organizations. This is an opportunity to update your organizational structures and internal processes accordingly.

Now, if you have reforms and you want to try them, come see us, come talk to us, and we will be glad to cooperate with you. And
do not be afraid to fail, because the only way that we will succeed is to take the risk of a failure.

Congress has provided you with all the tools you require. We expect you, as part of a new administration, to use these tools, unlike your predecessors. As you do so, you will have a willing partner in this committee. Do not hesitate to pick up the phone or come over and see any members of this committee.

We have given our subcommittee chairs a great deal of latitude and a great deal of authority as we go through the decision-making process. Do not hesitate to call any of them, with the exception of Senator Reed.

Senator REED. That is right.

Chairman McCAIN. Finally, we will be glad to hear your requirements and how we can help you do your business better and in a more efficient fashion. We expect you, as part of the new administration, as I said, you will have a willing partner in this committee.

Look, we had a briefing from the RAND study that I think my friend Jack Reed would agree is one of the more disturbing briefings that we have had in the years that I have been a member of this committee. The gap is closing. There is no doubt about it.

So we will be expecting a lot of you, but we are not going to succeed unless we have a partnership here, okay?

Thank you.

Jack?

STATEMENT OF SENATOR JACK REED

Senator REED. Thank you, Mr. Chairman. Thank you for holding this very important hearing, as you have pointed out in your opening remarks.

I want to thank the witnesses also for appearing here today. We look forward to your testimony.

We have a shared goal, to ensure that our military forces are equipped with the best systems and technology that the Department of Defense [DOD] builds and buys, and that those systems are the most effective and efficient ways possible to protect the Nation and protect, particularly, the men and women in our Armed Forces.

We also have a shared goal that the Pentagon should be able to access the most innovative people and technologies available from the best small companies, defense industry, labs, and universities.

Also, we owe it to the taxpayers to ensure that we are buying things at reasonable prices and within reasonable budgets. This hearing will give us a chance to learn how the Department is also working to make those shared goals a reality.

In my view, the services should play a very important role in the research and acquisition programs that provide advanced systems and capabilities to our combatant commanders.

Under Chairman McCain’s leadership, Congress has strengthened the services’ role in the planning, requirements, and program review processes that strongly shape whether our acquisition programs succeed or fail. These new responsibilities are in addition to the role the services have always played in the development of their plans and budgets, ensuring that programs are appropriately
prioritized and funded, especially in difficult budgetary environments.

Finally, the services play a critical part in nurturing the careers of the military and civilian personnel who work in acquisition requirements and budget fields. Too often, we forget about those individuals and the necessity to maintain, enhance, and prolong their effective careers within the Department of Defense.

Building on the successes of the Weapon Systems Acquisition Reform Act and the Pentagon’s Better Buying Power initiatives, and making use particularly of the new reforms in the recent National Defense Authorization Acts, again, led by Chairman McCain, we are seeing some improvements in acquisition processes and outcomes today and are well-positioned to make more improvements. But we must do much, much, much better. And that is why you are here today.

I look forward to seeing how the services plan to use their authorities and live up to their responsibilities to support successful acquisition efforts. I also welcome a discussion of further changes that can be made to strengthen their role, as appropriate, with the hopes of continuing to improve acquisition outcomes and provide the best value and the best military capabilities for the Nation.

Thanks again to the witnesses and the chairman, and I look forward to the testimony.

Thank you, Mr. Chairman.

Chairman McCaIN. I would like to say how much I appreciate the partnership that I have with Senator Reed despite his educational—

Senator REED. Deficiencies.

Chairman McCaIN.—lacking. But we are partners, and the fact that the defense bill was passed through this committee without a single dissenting vote I think is ample testimony to the bipartisanship that characterizes our conduct of this committee, and I am very proud to have Senator Reed as a partner.

So we will begin with the Honorable Ellen Lord, Under Secretary of Defense for Acquisition, Technology, and Logistics.

Secretary Lord?

STATEMENT OF HONORABLE ELLEN M. LORD, UNDER SECRETARY OF DEFENSE FOR ACQUISITION, TECHNOLOGY, AND LOGISTICS

Ms. LORD. Chairman McCain, Ranking Member Reed, distinguished—

Chairman McCaIN. By the way, could I just mention one thing? Depending on what happens here, there is going to be an event at 11:45 on the floor of the Senate, and we may have to recess until that event is completed.

Go ahead, please. Thank you.

Ms. LORD. Thank you for the opportunity to testify today on defense acquisition and reform efforts. I am pleased to be joined by Secretary Esper, Secretary Wilson, and Assistant Secretary Geurts.

After having spent 33 years in industry, I have come to my current position during a unique period in time, one which provides a great opportunity to make a positive change.
First, the National Defense Authorization Acts for fiscal years 2016 and 2017 have provided the direction and the tools for the Department to advance the capabilities required to restore our overmatch, speed the rate at which we field these advanced capabilities, and improve the overall affordability of our fighting forces’ weapon systems.

Secondly, Secretary Mattis has placed a priority on implementing these provisions alongside other Department-wide reforms and practices required to improve the lethality and the readiness of our military. Using an industry analogy, I believe that the OSD should function as a corporate office, very lean, enabling the services as businesses to execute programs they are responsible for.

AT&L [Acquisition, Technology, and Logistics] should be pushing the majority of the Department’s work back to the services and focusing on prototyping and experimentation, developing architectures and standards, interpreting law into policy and procedures, and simplifying acquisition processes to quickly and cost-effectively provide material and services to the warfighter.

Stating it plainly, AT&L needs to be the strategic body, with focus across the board driving affordability and accountability, reducing timelines, and equipping the services to execute their programs.

Given the fact that the DOD, on average, awards daily 1,800 contracts and 36,000 delivery and task orders, every process improvement we make has the potential to produce significant results.

Having reviewed data measuring, the typical lead time following validation of a warfighter requirement until the award of the resulting major weapon systems contract, I have concluded that we have the ability to reduce this procurement lead time by as much as 50 percent. Some of the ways in which we plan to do this are incentivizing contractors to submit responsive proposals in 60 days or less, and implementing electronic Department-wide acquisition streamlining tools.

Furthermore, Congress gave us the ability to conduct 10 pilot programs, permitting the reduction of cost and pricing data for Foreign Military Sales [FMS]. Key to our success would be to have the same flexibility for our U.S. procurements. If we were granted the statutory authority on sole-source procurements, it would allow us to use our judgment to reduce the cost and pricing data we would require when we have cost transparency with the companies with which we do business.

In my testimony, I stated that we have initiated six pilot programs that push the limits of our contracting agility. This is in order to demonstrate our ability to responsibly reduce this procurement lead time.

Chairman McCain. Tell us a couple of those programs.

Ms. Lord. C-130J retrofit kits and the Japanese Global Hawk, so one United States, one Foreign Military Sale.

Our goal is to get these pilot procurements done within 210 days from the issuance of the request for proposal.

Chairman McCain. Two hundred and ten days?

Ms. Lord. Two hundred and ten days is the interim goal. We would like, eventually, to get to 180 days. We have the process to
work down. We are going to work with you and your team to demonstrate how we do it.

And we are going to come back to you as we need additional authorities, if needed. But we believe it is really interpreting the authorities we have now, making sure you agree with them, and having us move forward.

So we are also pre-positioning production contracts to include options for yet-to-be-developed FMS requirements. In other words, in the initial contracts, we have the language, so we can almost fill in the blank for FMS sales. Again, pre-thinking this is going to reduce the timeline and allow us to be very, very responsive to international customers.

Chairman McCain. So you do not need a 100-page RFP [Request for Proposal] for a pistol?

Ms. Lord. Absolutely correct.

On the Joint Strike Fighter [JSF] program, we are determined to reduce the cost of production and sustainment. We have initiated an extensive JSF cost deep dive, led jointly by my office, ATL, and CAPE [Cost Assessment and Program Evaluation].

The purpose of this cost review is to understand in detail at Lockheed Martin, Northrop Grumman, Rolls-Royce, and BAE, as well as their primary subcontractors, and there are 100 of them in total, what JSF costs, why it costs what it costs, and, most importantly, what we can do to improve cost performance at the prime contractor and up and down the supply chain.

This will be a completely transparent process with the companies involved. The knowledge gained will inform our product contract negotiations and all our sustainment efforts on a go-forward basis, and will promote more effective and timely contract negotiations.

Just yesterday, the fiscal year Defense Acquisition Workforce award ceremony was held. Deputy Secretary Shanahan and I recognized the outstanding accomplishments of 27 top DOD acquisition professionals out of a workforce of 165,000.

A few of their accomplishments include: implementing a cutting-edge approach to cybersecurity, testing for aircraft weapon systems, accelerating the testing for defensive systems on AC-130J aircraft by 2 years, getting 3,000 Tactical Combat Casualty Care units to medics and special forces operators, improving cybersecurity for medical facilities, and reducing biological agent decontamination time by 50 percent to accelerate the return of equipment back to the fight.

Out of the 17 individual awards across requirements and acquisition-critical functions, the United States Special Operations Command [SOCOM] received four. Our challenge is to take these pilots, these silos of excellence, and scale them to the big Army, the big Navy, the big Air Force. We are also——

Chairman McCain. And how many F-18s are operational and ready to fly?

Ms. Lord. Not enough. I will defer to my colleague, Mr. Geurts, on that one.

Chairman McCain. Okay.

Ms. Lord. All right.

Chairman McCain. The numbers I recall are 60 percent are not flying.
Ms. LORD. Operational availability across our air asset is an issue. As I talk to each of the service secretaries, it is very clear. There is a lot we can do at the beginning of these programs to design in the sustainment portion, and we are focusing on that. And we will come back and tell you how we are working on it.

Chairman MCCAIN. And let us know who is responsible.

Ms. LORD. Absolutely. I would look forward to a small discussion in your office, and we can talk about the actions we are already taking in terms of accountability with individuals.

Chairman MCCAIN. Thank you.

Ms. LORD. So we are also working to make use of the new rapid hiring flexibilities provided by this committee to bring in world-class talent in areas like robotics, lasers, artificial intelligence, as well as new contracting specialists and test engineers. For example, in 2016, our labs hired nearly 2,000 new scientists and engineers using the hiring authorities Congress provided.

Reforming and improving the Defense Acquisition System to create an agile enterprise is a continuing process requiring close partnership across the Department and with Congress. You have my total commitment to the success of that partnership.

I am looking forward to working closely with the committee and the professional staffers to further implement the initiatives we have already begun. Thank you for your support in this significant effort, and I look forward to answering your questions.
personnel and processes are aligned to ensure that the objectives of the reorganization are met.

As described in detail in the report to Congress, the new USD(R&E) will set the technology strategy for the Department, solve our critical technical warfighting challenges, retire risk and speed the development of our most advanced capabilities through increased prototyping, experimentation, and exploitation of technologies made available through non-traditional sources. The new USD(A&S) will focus on improving the affordability and timely delivery of Defense procurement through the life cycle of our weapon systems, serve as principal advisor to the Secretary and the Services on acquisition policy and its execution, provide a joint, cross-domain view to ensure the integration and interoperability of the Department’s high end capabilities, and guide related investment decisions. Pending the series of Senate confirmations for the principals to be assigned to the new organization, we are on schedule to stand up USD(R&E) and USD(A&S) on February 1, 2018.

This reorganization, the most significant change to Defense Acquisition since the Goldwater-Nichols Act, must be accomplished in stride as we continue to execute the vast array of developmental activities, service contracts, and Major Defense Acquisition Programs that comprise the $300 billion annual investment portfolio that is aligned under the current USD(AT&L) organization. Accordingly, we will be deliberate in ensuring clear accountability as we transition from the current to the future organization.

In advance of formally standing up the new organization, the Department has commenced implementing processes which support the intent of the reorganization within the Department’s fiscal year 2019 budget deliberations. In particular, the Department is shaping its modernization strategy in the future years defense program consistent with the same objectives Congress envisions for the new USD(R&E). We look forward to discussing these modernization initiatives and the accompanying prototyping and experimentation efforts that will speed their development in conjunction with the submission of the fiscal year 2019 budget.

Beyond the reorganization, however, there are significant new authorities and tools provided by Congress aimed at improving the way we do business, which need to be placed into policy and practice across the Department. In total, 139 provisions supporting acquisition reform efforts have been enacted across the fiscal year 2016 and fiscal year 2017 NDAA’s. Of these, the Department’s implementation is nearly 50 percent complete. Across the board, the Department is revising the DOD 5000 Instruction series governing the Defense Acquisition System, issuing new instructions for the acquisition of Business Systems and services, and initiating Defense Federal Acquisition Regulation System cases to codify the new rules, in accordance with governing authorities provided by Congress. Commensurate with these changes, the Defense Acquisition University is updating its instructional materials to ensure the prevailing policies are embedded in the practices of our acquisition leaders and program managers. I have placed priority on working closely with Service Secretaries and their Acquisition Executives to accelerate completing the implementation of these provisions to ensure that the Department reaps the benefits they offer to Defense Acquisition as soon as possible.

An important example is the “Designation of Milestone Decision Authority” provided by section 825 of the Fiscal Year 2016 NDAA, which delegates decision-making from OSD to the Services. I have completed my review of MDA designation for the current 87 Major Defense Acquisition Programs and have issued further delegation such that the Service Acquisition Executives hold authority for 73 of these programs. I will continue to review these programs and work towards further delegation, as appropriate, to meet the objectives of establishing greater accountability and improving the timeline and affordability of our most critical defense programs. I intend to ensure similar progress on the equally important sections 804 and 806 of the same Act, to provide the Services the authorities they need to press forward with their rapid prototyping and fielding initiatives. I look forward to updating the Committee of progress in these areas in the weeks ahead.

Consistent with this emphasis on placing decision authority for major programs in the hands of the leadership that will be accountable for their execution, I have placed priority across the Defense Acquisition System on reducing the time required to award contracts once the requisite funds are authorized and appropriated by Congress. Having reviewed data measuring the typical lead time following validation of a warfighter requirement until awarding the resulting major weapon systems contract, I’ve concluded that we have the ability to reduce this procurement lead time by as much as 50 percent; significantly reducing our costs while accelerating our timelines for fielding major capability. I have initiated six pilot programs that push the limits on our contracting agility to demonstrate our ability to responsibly reduce this procurement lead time with the intent of implementing the lessons learned
As USD(AT&L), one of my top priorities is to improve our competitive posture as we seek to attract, train, and retain talented leaders uniquely skilled in the complex business of defense acquisition. With the help of Congress, the Department has made significant progress in rebuilding the acquisition workforce and invigorating the science and technology workforce. The Defense Acquisition Workforce Development Fund (DAWDF) provided by Congress, and related special hiring authorities for the Science and Technology Reinvention Laboratories, have been particularly critical to the Department’s efforts to rebuild its technical workforce, strengthen early and mid-career year groups, improve certification and education levels, and expand participation in the contribution-based Acquisition Demonstration (AcqDemo) personnel management system. I thank the Committee for making DAWDF permanent and extending AcqDemo until 2023 as part of the Fiscal Year 2018 NDAA, and I’m committed to continue working with the Committee to ensure the success of the AcqDemo initiative with a vision of making AcqDemo permanent in the future.

The nation’s ability to maintain technological superiority and prevail in a sustained conflict is predicated on a robust industrial base. In July 2017 the President directed the Department, in collaboration with other Agencies, to assess and strengthen the manufacturing and Defense industrial base. We are working on this assessment and will share our policy, legislative, regulatory, and investment recommendations to improve the competitiveness of our industrial base, reduce risks to its viability, and to improve the resiliency of our supply chain after full review by the Administration in 2018. Similarly, the Department is assessing reform and expansion of authorities of the Committee on Foreign Investment in the United States (CFIUS) and Foreign Investment Risk Review Modernization Act legislation to protect critical defense technology. We look forward to working with Congress on these and related measures necessary to protect critical defense technologies placed at risk by foreign competition, global business dynamics, and cyber threats.

At the same time, however, Congress has provided broad authorities and tools to expand our sources of supply beyond the traditional defense industrial base to leverage the innovation and competitive potential offered by commercial technologies and small businesses. Though we are yet in the early stages of implementing the range of tools provided for this purpose, I am committed to accelerating their practice throughout the Department and will keep the Committee apprised of our progress with these important initiatives.

Looking ahead, the Department is carefully reviewing the acquisition reform provisions in the Fiscal Year 2018 NDAA that is pending signature by the President. Once enacted, I will move out quickly with the Services to ensure the effective implementation of those provisions affecting the Defense acquisition system. In parallel, we are continuing to work across the Department and alongside what is commonly referred to as the section 809 panel, to identify further opportunities to streamline acquisition regulations. I am meeting regularly with the Service leadership and the panel leaders on these initiatives and look forward to bringing recommendations forward to Congress in 2018 in support of the Fiscal Year 2019 NDAA.

As USD(AT&L) completes its reorganization, we are reforming the Defense Acquisition System to create an agile acquisition enterprise that acquires and fields products and services that provide significant increases in mission capability and operational support in the most cost-efficient, timely manner possible. This reorganization, and the associated reform effort, is a continuing process requiring close part-
nership across the Department, and with the Congress, to refine and improve the Defense acquisition system.

You have my total commitment to the success of that partnership. Thank you for your support in this significant effort. I look forward to answering your questions.

Chairman McCain. Thank you.

Secretary Esper?

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

Mr. Esper. Chairman McCain, Ranking Member Reed, distinguished members of the committee, good morning.

When I appeared before this committee in mid-November, I stated that modernization was a top priority of mine and that ensuring the future readiness of the total force in a high-end fight would be very difficult without fundamental reform of the current acquisition system. In my few weeks as Army Secretary, I am even more convinced that this is true and more aware of the urgency for us to modernize.

I am encouraged, though, by the progress that the Army has made, consistent with congressional direction, to begin overhauling the current system. To be sure, a long road lies ahead, and the challenges are great. But Army leadership with the support and advice of Congress is fully committed to bold reform that promises to provide America's soldiers with the weapons and tools they need to fight and win our Nation's wars as part of the joint force.

This committee is well-aware of the growing challenges our military faces around the world. Rising near-competitors threaten and sometimes challenge America's interests with capabilities that often match and, in a few cases, exceed our own.

In short, our failure to modernize as quickly as possible will most likely increase risk to the force. This makes reform of our Industrial Age acquisition system a strategic imperative.

Together with leaders from the regular Army, Army National Guard and Army Reserve, I am approaching this endeavor through the priorities I outlined previously.

First, taking care of our people: our soldiers, civilian professionals, and their families.

Next, readiness: ensure the Army's ability to deploy, fight, and win across the entire spectrum of conflict, especially the high-end.

Third, modernization: build greater capability and capacity in the longer term to ensure clear overmatch the future.

Finally, reform: improve the way we do business to free up resources, time, money, and manpower that will make the Total Army more lethal, capable, and efficient.

Given these priorities, the Army is currently undertaking five acquisition reform efforts designed to promote unity of effort, unity of command, efficiency, cost-effectiveness, and leader accountability.

First, a three-star level task force is mapping out a new command, Army Futures Command, that will consolidate the service's modernization enterprise under one roof.

Second, the Army is executing eight directives intended to improve our capability and material development process by refining how we generate requirements; simplifying our contracting and
sustainment processes; and evaluating our progress through metrics to enable our ability to deliver capabilities to soldiers faster, among other things. These directives leverage authorities contained in the fiscal year 2016 and fiscal year 2017 NDAs.

Third, the Army has stood up eight cross-functional teams [CFT] to enable our leadership to efficiently identify and manage investments across the Army's six modernization priorities. These cross-functional teams are charged with using technical experimentation and demonstrations to inform prototype development and reduce the requirement process.

Mindful of past failures, the Army's fourth effort is to ensure that technological solutions are mature before we begin a program of record. This includes a threat-based strategy that has aligned 80 percent of the Army's science and technology [S&T] funding requests against our six modernization priorities.

Fifth, we are directly engaging Army senior leadership as decision-makers, as directed in the Fiscal Year 2016 NDAA, through a reinvigorated Army Requirements Oversight Council process.

Underlying these efforts are the other benefits the Army has derived from the recent NDAs. For example, streamlined requirements and processes are being captured in a rewritten Army Regulation 70–1 Army Acquisition Policy.

But there is more that we can and must do. To be effective, we must have predictable, stable, and adequate funding to restore balance and reduce risk.

Ultimately, we are accountable to Congress and the American people. This is why we will continue to work with you and your staffs on the tasks before us. I fully believe you will see marked, clear progress in the coming months. You will see much more unity of effort, unity of command, efficiency, and accountability as we move forward.

However, the ultimate test we will face is on the future battlefield, where we will succeed or fail based on our efforts to reform and modernize today.

Mr. Chairman, I cannot help but be reminded that today is the anniversary of December 7th, when we were caught off guard at Pearl Harbor. And in a few short years, we reenergized the country, industry, the American people to fight and win that war. I think we need to take that same sense of urgency to the challenges we face today as we did in the 1940s.

So with that, we understand the stakes. We have begun to make progress. And we will not fail. Thank you.

[The prepared statement of Mr. Esper follows:]
and advice of Congress, is fully committed to bold reform that promises to provide America’s Soldiers with the weapons and tools they need, when they need them, to fight and win our Nation’s wars.

This committee is well aware of the growing challenges our military faces around the world. Rising near-peer competitors threaten America’s interests. The forces they are building often match, and in a few cases exceed, our own capabilities. And even in the absence of direct conflict with such states, we should expect to encounter their weapons and systems in the hands of others. In short, our failure to modernize as quickly as possible will most likely exacerbate the significant risks the Total Army now faces. This makes reform of our industrial-age Acquisition system a strategic imperative.

As such, together with the rest of the Army’s leadership—Regular Army, Army National Guard, and Army Reserve—I am approaching this endeavor through the priorities I outlined previously:

• First and foremost, People—take care of our Soldiers, civilian professionals, and their families;
• Readiness—ensure the Army’s ability to deploy, fight, and win across the entire spectrum of conflict, especially the high end;
• Modernization—build greater capacity and capabilities in the longer term to ensure clear overmatch in the future;
• Reform—improve the way we do business to free up resources that will make the Total Army more lethal, capable, and efficient.

Given these priorities and the strategic imperative we face, the Army is currently undertaking five acquisition reform efforts designed to promote unity of effort, unity of command, efficiency, cost effectiveness, and leader accountability:

First, a three-star level task force is mapping out a new command—Army Futures Command—that will consolidate the service’s modernization enterprise under one roof. This task force will report directly to the Under Secretary and Vice Chief of Staff of the Army on a weekly basis. Once this new command is stood up, which is currently targeted for the summer of 2018, it will be the most significant organizational change to the Army’s procurement system since 1973.

Second, the Army is executing eight directives intended to improve our capability and material development process by refining how we generate requirements, improving how we educate the acquisition enterprise, simplifying our contracting and sustainment processes, and evaluating our progress through metrics to enable our ability to deliver capabilities to Soldiers faster and more efficiently. Specifically, we intend to reduce the requirements development process from up to 60 months to 12 months or less. This requires Army leadership to be directly involved in making tough choices to divest inefficiencies and reinvest in priorities, which we are committed to doing. All of these directives will help us to implement the many authorities contained in the fiscal year 2016 and fiscal year 2017 NDAAs.

Third, and key to our reform efforts, will be the Army’s eight cross functional teams. These teams have been stood up to enable the Army’s leadership to efficiently identify and manage investment and divestment priorities by assessing them against the Army’s key modernization priorities:

• Long Range Precision Fires—that will increase our reach and ability to acquire targets under adverse conditions.
• Next Generation Combat Vehicles—in manned, unmanned, and optionally-manned variants to give our troops unprecedented freedom of maneuver in many different environments.
• Future Vertical Lift platforms—attack, lift, and reconnaissance airframes that are survivable on the future battlefield.
• An Army Network—hardware, software, and infrastructure that can be used in any environment, including places where the electromagnetic spectrum is denied or degraded.
• Air and Missile Defense Capabilities—that will protect of our forces from air and missile delivered fires, including drones.
• Soldier Lethality—the Army’s most important capability, which aims to improve their abilities to shoot, move, communicate, protect, and sustain.

Each of these cross functional teams is a flat organization made up of subject matter experts from across the requirements, acquisition, and technical communities, and led by a hand-picked officer—a warfighter—who currently reports directly to the Under Secretary and Vice Chief of Staff of the Army. These cross functional teams are charged with using technical experimentation and demonstrations, in conjunction with industry and commercial sector partners, to inform prototype develop-
ment and reduce the requirement process. These prototypes will enable us to learn and make informed resource decisions in less time and with fewer resources.

Mindful of past failures, the Army’s fourth effort is to ensure that technological solutions are mature before we begin a program of record. This includes a threat-based strategy that has aligned eighty percent of the Army’s $2.4 billion science and technology funding profile against our six modernization priorities. Improved science and technology governance, and revised transition agreements with material developers, will ensure that we are judicious with taxpayer dollars. We have completed science and technology reviews that identified programs to divest, enabling us to realign $1.1 billion in science and technology funding toward the Army priorities mentioned above.

Fifth, we are directly engaging Army senior leadership as decision makers for the first four efforts. The Fiscal Year 2016 NDAA provided the Chief of Staff of the Army an enhanced role in the Army Requirements Oversight Council. We have combined that with the Army Systems Acquisition Review Council to expand that oversight and decision-making role to ensure the Chief of Staff of the Army and I concur with program developmental decisions.

Underlying these efforts are the benefits the Army has derived from the fiscal year 2016 and fiscal year 2017 NDAA’s. Streamlined requirements and processes are now captured in a rewritten Army Regulation 70–1: Army Acquisition Policy. Simplified Acquisition Management Plans are reducing the amount of paperwork needed to manage a program and the establishment of a fourth Acquisition Category for programs that spend under $185 million in procurement is enabling faster decisions. These reforms will require predictable, stable, and adequate funding to restore balance and reduce risk. The Defense funding levels under current law, the Budget Control Act and Continuing Resolutions hinder our ability to resource the Total Army over the long term by prohibiting the service from starting new procurement programs and military construction projects. They also prohibit entering into multi-year contracts, increasing production rates, or realigning funds to higher priority requirements.

Ultimately, we are accountable to Congress and the American people. I fully believe you will see marked, clear progress in the coming months. You will also see the Army’s new Futures Command stand up next summer. You will begin to see outputs aligned to our six modernization priorities within three years or less, barring any major funding shortfalls or significant international events. And you will see much more unity of effort, efficiency, and accountability in these early waypoints, and the ones that will follow later.

However, the ultimate test we will face will be on the battlefield, where Regular Army, Army National Guard, and Army Reserve Soldiers will succeed or fail based on our efforts to reform and modernize now. Past ways of thinking, organizing, and executing have limited our ability to keep pace with technological development and our potential adversaries. There is a clear strategic imperative to reform our industrial-age acquisition system and modernize as quickly and efficiently as possible. We understand the stakes, we have begun to make progress, and we will not fail.

Thank you.

Chairman McCain. Thank you, Mr. Secretary.

Secretary Geurts?

STATEMENT OF HONORABLE JAMES F. GEURTS, ASSISTANT SECRETARY OF THE NAVY FOR RESEARCH, DEVELOPMENT, AND ACQUISITION

Mr. Geurts. Mr. Chairman, Ranking Member Reed, and distinguished members of the committee, thank you for the opportunity to appear before you today to discuss acquisition reform efforts, recommendations for further reform, and requests for congressional support to improving acquisition outcomes.

The Department of the Navy has embraced the recent acquisition reforms on multiple fronts. We are actively pursuing initiatives to capitalize on the new mid-tier acquisition authorities provided in fiscal year 2016 and 2017 NDAA’s. We continue to leverage available tools to drive down procurement costs and assist the workforce. We have made meaningful progress to date, and we will continue to be efficient and effective managers of the acquisition re-
form efforts and our resources. Our workforce, in particular, has made progress advancing their professional and technical talents, thanks to your support.

Further meaningful acquisition reform must be assisted by sufficient and predictable funding. Timely budgets, avoiding further C.R.s [continuing resolutions], and amending the Budget Control Act [BCA] to increase funding levels would reduce market uncertainty and improve our ability to maintain schedule and cost across all the Department of Navy acquisition programs.

Sufficient and predictable funding translates into more capability delivered more efficiently, which reduces cycle time and cost, the goals we all share here together.

We appreciate the support of this committee providing the guidance on acquisition policy and reform. Thank you for the opportunity to speak before you today, and I look forward to your questions.

[The prepared statement of Mr. Geurts follows:]

PREPARED STATEMENT BY THE HONORABLE JAMES F. GEURTS

Mr. Chairman, Ranking Member Reed, and distinguished members of the committee, thank you for the opportunity to appear before you today to discuss acquisition reform efforts, recommendations for further reform, and requests for Congressional support to improving acquisition outcomes.

We in the Department of the Navy (DON) succeed in acquisition when we work as part of a team that includes our acquisition workforce, our scientists and engineers, our resource professionals, and our men and women in uniform who identify what we need, and then test, train, and deploy with the resulting systems. That team cannot succeed, however, without the full participation of our industry partners and you in the Congress. No acquisition process can be successful without a true partnership by all stakeholders. And by partnerships I mean shared risk resulting in shared benefits. We must all be good stewards of our resources for the American taxpayers and leverage every tool at our disposal to ensure the continued security of our Nation.

The DON’s priorities focus on people, capabilities, and processes. Those priorities are aimed at delivering readiness, lethality, and modernization, all with a sense of urgency. Recent laws have offered new tools that allow us to streamline how we develop and deliver necessary weapon systems, promote a healthy industrial base, and strengthen our acquisition workforce.

The DON has embraced recent acquisition reform efforts on multiple fronts. For example, we have developed and implemented a new accelerated acquisition policy, which established an Accelerated Acquisition Board chaired by the Service Chiefs and our Service Acquisition Executive. This policy improves our ability to leverage technological innovations by relying on rapid prototyping and fielding and hastens our ability to respond to urgent needs. It establishes two paths; for priority needs where a suitable material solution has been identified, the preferred path is through a Maritime Accelerated Capability Office (MACO) program. Current MACO programs include the unmanned carrier-based tanker (MQ–25), the Large Displacement Unmanned Undersea Vehicle (LDUUV), and the SM–2 Block IIIC active medium range missile, which will field initial capability up to three years earlier than the previous programs of record. For priority needs where a suitable materiel solution is not sufficiently developed, the preferred path is through a Rapid Prototyping, Experimentation and Demonstration (RPED) project. Current RPED projects include the Navy Laser Family of Systems and the Expeditionary Surveillance Towed Array Sensor System.

The Marine Corps has also established a Rapid Capabilities Office (RCO) to exploit emerging technological opportunities for rapid prototype development, fielding, and operational assessment that will improve the lethality and survivability of Marine units. Projects initiated or planned include Ship-to-Shore Maneuver Exploration and Experimentation, Tactical Electro-Magnetic Signature Operations and Support, Long Range Precision Fires, and Unmanned Swarm Systems.
All of these represent exciting new efforts that we are pursuing with vigor, but that also serve as case studies in action that allow us to measure, assess, and refine our approaches to gain even greater efficiency and effectiveness over time.

None of these efforts will result in meaningful and sustainable change unless the people who carry them out are properly trained and incentivized. To that end, the DON has issued and is implementing an Acquisition Workforce Strategic Plan. This plan connects people to the product and mission more directly by aligning professional and technical excellence with capability needs, while reinforcing responsibility and accountability. Our efforts to execute this plan have been enhanced by Congressional extension of the Expedited Hiring Authority (EHA) that streamlines recruiting selection and hiring processes for acquisition professionals, for which we are grateful. We also appreciate your support of the Defense Acquisition Workforce Development Fund (DAWDF), which allows us to provide the appropriate training to our professionals and continue their development.

The DON also continues to leverage available tools to drive down procurement costs, which is imperative as we move towards a 355-ship Navy. We continue to refine our requirements, seek to maximize competition, capitalize on multi-year and block buy contracts, explore cross-program efficiencies, and manage our cost of doing business to ensure we obtain as much warfighting capability out of every dollar as we can. For large and enduring programs, such as the VIRGINIA Class Submarine, the Navy uses these approaches to manage costs and stabilize the industrial base, as well as explore proven strategies such as making appropriate use of block buys and multiyear procurements as we have in the past with various ship types (carriers, subs, etc.) when supported by thorough analysis. These kinds of authorities can result in substantial savings: we estimate they may be as much as $5.4 billion for the Block V VIRGINIA-class Submarines Multi-Year Procurement. Additionally, the DON is developing agile policy and procedures aligned with commercial best practices to support our defense business systems and information technology infrastructure. Lastly an appropriate cloud-based infrastructure will maintain a secure cyber posture, support flexibility and technology software updates, and reduce total ownership costs.

The DON is actively pursuing initiatives to capitalize on the new mid-tier acquisition and acquisition authorities provided in the fiscal year (FY) 2016 and 2017 National Defense Authorization Acts (NDAA). In the first application of the new authorities the DON intends to develop a new increment of capability for the Standard Missile-2 program. In addition, the DON continues to leverage important DOD Laboratory authorities, executing over 1100 initiatives to make impactful improvements in critical technology areas as well as ensure we have the technical expertise we will need in the coming years. Taken as a whole, these new authorities provide the DON many new and important tools which we can tailor to our specific needs. This tailored approach retains the required rigor and oversight but relieves us of the requirement to make every program and project fit into a traditional Major Defense Acquisition Program (MDAP) model, increasing acquisition velocity and reducing fielding times. Through the use of these reforms, we are beginning to move the needle on our priorities and increase the readiness and lethality of our forces. While we have made progress, there is the potential for still more. As is described more fully below, we would welcome further adjustments to milestone decision authorities (MDA), additional expansion of funding mechanisms for rapid prototyping and fielding initiatives that will increase our ability to operate within a budget cycle, and further provide autonomy in DAWDF execution.

The Fiscal Year 2016 NDAA directed program oversight and MDA be returned to the Services to speed decision making, improve efficiency, and ensure greater involvement of the Service Chiefs in acquisition programs. The DON is currently the milestone decision authority for 40 Acquisitions Category (ACAT) 1C MDAPs. Since passage of the Fiscal Year 2016 NDAA, the DON has initiated several new MDAPs, including the future Guided Missile Frigate (FFG(X)) and the MQ-25. In addition, the DON has gained approval to delegate five of the ten current ACAT–1D programs from USD(AT&L) to the Navy. We will continue to work with USD(AT&L) to pursue delegation of the remaining programs under its oversight, in accordance with Congressional intent. Placing the authority and accountability for these programs within the Navy will increase program agility, reduce decision timelines, and better align accountability and responsibility.

The DON is also exploring the value of making greater use of rapid prototyping. We will work with our fellow Services, the Department and the Administration as we consider the utility of current authorities and whether or not refinements to these authorities would be helpful. And while efforts have been made to better support the acquisition workforce, the DON would like greater autonomy in our ability to target the areas of greatest need, develop and implement more efficient acquisi-
tion workforce development programs, reduce administrative burdens, and increase the rate of delivery of resources.

Finally, and most importantly, meaningful acquisition reform will remain elusive until we can obtain sufficient, predictable funding. I cannot overstate how critical this is to our success. Continuing Resolutions (CRs) create tremendous disruption to programs that are vital to readiness—postponing vital work, delaying training and maintenance until the arrival of full funding, and causing tremendous amounts of programmatic and contractual re-work. Additionally, short-term fiscal uncertainty drives long-term industrial base concerns, which translate into higher prices and reduced flexibility. Timely budgets, avoiding further CRs and amending the Budget Control Act to increase funding levels would reduce market uncertainty and improve our ability to maintain schedule and cost across all DON acquisition programs. Resource predictably gives small businesses, second- and third-tier suppliers, non-traditional companies, and major suppliers’ confidence to smartly invest in a skilled workforce, infrastructure improvements, and research and development to inform our future options. All of this translates into more capability delivered more efficiently—which in turn reduces time and cost, the goals all of us share.

We in the DON are appreciative of the interest and efforts this Committee has made to improve Defense acquisition policy, our processes, and the people who conduct this critical work. The new authorities provided in the fiscal year 2016 and fiscal year 2017 NDAAs, the continued support of acquisition workforce development initiatives, and the return of acquisition program oversight to the Services have been important steps towards our common goal of improving acquisition outcomes for the Department. All of these changes are needed for the Navy Marine Corps team to maintain our advantage against our adversaries and deliver the capabilities needed for the future. We appreciate the opportunity to speak before you here today and look forward to your questions on how we might further work together for the good of the Navy and Marine Corps team.

Chairman McCain. Thank you.

Secretary Wilson, welcome.

STATEMENT OF HONORABLE HEATHER A. WILSON,
SECRETARY OF THE AIR FORCE

Ms. Wilson. Mr. Chairman, I would like to put my full statement in the record and just summarize a few key points.

Chairman McCain. Without objection.

Ms. Wilson. Mr. Chairman, I wanted to thank the committee for the authorities that you have given to the services to continue to accelerate procurement and to streamline getting capability to the warfighter more quickly.

The Air Force manages 470 acquisition programs, programs of record. It is about $158 billion, if you add up what we were authorized to spend over a 5-year period.

There are a few things in the legislation that you have given us that I want to update you on where we are.

The first has to do with delegation of authorities back to the services, which was very clear guidance in the Fiscal Year 2016 National Defense Authorization Act. Before that act came into being, 19 of 49 of the largest Air Force programs were actually managed in decision authority kept at the Office of the Secretary of Defense level. So only 39 percent of our programs did we have a decision or authority on.

Chairman McCain. So you see it as an improvement?

Ms. Wilson. Today, I have 76 percent of those programs.

And last week, the Under Secretary delegated eight more programs to the Air Force to manage. One of those was the GPS III follow-on. So last Thursday, Secretary Lord gave us authority to move out on that program. And in the last week, we have moved forward and approved a strategy and put out the request for pro-
posal. Just in that one action, we have saved 3 months on the timeline to acquire that system.

So we are taking advantage of those authorities, but we are also doing the same in the service by pushing authority down to program managers, to the colonels who can run these programs. We have not been changing things above them in the past. They know what they are doing. Let’s support them and let them get after their programs.

The second major change in the defense authorization act was prototyping and experimentation. We have been beginning to take advantage of those new authorities in a couple of ways. The most publicly discussed one is the light attack aircraft [OAX].

You mentioned about the 100-page request for proposal for a 9mm pistol. I think it was actually more than that. It looked like a pretty big stack to me.

This is the letter of invitation and 4-page set of requirements on the light attack aircraft. It was sent on the 8th of March. In less than 5 months, we had four aircraft on the ramp to test at Holloman Air Force Base. And last night, I just got the test report.

So in less than 11 months, with five pages, we have tested four aircraft for a potential light attack aircraft for the United States and allies.

Chairman McCain. What conclusion have you reached?

Ms. Wilson. Senator, I was busy preparing for this hearing and did not read the report last night.

[Laughter.]

Ms. Wilson. But it is not just the light attack aircraft that we are experimenting with. Another very promising one is something we call an adaptive engine. It is intended to get an increase in thrust of about 10 percent with a 25 percent increase in fuel efficiency, and we have two contractors working on that.

It is not a program of record. It is an experiment. But we are trying to mature the technology, refine the requirements, reduce the timelines to get better engines that are more fuel-efficient to the warfighter faster.

So those prototyping and rapid fielding kinds of authorities are, I think, going to pay us big dividends, both in the short term and the long term.

The third thing that your authorities gave us was something called the Other Transaction Authority [OTA], and we are taking advantage of that in a number of our different program areas. It really targets those nontraditional DOD contractors, the small, innovative companies that will not do business with the Department of Defense under normal circumstances, because we are too hard to work with.

An example, Space and Mission Systems just let $100 million contract, an umbrella contract for a consortium of innovative companies, to give us space, ground and communication capabilities, particularly for our space forces. And that consortium is managing things for us under Other Transaction Authority contract. It took us 3 months to put that contract together.

Rome Labs is another one that is using Other Transaction Authority arrangements that you authorized to put together consor-
tiums of companies that are helping us on cyber, intelligence, surveillance, and reconnaissance.

The fourth area that I wanted to highlight for you has to do with people and the emphasis of this committee on both expedited hiring and the professionalization of our workforce. In fiscal year 2016, we used expedited hiring in the Air Force to hire 810 people. In fiscal year 2017, we almost doubled that up to 1,600.

In direct hiring, we are even seeing more effort by the Air Force to take advantage of the authorities that you have given us. In fiscal year 2016, we hired only two people under those direct hiring authorities. In fiscal year 2017, it is 266.

Thank you, also, for the Defense Acquisition Workforce Development Fund [DAWDF]. We are using those funds to enable, empower, educate, and train exceptional acquisition officials to be able to take advantage of the authorities that you have given them to do things differently, faster, and with bringing more capability.

There is much more work to be done, but we are beginning to make some progress. There are areas where we are, frankly, not very good at buying stuff. Software is one real example and is an area of continued focus and extra emphasis by the Air Force.

Not all of this will work. That is why we call them experiments. But if we have productive failures, if we fail fast and learn from it and continue on in different vectors of technology, we have a chance of better meeting the adversary in 2030. And that is what this is all about.

Thank you, Mr. Chairman.

[The prepared statement of Ms. Wilson follows:]

PREPARED STATEMENT BY THE HONORABLE HEATHER WILSON

Thank you to the Committee for holding this hearing. I appreciate your advocacy to improve the defense acquisition system and the additional authorities Congress has provided to the Air Force. These new authorities help us accelerate the Air Force acquisition process in order to support a more lethal force. The Air Force is taking advantage of the new authorities, but there is much more work to be done.

Paramount is the need for budget stability. The most important action the Congress could take would be to lift the sequester in its current form. As this committee knows all too well, sequester did more to damage the Air Force than anything our adversaries have done in the past ten years. Continuing Resolutions and the defense budget caps in current law jeopardize our ability to successfully execute the National Defense Strategy. We trust the Congress under the structure of our Constitution to decide spending levels and appropriate.

The Air Force develops, acquires and sustains everything from satellites and aircraft, to information technology and spare parts. While, in the past 16 years the United States has controlled the pace of conflict, in the future, speed will matter and we may not have control over timing. The Air Force must deliver capability from the lab bench to the warfighter faster than ever, to prevail against rapidly innovating adversaries. Congress has recognized that this requires changes to the ways we develop and acquire systems. In accordance with the intent of this committee, we are assuming more authorities from the Department of Defense and delegating more authority to empowered program managers. We are using new techniques to innovate including rapid prototyping and experimentation. All of these initiatives require a skilled, highly competent acquisition workforce prepared to use the authorities you have given to us.

DELEGATION OF AUTHORITY TO LOWER LEVELS

The Fiscal Year 2016 National Defense Authorization Act directed that after October 1, 2016, the Milestone Decision Authority for programs reaching Milestone A, our first major milestone for an acquisition program, reside with the Service’s Senior Acquisition Executive, unless otherwise designated by the Secretary of Defense.
The acquisition rules divide acquisition into three categories. Acquisition Category I (ACAT I) are the largest programs. ACAT II and ACAT III are smaller.

The Air Force currently manages 470 acquisition programs valued at 158 billion dollars (fiscal years 2016–23) that are in varying stages of research, development and production. Of those, the Air Force has milestone decision authority over 39 of 51 Acquisition Category I (ACAT I) Major Defense Acquisition Programs and Major Automated Information System programs amounting to over 113 billion dollars. This is up from 19 of 49 programs before the Fiscal Year 2016 Defense Authorization Act.

Some of the newly delegated programs are the B–52 Radar Modernization, Protected Tactical Enterprise Service, and the Advanced Pilot Trainer. In addition, this past July the Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)) returned Milestone Decision Authority to the Air Force for some space programs, to include Space Based Infrared System Follow-on, Protected Satellite Communications Services-Aggregated, Mid-Term Polar Satellite Communications, and Military Global Positioning System User Equipment Increment 2. As of 30 November, USD(AT&L) further delegated Defense Enterprise Accounting and Management System Increment 1, Family of Advanced Beyond Line of Sight Terminal, Global Positioning System III, Integrated Strategic Planning and Analysis Network Increments 4 and 5, KC–46, Military GPS User Equipment Increment 1, Three-Dimensional Expeditionary Long-Range Radar This allows us to reach key decision points and field capabilities to the warfighter faster because there are fewer levels of review involved in each decision. We will continue to work with USD(AT&L) for additional delegations of Milestone Decision Authority to the Air Force for other programs which we are well-suited to execute.

While the Office of the Secretary of Defense has delegated significant programs to the Air Force, the Air Force has taken steps to delegate decision authority for ACAT II programs from the Service Acquisition Executive to lower levels, either the Program Executive Officer (PEO) in order to shorten the acquisition timeline to field needed capabilities. PEOs have also delegated ACAT III programs to O–6 level Program Directors where appropriate. See Table 1.

<table>
<thead>
<tr>
<th>Fiscal years 2016–23</th>
<th>Number of programs</th>
<th>Delegated to lower level</th>
<th>Total funding (in then-year)</th>
<th>Average funding per program</th>
</tr>
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<tr>
<td>ACAT I</td>
<td>51</td>
<td>39 (AF)</td>
<td>$113 B</td>
<td>$ 2.2 B</td>
</tr>
<tr>
<td>ACAT II</td>
<td>43</td>
<td>43 (PEO)</td>
<td>$ 19 B</td>
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<tr>
<td>ACAT III</td>
<td>376</td>
<td>274 (Program Directors)</td>
<td>$ 27 B</td>
<td>$ 70 M</td>
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**Table 1. Summary of Milestone Decision Authority Delegation**

**PROTOTYPING AND RAPID FIELDING**

The Fiscal Year 2016 National Defense Authorization Act also authorized rapid prototyping and rapid fielding. Under this authority we are experimenting with innovative and affordable systems before a lengthy requirements process or detailed specifications are developed. An example of this is the Light Attack Experiment successfully conducted this past summer. From a simple letter of invitation from the Chief of Staff, to the day we had four aircraft on the ramp to flight test was less than 5 months. The results of the testing of the aircraft will be delivered to the Chief of Staff and I before the end of December—less than 10 months from the time we decided to do the experiment.

Prototyping is a valuable tool for evaluation of design and performance to help speed transition from the research phase to production. As an example, under this umbrella we are accelerating research and development efforts in hypersonics to meet emerging threats in contested environments. We are also leveraging innovations in advanced manufacturing including 3–D printing.

**DEVELOPING PEOPLE**

Our need for skilled and innovative acquisition professionals to execute these numerous initiatives has never been greater. We greatly appreciate Congress' continued support of the Defense Acquisition Workforce Development Fund and expedited hiring authorities to attract, recruit, hire, develop, and retain a high-quality workforce. While there is important work to be accomplished on speeding the acquisition process and cost effectively delivering capability, our continued focus on talented ac-
acquisition professionals will be the biggest enabler to improving Air Force acquisition overall.

The acquisition enterprise is currently optimized for industrial-age procurement of large weapons systems with extensive requirement development, military specifications and resultant long acquisition timelines. We must shift to align with modern industry practices in order to get cost-effective capabilities from the lab to the warfighter faster. We are changing the culture in the Air Force to focus on innovation, speed and risk acceptance while meeting cost, schedule and performance metrics. But we still have much to do.

Innovation is part of the heritage of the United States Air Force and we must continue to drive innovation to secure our future. We are leveraging our partnerships with industry and academia to apply commercial best practices, talent, and technology. The Air Force is adopting new approaches to ease bureaucracy and rapidly deliver technology to warfighters on time and on budget.

One of our more successful techniques has been to use rapid capability offices to accelerate prototyping for rapid fielding. The rapid capability office operates under a charter with senior level oversight and is compliant with all acquisition rules, but is empowered to take full advantage of the opportunities for rapid acquisition with a smaller team of highly competent people. A rapid procurement process has been developed to extend this streamlined decision-making approach to other parts of the Air Force acquisition enterprise.

There are areas where the Air Force is still struggling to be exceptionally good buyers. Software is one. We need to improve the development and deployment of software-intensive national security and business information technology systems. As we move toward industry practices and standards, the line between development, procurement, and sustainment for software are blurred. Development cycles of 3–5 years or longer do not align with the pace of technological advancement. They contribute to failures in software-intensive programs and cause cost and schedule overruns. We have initiated pathfinder efforts and are working to improve the speed of software development. Likewise, we are continuing efforts with Open Mission Systems architecture, and initiatives with Defense Digital Services, Air Force Digital Services, and Defense Innovation Unit Experimental, in addition to our organic development capabilities, to improve software agility, development, and performance.

This shift toward rapid development, experimentation and prototyping also requires an understanding that not everything we try will work. We need to create an oversight culture within the Department and with the Congress that supports experimentation because it allows failure. Risk-averse cultures inhibit rapid development and innovation. Programs need the ability to experiment first in order to quickly identify and develop capabilities that meet warfighter requirements, and provide program off-ramps to quickly adapt to technology breakthroughs. Failing fast and productive failure that leads to finding a better path toward the future is a virtue.

The Congressional authorities provided to date are producing results. The Services have more authority and accountability in the execution of major programs. There are several areas we continue to explore that could lead to further improvements to the acquisition process:

1. Current law requires us to establish program cost and fielding targets that are approved by the Secretary of Defense or the Deputy Secretary of Defense. We are working with our counterparts within the Office of the Secretary of Defense to determine where such authority would be best located. These targets are already included in annual reports and baselines. (Fiscal Year 2017 NDAA, section 807)

2. Explore funding flexibility to align with more modern software practices.

3. We should weigh the value of requiring contractors to select one bid protest forum and live with the results, and not be permitted to file bid protests at the Court of Federal Claims after losing at the Government Accountability Office. It is vital to prevent lost time, effort, and delays of needed warfighter capabilities.

4. We are exploring ways to streamline our internal processes to eliminate duplication of effort wherever possible. We will also be looking at statutory requirements which may be imposing duplication of effort and look forward to working with the Committee to institute process improvements.

Working with Congress, we can improve our ability to outpace the threat, and deliver capabilities to our Airmen to protect our vital national interests. Once again, thank you for your continued support.

Chairman McCain. Thank you, Madam Secretary.
And I thank the witnesses.

I would like to point out that it was about 3 years ago that we were having a hearing with the service chiefs, and we were looking at the fact that the USS Gerald R. Ford had a $2 billion cost overrun, and I asked the Chief of Naval Operations, who is responsible for a $2 billion cost overrun? You know what the answer was? He did not know. He did not know.

I mean, there is such a thing as accountability. And all of the things that were just covered by the witnesses here, there is no penalty for failure.

Can you tell me one or two individuals that, because of the failure, for example, the $6 billion Future Combat Systems [FCS] that never worked, can you tell me an individual or individuals that paid a penalty for that failure?

Ms. LORD. Senator?

Chairman MCCAIN. Yes?

Ms. LORD. Senator, I would be more than happy to have a meeting in your office and talk about some actions we have taken over the past several months to get at that very issue.

Chairman MCCAIN. What can you illuminate for us as to what—

Ms. LORD. We, as a team, are working very closely together to look at functions and individuals in OSD, and in the services, the duties they are required to perform, and are determining whether or not we have the right people in the right slots. And I do not want to talk about individuals here in a broad forum—

Chairman MCCAIN. Okay.

Ms. LORD.—but would appreciate the opportunity to do that behind closed doors with a smaller group.

Chairman MCCAIN. I thank you, but when I go to a town hall meeting and tell my constituents that we blew $6 billion, and there has not been anyone fired or replaced or a new way of doing things, they are not really very happy.

So we will be glad to hear what you have done and what you plan on doing, but there is no reason why you shouldn’t tell the American people. That is why we have hearings in the Armed Services Committee, okay? So the next time that you come before this committee, and you will, I want to know what you have done, besides say, “We do not know who is responsible.” Okay?

Ms. LORD. Sir, excuse me. I want to be on record. We hold people responsible, and we will talk about that.

Chairman MCCAIN. All right. You hold people responsible. That is our system of government. Who is it that has been fired? Any answer? No.

Mr. ESPER. Senator, I am not aware of anyone being fired for FCS, to your point. We completely agree.

Chairman MCCAIN. All right.

Senator Reed?

Senator REED. Thank you very much, Mr. Chairman.

Following along these lines of accountability, because I think that is probably the most critical principle, one of the practical difficulties is that these programs sometimes stretch over decades. And there are people who change out, retire, who are promoted, et cetera.
So starting with Secretary Lord and going down, any thoughts about how we can have this accountability stretch over many, many years? And as a subset of those questions, on a year-to-year basis, what kind of metrics can we use to make sure we are on track and the individuals will be closely associated with accountability?

So, Secretary Lord?

Ms. LORD. Absolutely.

First, there is an active discussion going on about when we rotate program managers out. It has not always been aligned with critical milestones in the program, and that is somewhat problematic in terms of discontinuity. So we are looking at holding onto program managers through key milestones or key events. I think that is one helpful issue.

Secondly, in the Department, I will speak for myself here, but I know we all talk about this, I, on a monthly basis, roll out the 87 major Defense program metrics. So in other words, we have 87 ACAT [Acquisition Category] I programs that are accountable for about 96 percent of our $1.9 trillion programs of record.

We rack and stack those programs in terms of their performance, not only to the contract itself, but to the needs of the COCOMS [Combatant Commands] down range, because, for instance, you could look at some precision-guided munitions programs that look green, if you will, if you look at the letter of the contract, however, we know we know we have shortages downrange. We know we have COCOMS who are asking for more. So we take that market intelligence, if you will, and factor it in.

We look at the metrics. Where are we in terms of cost? Where are we in terms of delivery? Where are we in terms of quality? We review that, and we roll that all the way up to Secretary Mattis.

Then I spend my time, from an OSD AT&L point of view, on those critical joint programs. So right now, an enormous amount of my time is focused on F-35.

Those are some of the ways we are holding people accountable. In fact, we have what we call war rooms that we have put together. It is very transparent. You all are invited to come see. We have the metrics up on the wall.

In terms of accountability, we have the PEOs [Program Executive Officer] and the program manager names. And they come and report out to us. We flow that information up.

So again, I am taking that lens that I had in industry, and every month, rolling the numbers up and seeing where we are, seeing where we are in delivery time, and where we are in quality, and going back and making sure we have action plans against those.

Senator REED. Thank you.

Secretary Esper, in the remaining time, a brief comment to amplify what Secretary Lord has said?

Mr. ESPER. Yes, sir.

First of all, I completely agree with what she said with regard to aligning the program managers’ tenures with the critical milestones. And there are other things that we should look at doing on the personnel side as well.

I also want to address briefly what you said about the process being so long. Under the concept we are developing with Army Fu-
tures Command with regard to the cross-functional teams, what we envision is, with the unity of effort and unity of command, adopting a process that is enabled by the NDAs where we will prototype, test, learn, fail, prototype, test, learn, fail.

We are looking at reducing a requirements development process that currently runs about 5 years, 60 months, down to 12. And so, if you reduce that time frame, clearly, there would be one person in charge of that effort, the CFT leader.

So that gives you one example of how we are trying to reduce the timelines to ensure accountability.

Senator REED. Secretary Geurts and then Secretary Wilson, I apologize. My time is limited.

Mr. GEURTS. Yes, sir. I agree with both Secretary Esper and Secretary Lord. Tenures are key.

The Navy, we have a gate review process where we, myself, and the CNO [Chief of Naval Operations] or Commandant, we are looking at these programs at milestone, and then we do annual reviews. So that is a key point where we can see where the program is and then assess that program manager or PEO to see if they are delivering, if not, then hold them accountable at that point.

Another key issue Secretary Wilson mentioned, push responsibility down. It is hard to hold somebody accountable when they do not have the authority to actually make the decisions. So pushing that authority down is a key element.

Finally, and probably most importantly, is workforce training and certification, because if we have not done the effort to train them, certify them, and make sure they are capable, then it is hard to hold them accountable. That is our fault, if we have not given them the skills to actually be successful.

Senator REED. Thank you.

Secretary Wilson?

Chairman MCCAIN. Whose fault is it that they are working 100-hour workweeks? Whose responsibility is that?

Mr. GEURTS. Onboard the ships, sir?

Chairman MCCAIN. Onboard the ships.

Mr. GEURTS. Sure. That would be on the CNO side, through the operational command.

Chairman MCCAIN. When I asked the question, they said, well, we are going to do a study on this. A study as to whether our sailors and marines should be working 100-hour workweeks? We need a study to figure that out?

Mr. GEURTS. Sir, I am not familiar of the details of that plan, if I could take a question for you and get back with the exact strategy to get after that question I know you had previously.

Chairman MCCAIN. Thank you.

I am sorry, Jack.

Senator REED. That is quite all right, Mr. Chairman.

Secretary Wilson, if you have any additional comments, we would appreciate it.

Ms. WILSON. No, sir. I think my colleagues covered it.

Senator REED. Thank you very much, and thank you for your service, Secretary.

Thank you.

Chairman MCCAIN. Senator Rounds?
Senator Rounds. Thank you, Mr. Chairman.

Let me begin, Secretary Wilson, you have mentioned the light attack aircraft and where we are moving on that. I want to compare that with the B–21 Raider program, which is also under development at this time, and that program. As you mentioned in your prepared statement, there is a movement in both the OAX and also in the B–21 Raider program.

A recently declassified audit from the Pentagon inspector general praised the B–21 program’s plan for beating cost goals and requirements. I think if this trend continues, the B–21 could one day emerge as a model acquisition program.

Congress and the taxpayers might wonder if we could duplicate all or, in part, a process that has worked well in this particular program for subsequent programs. I know that the chairman had expressed real reservations as to the approach that had been proposed. And I think he has been very interested in the development and the movement forward, in terms of getting this done on time and on contract.

Do you see some similarities between that and the light attack aircraft possibilities? And can we use the process that we have been successful, so far, in developing in the B–21 plan? Is that something that can migrate to other plans, such as light attack aircraft, as well?

Ms. Wilson. Senator, we are actually using different authorities there. We use other transaction authorities or simple authorities or experimentation authorities for light attack. B–21 is more traditional.

The thing that is different is, it is being done by something we call the Rapid Capabilities Office, which kind of has a board of directors of senior people, including myself, AT&L, the acquisition authority. And things move very quickly.

We are actually extending that down and using that charter for the Rapid Capabilities Office to extend that construct to our other procurements. We are going to give this a try. It is a charter for kind of a rapid capabilities process where senior leaders will allow a program manager to identify a program they want to move quickly on, set some parameters, and, instead of having to walk it around the Pentagon to get 20 signatures, they come to a board meeting, they make a presentation, they get a real hard-wire scrub, and then we move.

So we are actually modeling that in the Air Force.

Senator Rounds. Thank you.

Secretary Lord, there was a discussion that I had with my staff in terms of the time frame it takes to get new data or new information, new plans put together. And they used as an example, when we were talking about it, a cell phone, straightforward, off-the-shelf. I can buy it, make a decision on it, put it to use in about a week at the most, to the time that I can use it.

Acquisition time for a new piece of software and hardware combination today through the Pentagon could take as much as 2.5 years to acquire. This is basically out of date after a year to 1.5 years.

My question to you, when you are all said and done, using a piece of hardware and software combination available today in the
general public for, perhaps, purchase within a 1-week or 2-week period of time, what is your goal for getting the acquisition process down from a 2.5-year time period for Pentagon acquisition and issue?

Ms. LORD. Our goal is to look at where we have had successes with DIUx, with SCO—in fact, I have asked and asked Will Roper to be here with me today, because we think that they demonstrated the right kind of behaviors. We are looking at what the Rapid Capabilities Offices have done.

Frankly, as we organize AT&L into A&S [Acquisition & Sustainment] and R&E [Research & Engineering], what we are doing is basically trying to scale the behaviors, the processes, or the lack thereof, that we have seen in these different groups. And it is an issue of scaling——

Senator ROUNDS. I am going to run out of time, but let me just ask one more time. What is the goal, in terms of—is there goal for cutting back acquisition times?

Ms. LORD. Twelve months for major programs.

Senator ROUNDS. From 2.5 years to 12 months?

Ms. LORD. Correct.

Senator ROUNDS. Okay.

Ms. LORD. Now, that is a first step, I just would like to be on record as saying.

Senator ROUNDS. Okay.

Next of all, cloud computing is here to stay. Clearly, the Pentagon has to be able to make decisions about how they acquire capabilities. You currently chair the Cloud Executive Steering Group, or the CESG. Does the membership include warfighter representation from military services, combatant commands, to include Cyber Command, or DISA [Defense Information Systems Agency]? Or if not, why not?

Ms. LORD. We have pulled in all of the services and are talking to them. We put out an RFI [Request for Information] and have gotten 52 responses. Right now, we are working on how we are going to go about that contract. We do not know how we are going to structure it yet.

But absolutely, because what we are looking at is mission focus here, not backroom business systems. And it is all about getting that computing capability out to the edge. We want our warfighting systems to be able to do machine learning, to have artificial intelligence. And until we have all of our data in just a few places, it is going to be very hard to do that.

So frankly, sir, everything I do is about lethality and the warfighter.

Senator ROUNDS. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Shaheen?

Senator SHAHEEN. Thank you, Mr. Chairman.

And thank you all for being here today.

The Defense Federal Acquisition Regulation Supplement [DFARS], as I know all of you know, requires that all DOD contractors, including small businesses, comply with a complex series of cybersecurity requirements by December 31st of this year. Now, I certainly think it is very important for us to address the cyber con-
cerns, and have been banging the drum on that, particularly with respect to Kaspersky software.

But I am concerned, as a member the Small Business Committee in the Senate, as someone who comes from a small-business State, that our small businesses are very important to technological innovation. And I have heard from many of them that they are very concerned that they cannot comply by this deadline, that unlike some of the bigger businesses that work with the Department of Defense, they do not have the support to comply with these complex regulations by this deadline.

Can you tell me how concerned any of you are about this, and whether there are ways in which we can do more to help small businesses comply?

Ms. Lord. I am very, very interested in this topic. In fact, we are concerned about being compliant and worrying about risks. We heard back over a year ago that there was great concern about the difficulty of implementing these requirements, so we went and modified them.

In order to most effectively and efficiently get out to the whole community, especially the small-business community, we used a forum that I have set up where, quarterly, I meet with all the different components, with three industry associations, AIA [Aerospace Industries Association], NDIA [National Defense Industrial Association], and PSC [Professional Services Council]. They all have small-business components, the Professional Services Council, especially.

In our early October meeting, we talked about this very issue, because it was brought up. We said that, clearly, the only requirement for this year is to lay out what your plan is. That can be a very simple plan, and we can help you with that plan. We can give you a template for that plan. And then just report your compliance to it.

So we are trying to reach out very hard through the industry associations to get this word out. I think there may be some old information out there.

Any small company that has any issue can come to us, and we will help them with that.

Senator Shaheen. That is really helpful. Are there guidelines that we can share with the business community in our States to let them know?

Ms. Lord. Absolutely. I will get that to your office. Absolutely.

Senator Shaheen. That would be very much appreciated.

Secretary Geurts, the Virginia-class submarine is one of the more successful acquisition programs. It is delivered on schedule and on budget. Can you talk about what happened in that program early on that has allowed it to be so successful, and whether there are lessons that we can transfer as we are looking at the Columbia-class subs to ensure that they also can deliver on time and on budget?

Mr. Geurts. Yes, Senator.

I am third day on the job, so I was not around that program as it originated in person.

Senator Shaheen. You should know the answer to this, come on. [Laughter.]
Mr. GEURTS. Yes, ma’am.

I would say, looking back on it, though, designing for affordability and then holding a stable design were key traits, having the right government and industry team working together all through all of it. As Secretary Spencer likes to say, shared risk, shared benefit, so a very good working relationship between the government and industry team.

As we look at Columbia, we are taking that philosophy and taking it to the next level. Quite frankly, using any of the common equipment we can across all the submarine fleets, so we do not have to reinvent equipment, and then we can get greater economic order. And then really focusing early on the design for affordability.

Secretary Lord and I had a review yesterday, I think it was. I am very impressed with their thought process, their discipline process of really looking at cost in the design phase, not trying to make it more affordable after it is designed.

I think those are great principles that we will look to continue across the other parts of the Department of the Navy.

Senator SHAHEEN. I appreciate that, and I hope that you will take the lessons that are learned and make sure that they are incorporated into Columbia.

Mr. GEURTS. Absolutely, Senator.

Senator SHAHEEN. To go back to small businesses, as I said, and I know you all know this, that a lot of the technological innovation that we are now adopting in our military come from small businesses.

The SBIR [Small Business Innovation Research] program, the STTR [Small Business Technology Transfer] program, have really been successful. For SBIR, for every dollar spent through the Air Force, $12 was returned. In the Navy, for every dollar, $19 was returned.

So these are programs that really work. Can you elaborate on what more we can do to encourage the use of small business in these programs?

Ms. LORD. I was just speaking with Raj Shah at DIUx a couple of days ago about how we can take the success they have had at DIUx, because they have let over 60 contracts using their Other Transaction Authority to work with small businesses who might not have worked with the Department of Defense otherwise.

I asked him that exact same question. He told me that there are some constraints on some of the SBIR money that doesn’t allow it to flow. I do not have the specifics here, but I would love to come back to you. This answers the question of what else can this committee do to help move along toward incorporating commercial technology and so forth.

I think this is one of the few cases I have seen so far where another authority or taking away some kind of legislation right now might help us, but I would love to come back and give you specific examples.

Chairman McCAIN. Tell us what you need.

Ms. LORD. I will.

Senator SHAHEEN. Yes. Also, if the Small Business Committee also needs to do anything, please, we can move on that as well.

Ms. LORD. Very, very timely. I appreciate it.
Mr. ESPER. Senator, I would add to your point that small business tends to be an engine of innovation. That is something that we have to preserve.

The Army works hard to meet and exceed its annual goals for business, and we do. I think the key thing is, we talked already about the complexity of regulations, something we are working hard to deregulate, to delayer, I would say security clearances are a big challenge for businesses.

Senator SHAHEEN. Absolutely.

Mr. ESPER. We now have over a yearlong process. Complexity, the other thing I would mention—this is preaching to the choir. I mean, clearly with C.R.s and the uneven funding, if you are a small mom-and-pop shop out there, and I am referring to my industry experience, it is hard for them to survive in an uncertain budgetary environment. We risk losing those folks who may, over time, decide that they are going to get out of the defense business and go elsewhere.

So that is a big threat to our supply chains.

Senator SHAHEEN. Thank you.

Chairman MCCAIN. How would you characterize your relationship with Silicon Valley?

Mr. ESPER. Senator, I think from the Army prospective, it is a growing one. I think it is something we need to develop, particularly when we talk about IT [information technology] systems. I think as Senator Rounds pointed out, I think it is a very particular challenge, given the fact that the technology changes so quickly, and now the innovation is happening mostly, if not entirely, in the commercial sector.

So I think it is a relationship we have to continue to build with Silicon Valley and then, broadly, with the commercial sector, and make DOD acquisition more friendly to the commercial sector.

Chairman MCCAIN. The relationship between the CIA [Central Intelligence Agency] and this outfit and DOD is not nearly as progressive.

Ms. LORD. I agree with that. CIA has done some great work, for instance, migrating to the cloud.

To answer your question from my prospective, I am leveraging the Defense Innovation Board [DIB] pretty significantly, and that is how I am tying into Silicon Valley. I have worked on the subject of software, where I think the most opportunity lies for the Department, both from a contracting point of view as well as developing commercial techniques.

So I speak routinely with the Defense Innovation Board about how to do things differently and particularly Eric Schmidt I speak a bit with. I was just on the phone with him on Monday afternoon, asking him specifically what I can do differently to solve some specific issues. And that is helpful.

We also are using our DIUx arm out there to set up roundtables for me to meet with a variety of software companies, because that is where I am focused right now.

Chairman MCCAIN. How long has DIUx been in business?

Ms. LORD. For 2 or 3 years, perhaps. I am going to have to get back to you on the specifics on that. I am not smart enough to know that right now.
Chairman McCain. That is not a lot of progress.
Ms. Lord. I want to build on it.
Chairman McCain. Senator Ernst?
Senator Ernst. Thank you, Mr. Chair.
Thanks to all of you for joining us today.
We had a great forum this last weekend, the Reagan National Defense Forum.
Secretary Lord, I am glad you were there.
Secretary Esper and I sat together on a wonderful, wonderful panel. I think everybody was engaged at one point or another through those discussions.
It was very helpful to see so many people that agreed on some of the challenges that we have, including the C.R.s, as was just mentioned, sequester, our budgeting issues here in Congress.
Secretary Lord, from this past weekend, you had mentioned the need to redirect our investments to meet the demands of a shifting world. I agree with that as well, and we do need to invest in innovation to keep our competitive edge over near-peer adversaries, like China and Russia. That is a topic that Secretary Esper and I were engaged in on our panel.
Can you talk about some of the emerging capabilities the Department of Defense should be investing in, to ensure that we are keeping that technological edge? How do we balance those investments, then, with the need that we have to improve our readiness?
Ms. Lord. What we are trying to do is strike that balance. We were talking about operational availability of aircraft earlier. We obviously need the readiness.
What we are doing is trying to take a very federated system of labs that we have right now right now, between the services, FFRDCs [Federally Funded Research and Development Centers], OSD, and so forth, and align them in terms of modernization.
What do I mean by that? Instead of working on maybe hundreds of projects, we are trying to identify specific technology domains that we agree, across the Department, are critical to really reach the overmatch capability we want to have.
So specifically, what does that mean? Hardened microelectronics, absolutely; hypersonics; then the whole cyber area. Everybody defines cyber a little bit differently, but I am talking about offensive and defensive cyber. Those are three areas where we are committed, and we are looking at aligning our investments to make sure we make a step function change in our capability.
Senator Ernst. Okay, I appreciate that.
Chairman McCain. Do you have a strategy for cyber?
Ms. Lord. What we are doing right now is working on the elements of that, and we would love to come back and talk to you about that in more depth.
As you know, we just stood up Cyber Command we have a whole series of efforts.
Senator Ernst. Yes.
Chairman McCain. We would be very interested, since we have been fooling around with this issue without a strategy for years.
Ms. Lord. Understood.
Senator Ernst. Yes, the Chairman and Senator Rounds have been very passionate about making sure that we are nesting our
capabilities together and understanding who is responsible and in what domain. So very, very important.

And, Secretary Lord, as well, I have heard just recent reports that this Distributed Common Ground System, or DCGS-SOF, the software that aggregates intelligence data for our special operators, is problematic. It is ineffective, is what I have heard from some of those operators.

I also understand there are a number of commercial solutions that may be better and immediately available, and in some cases, they are already in use.

At what point does the Department then decide to simply cut its losses and move away from a program that they feel is ineffective?

Ms. LORD. I do not want to comment too specifically about DCGS, because when I was at Textron, we did have one of those contracts. But I will vector over to an Air Force program to answer the same type of question.

We feel strongly when the environmental conditions and our adversaries have changed rapidly, and we no longer believe that programs that we are pursuing can achieve the lethality that we wish, then we will talk about potentially terminating programs.

In fact, General Holmes and I were just here talking to HAC—D [House Appropriations Committee—Defense] last week about JSTARS's [Joint Surveillance Target Attack Radar System] recap. That is a perfect example of where, given the contested environments in which we are fighting, we are thinking that perhaps there might be better ways to get sensors to work closer to the adversary.

So that is an example of where we came up and said, we are strongly considering and want you to understand this is our thought process. We want you to be thought partners with us, and these are all the reasons.

It was a secret hearing, so I cannot get into too many details. But that is an example of where we are looking at the current state of events, our current capability, a current program, and what we now know about other ways to achieve the end objectives we were trying to initially address.

Senator ERNST. Okay, so multiple factors involved in that decision-making process, dollars, capabilities, overmatch.

Ms. LORD. Absolutely, and it is one that is not taken lightly. All of the different equities within the building are considered before we come and take the time of Congress to say this is a serious concern of ours.

Senator ERNST. Okay, thank you very much.

Chairman MCCAIN. How long have we been spending money on JSTARS?

Ms. LORD. Several years.

Chairman MCCAIN. Several years.

Ms. LORD. For the recap.

Senator ERNST. Thank you, Mr. Chair.

Chairman MCCAIN. Do you have an idea of how much we have spent?

Ms. LORD. I do not have it here today, but I certainly could get that. Yes, we do know.

Chairman MCCAIN. In the billions?
Ms. LORD. On the recap, I do not believe it is in the billions, but I shouldn’t speak without the data in front of me. We will get back to you.

Chairman MCCAIN. Senator Warren?

Senator Warren?

Senator WARREN. Thank you, Mr. Chairman.

Thank you to our witnesses for being here today on this important topic.

I previously asked each one of you if you would make research a priority in your work. You have all said yes, so I am going to start with a really simple question. Are you still committed to prioritizing basic and applied research? Will this commitment be reflected in the fiscal year 2019 budget? I am willing to take really short answers, like yes.

Secretary Lord?

Ms. LORD. Yes.

Senator WARREN. We’ve got this.

Secretary Esper?

Mr. ESPER. Yes, Senator.

Mr. GEURTS. Yes, Senator.

Ms. WILSON. Yes.

Senator WARREN. Good.

So I have another question. In an effort to emphasize the importance of R&D [Research and Development], and in recognition of the span of responsibilities at AT&L, that they were so big, that, last year, this committee directed that the position that Ms. Lord now holds be split into two separate positions, one that focused on research and engineering, and the other that focused on acquisition and sustainment. And I know you are all working hard to try to implement that.

I think having a senior leader focused on future technology is incredibly important. I support that. But one of the real problems in our system right now is that we struggle to convert promising new technologies in the lab into the field, and the gap from the lab to the field is sometimes known as the Valley of Death. I am worried that splitting oversight of R&D from acquisition is going to make this problem even worse.

So let me start with you, Ms. Lord. After the split, how will the Department ensure that our research and development program stays closely linked with the Department’s acquisition requirements, and that promising technologies are actually nurtured and incorporated into our programs of record?

Ms. LORD. This is something we are working on right now. In fact, I have had conversations, and I am meeting with staffers next week to go over what our preliminary plans look like, to have them be thought partners with us.

But, quite simply, what we are trying to do is push the risk into the research and engineering side with a lot of prototyping and experimentation, so that there are many, many iterations in order to understand the capabilities of new systems and the cost of new systems before pushing them over to the A&S side.

Senator WARREN. So you are just saying, get it further along while it is still in the research bucket?
Ms. LORD. That is one piece of it. A second piece of it is, we are working on streamlined acquisition processes, where you basically have a flow chart, and you use the simplest methodology possible to get things on contract, so that we are not held up in this do-loop of you want to do something, but you cannot get it on contract.

Senator WARREN. Right.

Ms. LORD. And these Other Transaction Authorities are particularly germane here, because they have helped us.

Thirdly, we are going to have some common resources between R&E and A&S, so it is not as if we have people that are either 100 percent R&E or 100 percent A&S. We will have a lot of those, but we are going to have some shared resources that span that gap that allow one group to understand what the other group is doing. This cannot be personality-dependent. It needs to be sustainable, as we all move on.

So we are going to actually be prototyping and experimenting over 2 years to make sure we get that right. The construct I have right now, and I will be coming back to brief all of you on this, is we are going to do a 2-year, 8-quarter, transition. We have a model for what we are going to do. And we are going to tell everyone what that is, and we will begin moving toward that model.

But we are not being rigid about it. We are experimenting and seeing what works.

We are also making sure we get a lot of brains around the table to talk about all the what ifs.

Senator WARREN. Good. I really appreciate it. I appreciate the thought you are putting into this. We do not want to lose at that space.

Secretary Esper, would you like to add to that? We are low on time.

Mr. ESPER. Yes, Senator. You ask a very good question.

I would just say, briefly, that the Army has begun a process of realigning its S&T investments toward our six priority areas. So for fiscal year 2019 to 2023, we have already realigned over $1.13 billion toward S&T along our priorities.

The way we are also doing that is, as the cross-functional teams are stood up, and they are responsible for their specific capability areas, with S&T now aligned to that specific capability area, we are actually issued a directive that would require standardized written agreements about what is expected to be delivered from the S&T community to hand off to the actual CFT leader to begin the acquisition process.

Senator WARREN. Okay.

Mr. ESPER. We are trying to do exactly what I think you were saying.

Senator WARREN. I am out of time, so I am going to ask the other two of you to answer this in questions for the record, so we can get it in writing.

But I just want to say, we have to get better at this. Anything that has a name of the “Valley of Death” is not good, in terms of acquisition of new, cutting-edge technology. We can do all the terrific research in the world, but if we cannot translate that into something that helps our warfighters, then we have failed at our essential mission.
Except for the Clemson football stadium. That is known as the Valley of Death.

[Laughter.]

Not to me.

All right, thank you.

What does Maine have to do with that?

All right, thank you.

What does Maine have to do with anything?

Senator Perdue? Thank you, Mr. Chair. Let’s bring this back to this topic here.

First of all, thank you. I am so encouraged to hear the conversation today. I heard the word “crisis” mentioned twice. I have heard “sense of urgency” mentioned several times. As an ex-business guy and seeing this crisis, I am terribly encouraged by what you all are doing.

I have met you, and we have had private conversation. Secretary Wilson, yesterday, was so gracious with her time, talking about a major Air Force base and major piece of technology.

I want to talk about something a little different.

Secretary Esper, you mentioned first in your opening comment, in 1941, we built up not in years, in months, literally. We had things coming off the production lines literally in months, because we broke through everything, because we considered it a crisis. But in 1949, just 3 years after we demilitarized after World War II, we were right back in the same position. That war was a little different.

But today, we find ourselves—I do not have time for describing the crisis. But after 30 years of disinvestment and only one major recap, and after 16 years of active combat, I believe we have a crisis. The global situation is more dangerous than it has ever been. We have a debt crisis here. We have a near-rival that is now going to be a full rival that is actually spending more money than we are in real terms, adjusted for purchasing power parity.

General Mattis says that there are three phases to solve this problem, and you have each spoken about it in different ways. There is a 3-year term of readiness. We have to get readiness recovered. There is a 15- to 25-year plan for new technology and recap, and the full bloom of U.S. innovation and technology, with regard to providing for national security.

At the same time, China is coming online. It is not going to take 15 years before a lot of their new technology is hitting. They have leapfrogged major areas of restrictions. They are bringing product online much cheaper than we do, much quicker than we do, and with far less restriction and government intervention.

I am worried about the shoulder season from year 3 to year 12. And I would like, I think, Secretary Lord, if you will start with this, I am really concerned about how we find quick, low-cost solutions for the battlefield.

I would like the combatant commander representatives of Army, Navy, and Air Force to comment on this as well, because I am very concerned that we have our eyes out here. We are looking at where the money is needed, and yet these high-cost solutions, flying F-35s into battlespace where an A-29 might be okay—I am not saying we are doing that, but those types of examples.
JSTARS, you mentioned JSTARS just a minute ago, great long-term capability. We have a dying platform right now. Technology, the battlespaces are changing. That interim period, that is a perfect example of where I do not, personally, see the Air Force, or anybody else, really, moving toward that interim solution in a way that gives me comfort with a low-cost, current technology platform that is better than what we have, more cost-effective than what we have, but doesn't get in the way and take money away from long-term development.

Would you address that?

Ms. LORD. Two-part answer to the question.

One, I would really like to come back and in a different setting, in a classified setting—

Senator PERDUE. That is fair.

Ms. LORD. —talk to you about some of the programs going on.

Senator PERDUE. I look forward to that.

Ms. LORD. But secondly, what you are talking about is exactly what DIUx, SCO, and the Rapid Capabilities Office are doing. We should come back and tell you about some of those successes.

What we have to figure out how to do is scale that, and right now, we have not scaled it.

Probably the best meeting I go to in the Pentagon is something called the Warfighter Senior Integration Group where we sit down every 2 weeks, and we have on VTC Afghanistan every 2 weeks, and then the other 2 weeks, Iraq. And we talk to the warfighter about what is going on today and what they need in terms of rapid capabilities.

This is what has spun out an enormous amount of counter-UAS [unmanned aircraft system] equipment, and that has been fast. JIDO [Joint Improvised-Threat Defeat Organization] has come up with that.

So we can do this, but we do it on a small scale. That is what this reorg is all about, in my mind. It is getting away from the 5000 process, other than very complex areas where we might need some of that. But just use the little bit of process we need to get stuff out the door.

Senator PERDUE. So, Secretary Esper, would you comment?

I am out of time. I would love to hear from all of you, but I would love to have all of you respond to that question after the hearing.

Mr. ESPER. Yes, sir, because it is a great question. I would just connect a couple dots from the historical example.

Senator PERDUE. Please.

Mr. ESPER. The key here is changing culture.

Chairman MCCAIN. Witnesses will be allowed to respond.

Senator PERDUE. Thank you.

Mr. ESPER. Senator, the key is changing culture. At the end of the day, we have to change the culture. That is what came out of the 2011 Decker-Wagner acquisition reform report. That is the most crucial element.

The way the Army is getting at this is standing up the Army Futures Command to do just that. Take an approach that says, let's not make the perfect the enemy of the better. Let's prototype, demonstrate, learn. Let's fail early. Let's fail cheaply. And let's go with the 80 percent solution. Get something fielded.
The view is, if we can stand up the organization to command quickly, get that unity of effort and unity of command, get some early wins under our belt, we can start changing the culture, so that we are ready, position, posture to begin looking simultaneously at those mid- and far-term threats that you described.

Chairman McCAIN. And how long have we been fooling around with Future Combat Systems?

Mr. ESPER. Thank goodness, it is in our rearview mirror now, Mr. Chairman.

Mr. GEURTS. Senator, in the Navy, we are taking an approach with an agile acquisition office. And that whole acquisition process, which I co-chair—there is a board. I co-chair with the CNO or the Commandant. And that is really looking at that sweet spot of something that we know that is out there that we can either accelerate up quickly to give us a bridge, or there is a problem that we need a solution for. We cannot for wait for business as usual.

We are seeing about a 3-year acceleration for the projects we are getting through those programs, unmanned aerial refueler on the carriers, one of them, total array on some of the high-speed vessels we are doing.

Again, we should have a menu of options. Some need to be rapid, exactly what we have today, buy as sold commercially, get them in the field tonight, like I used to do at SOCOM. Some need to be build-to-carrier, very deliberate. You want to make sure you get it right, because it is going to be around for 40 years. And then there is a sweet spot. Quite frankly, your committee’s authorities and 804 and some of these rapid prototyping abbreviated acquisitions really gets at that sweet spot. That is what we have been missing.

And so you have given us the authorities. We now have to go implement those. We think all of us are in the emerging stages of that, and I think in the next 2 or 3 years, that is really going to get at that shoulder thing that, yes, we cannot wait for 15 years for something that is going to happen 5 years from now.

Ms. WILSON. Senator, for the Air Force, we look 5 to 15 years. And you are right, the technical risk in the shoulder season is something that all of us are worried about along all of our programs, particularly those that are new ways of doing business. And I know you and I have a scheduled classified session to go through some of those that are a high priority for you.

Senator PERDUE. Thank you, all.

Mr. Chairman, thank you for your courtesy. And to the ranking member, thank you.

I would think it would be very important if we could have this similar conversation and follow-up meeting in a classified environment at your discretion. Thank you.

Chairman McCAIN. I think it is something we ought to pursue.

Senator Donnelly?

Senator DONELLY. Thank you, Mr. Chairman.

Thank you to the witnesses.

Secretary Wilson, I want to thank you and your staff for a unique level of prompt and clear communication since your confirmation. We have been able to work together on some important issues to improve the readiness of our forces and the lives our airmen and their families.
One of the challenges will be the readiness of the A–10 fleet. If the Air Force intends to maintain the current A–10 fleet for the foreseeable future, I am concerned about the shortfall in funding for new wings. One-third of the A–10 fleet, more than 100 aircraft, still need new wings, and the Air Force will be forced to ground some of these next year because their current wings have reached the end of their service life.

I understand the many, many challenges the Air Force is up against right now, but this, obviously, has a very real impact. What do you see as the Air Force’s options on this issue, taking into account budgetary challenges, readiness requirements, and our timelines?

Ms. WILSON. Senator, thank you for the question.

The defense authorization bill that the Senate passed and the House passed, and the House Appropriations mark, add money into the Air Force budget to retool and open a line for wings. It was not in our budget. I know the Senate Appropriations Committee is working on that now.

If that comes through, we will execute that and get that line started back up so that we can re-wing. I think the amount would be the tooling and the first four or five sets of wings for the A–10.

You are right. We are always managing how we move to new platforms. At the same time, we try to maintain capability and cover missions with existing fantastic platforms. And I happen to be kind of a fan of the A–10 myself.

Senator DONNELLY. Thank you.

Secretary Lord, I appreciate the hard work you are putting into getting our acquisition systems running more efficiently. It is really important to get it right, as you well know. We have discussed hypersonic systems in the past. I would like to revisit that today.

Conventional Prompt Strike, or CPS, is Defense’s most advanced hypersonic development effort. Testifying to this committee earlier this year, STRATCOM [Strategic Command] Commander General Hyten advocated for fielding a CPS capability by the mid-2020s.

I believe the Navy has a vital role to play in fielding CPS. Do you see that as a priority for the Department? And if so, why?

Ms. LORD. Yes, I see it as a priority. In fact, there are two key programs going on right now, one at DARPA [Defense Advanced Research Projects Agency] and one within OSD that are moving along. So I would be more than happy to come and have the technical lead brief you on those.

Senator DONNELLY. I was going to say, if you could provide us with an update on where you are with this effort?

Ms. WILSON. Yes. Senator, can I just add one thing to that?

Senator DONNELLY. Sure, absolutely.

Ms. WILSON. On hypersonics, there are two demonstrators where the Air Force, and I believe the Navy as well, are working with DARPA. And it is a prototyping experimentation effort. We are using the authorities that you all gave us for experimentation and testing. So we did not wait for extensive requirements kind of things. We are moving forward on an experiment for hypersonics, and it was through the authorities you gave us.

Senator DONNELLY. Thank you.
Secretary Geurts, I want to ask you about the role our Defense labs play in the acquisition process. I have spent a lot of time at the Crane Navy lab in Indiana. I have been struck by how integrated they are in not only innovating new capabilities to meet Navy requirements, but testing and evaluating and verifying systems developed for the Navy by private industry throughout the acquisition process.

I would love to get your view of Defense labs as a vital player in the acquisition system.

Mr. GEURTS. Yes, Senator. I think, in coming to the Navy, I am really impressed with their warfare centers and their labs and how well they are tied. I think having an organic capability, especially as we have this rise of commercial technology and commercial products, that organic capability to take them, test them quickly, perhaps integrate them in a different way than would be done commercially, is a critical piece for us.

Back from my SOCOM days, Navy Dahlgren does all the software for our gunships. That is all written organically. That gave us great flexibility in the Special Operations Command to change requirements on the battlefields.

So I think it is an absolutely critical piece. I think it is a key in us getting through the Valley of Death, because they can help mature an immature commercial product from a small business, work with them, and then get it so it is in a fieldable or close to fieldable condition for us to then put into the field.

Senator DONNELLY. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Tillis?

Senator TILLIS. Thank you, Mr. Chairman. Mr. Chairman, you know anytime we have a committee talk about acquisition, I have to bring out my favorite prop and remind everybody of the actual pages. Almost 700 pages, 10 years to define a handgun, next-generation handgun. I just found out with the update, good news is we have down selected. We have a manufacturer. Ten years from now, all the Army units will actually have this gun, 20 years after it was conceived by the Air Force.

First off, I thank you all for your service. Welcome.

[Laughter.]

Senator TILLIS. But we know there is no logical basis for something like this, for something as straightforward as a handgun, a 20-year process from concept to full deployment within the Army.

I do not even know what it means for the whole of DOD, but within the Army.

So Senator McCain in his opening comments said, with the exception of Senator Reed, he would like for you to talk with all of us. I think that is what he said.

But in all seriousness, as somebody who has worked in procurement, as somebody who has worked in strategic sourcing and acquisition, if I were going into an organization to be retained to fix their acquisition process, I would probably be firing quite a few people.

Now, we operate a little bit differently here because you have constraints that are placed on you by Congress, so we probably
need to shine a mirror on us and fix some of the constraints. But shine light on that. Come to people like me and others who are passionate about this issue.

The chair has empowered the subcommittees to look at this. Get us on a fast track for providing you with relief, and get on a fast track for removing some of the constraints that you have placed on yourself.

I would just like you to respond to that in the remaining time.

Mr. ESPER. Senator, if I may, since the handgun was an Army system, let me give you some good news. The handgun was actually fielded last week at my old unit, the 101st Airborne Division. That fielding has begun.

I would note, since I saw him yesterday, that your colleague, Senator Tom Cotton, actually qualified on the weapon and was very pleased with it. The troops been very happy with what we fielded.

I would also note, because it is important to what you are saying, after the years of going through that extended process, the Chief of Staff of the Army, General Milley, took to heart what Congress said, used the legislation that was contained in the NDAA—we had stood up about 20 months ago or so, the reinvigorated Army Requirements Oversight Council.

So he took that case what you are talking about, refined the requirements process. Eighteen months later, we got to the point that we were delivering weapons.

We have managed to turn a bad news story, I think, into a good news story. I think that type of process, leveraging the authorities we got from Congress, is the basis for which the Army is heading with regard to Futures Command and all the changes we plan on making to improve the acquisition process and make sure that we do not see that again.

Mr. GEURTS. Sir, from the Navy’s perspective, you guys have been very helpful. We have been doing some piloting of reducing the number of critical performance parameters. You gave us authority to try one where we only had two critical performance parameters. That simplified the solicitation. Then we can work with industry. Again, getting to Secretary Wilson a much shorter requirement, it gave us a much broader look. That saved years from us going through the normal, traditional piece.

So the authorities you give us, again, help us try and drive that change, because, ultimately, we have to get the workforce training and get the culture shifted from what has been to what needs to be.

Senator TILLIS. As Secretaries Wilson and Lord respond, we have to keep in mind about the cumulative cost of this. We have to take a look at, when you have to participate in a procurement for 10 years how much cost you are building into the industrial base that we ultimately pay for. So I also want to make sure that I am getting a commitment from you all to come up with specific actions that we need to take to accelerate the process.

Secretary Wilson?

Then we will finish with Secretary Lord.

Ms. WILSON. Senator, I think you were out of the room when I did my opening statement, and I need to get a red ribbon, but this
is the letter of invitation, and there is a four-page document for the light attack experiment. It fits nicely in a very slim briefcase.

Senator TILLIS. You get a blue ribbon for that one.

Ms. WILSON. I will put the blue ribbon on this for and provide you a copy. But the final report, we tested four aircraft, and a final report arrived last night with me, so it is less than 11 months from a letter of invitation to the final report on testing, and we will make a step from there.

"What else can Congress do to be helpful?" You often ask that. I do have some suggestions for you, but maybe I will just provide those in answers to questions.

Senator TILLIS. Thank you.

Ms. LORD. We are coming up with methodologies to step through a flow chart to arrive at the simplest and quickest compliant contracting methodology for different procurements. I think part of the issue with this gun you are referring to is we applied a one-size-fits-all, bring it on mentality. We are trying to learn from our Rapid Capabilities Offices, from DIUx, from SCO, who have taken the authorities that Congress has provided and applied them appropriately to speed things up, therefore, have them be more cost-effective, and thereby allowing smaller companies that couldn’t afford to go through this multiyear process to participate.

So what we are trying to do is scale all of those activities, but we have to educate our acquisition workforce to be able to do that, and that is a huge issue. So I am taking a fundamental relook at how the Defense Acquisition University operates, and we are looking at more 1-, 2-day sessions where we teach people skillsets that they use the next day.

But we have to give people the tools, and then we have to train them. I am very optimistic that we can do that.

Chairman MCCAIN. What makes you so optimistic?

Ms. LORD. Because I think we have a lot of smart people that are looking for leadership and——

Chairman MCCAIN. You didn’t have smart people before?

Ms. LORD. I do not think the focus was on cost-effective, quick solutions. I do not think people had the intestinal fortitude to come up here and say what needed to be changed. I think we have an environment now where we have a huge number of people that are all aligned on the same objective, and we are all very comfortable having a conversation saying, this is working, and this perhaps has an unintended consequence.

I see a lot of momentum between the building and between the Hill to work together to achieve our shared goals.

Chairman MCCAIN. I certainly hope you are correct.

Senator King?

Mr. ESPER. Mr. Chairman, if I can add just one quick thing to Mr. Tillis’ question, you asked about things that the Congress could do.

I would tell you, in the case of the handgun, through that 18-month process, we have prototyped, tested, demonstrated, used soldiers, selected the handgun, and we had a protest. I think to the degree that Congress can act on getting rid of frivolous protests, at least what the Army considered a frivolous one, would be very
helpful, because all it does is add time, cost, and, of course, delays giving the soldier what he or she needs to be successful.

Chairman McCain. Senator King?

Senator King. Perhaps the handgun example can remind me of my father’s advice that even the worst person can serve as a bad example. So maybe we can learn from that.

Mr. Geurts, a couple preliminary observations. First, somebody at the Pentagon has a sense of humor to send you here on your third day. It will only get better from here, I can assure you.

Mr. Chairman, this is a very important hearing, and I want to thank you for calling it.

Secondly, to the entire panel, this is one of the better, or I would say best hearings I have seen on this subject in 5 years. You are clearly focused on this problem.

Secretary Wilson, what you told us about the light attack aircraft and the process is incredibly encouraging. I hope that you will be able to continue along those lines.

Secretary Lord, Freud said, “Anatomy is destiny.” Napoleon said, “War is history.” My modest contribution to that is, “Structure is policy.”

I would like it if you could supply to this committee your organizational chart of the acquisition process. I am interested in seeing how many committees there are, how many approvals, what the levels are, because I do think, I am not being facetious, I do think the structure largely determines the outcome. If you have a complex, cumbersome structure, you are going to have a cumbersome outcome.

Somebody said the ideal committee is made up of three people, two of whom are absent. And so if you could share with me your thoughts on this.

Ms. Lord. No, I agree with you, structure is policy. And so what we are doing is putting together flowcharts that allow contracting officers to pick the simplest route to get to placing a contract and delivering the materials or services. That means you need to understand what you are buying and how to tailor the process. That is what we have our contracting people doing right now, using real-life examples of how we have done this. So that is what I will bring you, what that flow chart is.

Senator King. I would really appreciate that.

I think I heard in one of your testimonies, perhaps yours, that you are making an effort to keep people in these positions, at least though milestones. I mean one of the problems we have identified is acquisitions people come and go, and it creates a herky-jerky process.

Ms. Lord. We are trying to be much more thoughtful about critical program junctures and aligning people being reassigned with that.

Now moving forward, that takes a lot of coordination. I think we are all committed to do that. I will say that we all spend a lot of time in one another’s offices, and I know I meet with the service acquisition executives on a weekly basis, so we are committed to doing this.

Senator King. This is sort of technical government organization, but I hope you can really focus on this issue of how long people
stay in a particular office, because if they keep turning over, that has been identified in prior hearings as a significant problem.

Ms. LORD. We are committed.

Senator KING. The other piece is off-the-shelf technology.

Mr. Geurts, I commend to you the P–8, which is the new naval anti-submarine aircraft, which I went out to see them building them. It is an off-the-shelf Boeing 737 with electronics inside.

Somebody should be congratulated for not having to invent a new airplane.

By the way, at that factory, Boeing produces one 737 a day, which is an amazing technological feat, in my mind. But the P–8, it seems to me, is an example of how we can do this without redesigning everything from the ground up.

Are you familiar with that program?

Mr. GEURTS. Yes, Senator, I am getting more familiar in the new job here. But, certainly, my background as a special ops guy is to leverage whatever is there and put it to use as quickly as possible.

I think back to this idea that we will have to build new. That will take some time. We will have to fight with what we have tonight. A lot of what we can do in the interim is leverage what we have in new and creative ways, leverage what is in the commercial market in new and creative ways, leverage what each of us are doing in the services. So the Navy is leveraging the Air Force's work in JASSM [Joint Air-to-Surface Standoff Missile] to create a new capability quickly, so we do not have to reinvent a whole new cruise missile.

So this focus on every dollar counts, every day counts, we are in a war tonight, and we need to think that way in everything we are doing, whether that is organizational design, acquisition requirements, operational tests, all of that has to play together. I think as you are seeing here, we are all committed to doing that for the Nation.

Senator KING. I have seen that today, and it is reassuring.

Two quick points, and you do not need to respond. But reducing lead times is almost as important as price. I mean, we cannot maintain our qualitative edge if it just takes too long to get the weapon into the field.

Finally, to reiterate what everyone has said today, we want to be partners. To the extent you can tell us what could be changed in terms of regulation, in terms of congressional requirements, please do so. Everyone at this desk is committed to helping you to succeed, because when you succeed, our country succeeds.

Thank you very much for all the work you are doing.

Senator REED. Mr. Chairman, I have to respond to a rhetorical question I raised about the importance of Maine.

It is important because it sent us some of the most impressive Senators in our history: Margaret Chase Smith, Edmund Muskie, George Mitchell, Olympia Snowe, Susan Collins, and Angus King.

For the record, please note that. Thank you.

[Laughter.]

Chairman MCCAIN. Senator McCaskill?

Senator McCASKILL. Thank you.

I would like to take a moment, personally, just to thank my fellow, my military fellow, Lieutenant Colonel Sean Foster. This is his...
last hearing. He is an Army JAG officer. He has been incredibly helpful to my office. I am very appreciative of the military for providing us fellows. Sean was particularly terrific.

He is leaving to go to the Army Legislative Liaison office, so all of us will get to know him better.

But I wanted to briefly recognize his great work in my office over the last 2 years. I am going to miss Sean a lot.

How many of you have read the November 2017 DOD I.G. [Inspector General] top 10 management challenges that was issued in November? Everybody read it? No? Who has read it?

Ms. LORD. I glanced over it, I must admit. It was in my read-ahead package.

Mr. GEURTS. Yes, ma’am. I read it yesterday.

Senator MCCASKILL. Okay.

Secretary Esper, have you read it?

Mr. ESPER. No, ma’am.

Senator MCCASKILL. How about you, Secretary Wilson?

Ms. WILSON. No.

Senator MCCASKILL. Okay. I am going to ask this question almost every time any of you come up here. I am going to ask you if you have read I.G. reports.

Nothing is more irritating to me than when the really hard work of GAO [Government Accountability Office] and the I.G.s identify problems, and really make your jobs easier in terms of where you should focus, and nobody consumes the product. It is really important, I think, that all of you consume this product, because they identified 10 challenges of management. That is what your jobs are, management.

I am going to focus on a couple of those today, but I certainly would advise all of you to take this report seriously.

Sustainment problems, the market leveraging for spare parts, they identify in this report that for the H–60 helicopter used by the services and SOCOM, that they have purchased 2.9 million spare parts for the H–60, DOD has, using 2,000 separate contracts awarded to 590 different contractors over a 12-month period for almost $400 million. Often, these parts were purchased for different prices, the same part.

This is the kind of stuff that just makes you want to tear your hair out, as somebody who is a former auditor.

What roadblocks you can you identify, Secretary Lord, that would keep you from fixing something ridiculous like that? I mean, 2,000 separate contracts to 590 different contractors for spare parts for the same helicopter?

Ms. LORD. Since August, I have been doing a lot of data dives to understand the body of work in the acquisition workforce, and this is the type of thing I keep coming across. What I find are a couple trends relative to sustainment.

One, early on in programs, people are not thinking about designing for sustainability. They are not thinking about setting up the right contract vehicles. It is often rather reactionary for different parts. So as we develop these systems, we need a holistic contracting strategy because contracting is a strategy itself.

Senator McCASKILL. I mean, I just think, when something comes online, you should begin the process of identifying a handful of con-
tractors, because you want the consistency, and if somebody falls off, you have others, and to get the best deal and leverage the best deal for that helicopter.

Ms. Lord. Right.

Senator McCaskill. I mean, I cannot tell you how many time I have sat in this committee and pointed out inefficiencies between the services for things that they are all using.

Ms. Lord. That is where AT&L comes into play. We talk about delegating programs back. That is absolutely what we want to do.

Where AT&L can be very helpful, and A&S moving forward, is taking that horizontal look across the services for similar programs that leverage the same bill of materials and do the types of buys you are talking around about.

Senator McCaskill. I do not have much time left. For the record, I am going to ask you about reporting contractor past performance. It is another really irritating thing for me, that we have bad contractors and we keep doing business with them with no consequence whatsoever. We never remove them from the list.

But that the last thing I really want touch on is supply-chain management risks. In this report, I was really concerned about the identified risk of an adversary infiltrating the supply chain and sabotaging, maliciously introducing an unwanted function or otherwise compromising the design or integrity.

They specifically point out the Missile Defense Agency as it relates to the Ground-Based Midcourse Defense system. That is, obviously, of grave concern.

I am out of time, but what I would like for each one of you to do is to speak to me, especially Secretary Lord, what are you doing to secure the supply chain in terms of the integrity being compromised?

I do not need to explain to any of you what the dire consequences of that could be in today’s world.

Ms. Lord. I would be happy to do that. In fact, I just had an early morning meeting with General Ashley from DIA [Defense Intelligence Agency] about that very topic in my office this morning.

Senator McCaskill. I will ask about all of these 10 management areas. But I would recommend, the next time you come, check and see if an I.G. report or a GAO report has been issued in last 30 days, because I guarantee I am going to ask you about it.

And I will tell you, I am following up.

You would not believe this, Senator McCain, but when I was with Secretary Wilson at the Air Force base in Missouri, which was terrific that she visited, she told me that she was trying to hire trainers for the Joint Strike Fighter, and they sent over somebody to get approved for hiring at OPM [Office of Personnel Management], and guess what OPM told them? They did not have enough experience flying the Joint Strike Fighter.

So obviously, the job requirements that are imposed upon you by OPM sometimes are ridiculous, beyond the pale. Clearly, nobody at OPM knew that nobody had flown a Joint Strike Fighter yet.

Has that been resolved? I am working on it from my end. I just wanted you to know.

Ms. Wilson. Thank you for your help on this one. We can surely continue to use the help.
Senator McCaskill. Did you get it approved, finally?
Ms. Wilson. That particular one has been approved, but my average time to hire a civilian is about 180 days.
Senator McCaskill. Totally ridiculous.
Ms. Wilson. It is a major issue.
Senator McCaskill. Thank you, Mr. Chair.
Ms. Wilson. Senator, we have a task force looking at all the requirements to hire people, how we can streamline those, both regulatory and legislative fixes, so that we can get good people on board.

Chairman McCain. I want to apologize to Senator Blumenthal, because, obviously, there is an event on the floor of the Senate, which I know he is very interested in and so——

Senator Blumenthal. If I may, Mr. Chairman?
Chairman McCain. Please.

Senator Blumenthal. I will submit my questions for the record, and I hope we will get prompt responses focusing on, among other issues, on the Huey replacement program.

Thank you, Mr. Chairman.

Chairman McCain. I thank the witnesses. This has been very helpful.

And again, I hope the message is, from this committee to you, that we want to work with you. We also have our responsibilities, and we will try to carry those out as well.

So I think this hearing has been very helpful, including the recent one we just had. And I thank the witnesses for their willingness to help.

This crowded hearing will adjourn.
[Whereupon, at 11:47 a.m., the committee adjourned.]

Questions for the record with answers supplied follow:

QUESTIONS SUBMITTED BY SENATORS JOHN MCCAII AND JACK REED

RAPID PROTOTYPING

1. Senators McCain and Reed. Secretaries Lord, Esper, Geurts, and Wilson, in fiscal year 2016 and 2017, statutory authority was given for the use of alternative approaches to rapid prototyping and rapid fielding.

What has been the Department and Services approach to implementing these alternative approaches?

Secretary Lord. My team is working on a memorandum, “Policy for Middle Tier of Acquisition for Rapid Prototyping and Rapid Fielding Programs,” that establishes interim Department policy and assigns Component responsibilities for the implementation of middle tier of acquisition programs. This will facilitate initial execution of these authorities while allowing for data/lessons learned to be compiled and further refined for incorporation into issuance of a formal DOD instruction.

Secretary Esper. The Army’s approach has been to direct its program managers to identify efforts that would be suitable candidates for use of the new “mid-tier” acquisition authorities and to leverage them to rapidly prototype and field capabilities that address combatant commander needs against near-peer adversaries. For such projects, our intent is to utilize a streamlined and coordinated requirements, budget, and acquisition process to expedite approval, operational assessment and delivery. We have already successfully used the mid-tier acquisition approach through the Army Rapid Capabilities Office, which rapidly prototyped and delivered an electronic warfare capability for the European theater.

Secretary Geurts. The Department of the Navy (DON) has refined its policy with regard to accelerating acquisition to ensure the full extent of acquisition approaches are available to our acquisition teams. The new governance policy was developed to take maximum advantage of recent acquisition reforms aimed at rapid prototyping, rapid fielding and acquisition agility at large. As a component of this accelerated
acquisition policy and process, I co-chair the Accelerated Acquisition Board of Directors (AABoD) alongside the Chief of Naval Operations (CNO) and Commandant of the Marine Corps (CMC) to establish Rapid Prototyping, Experimentation and Demonstration (RPED) projects, and Maritime Accelerated Capability Office (MACO) programs. The policy takes maximum advantage of recent acquisition reforms for rapid prototyping, rapid fielding and acquisition agility at large to streamline and more rapidly deliver capability to the fleet.

Secretary WILSON. The Air Force has started implementing these alternative approaches, and to that end, I recently signed out the Rapid Procurement of Air Force Capabilities Charter which aims to streamline procurement and prototyping of certain Air Force capabilities. To do this, the charter applies the governance structure and key principles established for the Rapid Capabilities Office, allowing us to inculcate a culture of agility and innovation across the Acquisition Enterprise and the Air Force. Additionally, we are working to implement open system approaches into our programs. This approach is a key enabler to inject new technology into subsystem or component levels. The Air Force is a strong proponent of using prototyping as one method to infuse agility into the acquisition process and will continue to look for opportunities to use these authorities.

2. Senators MCCAIN and REED. What have been the challenges or impediments for the acquisition community, if any, to implementing these approaches?

Secretary LORD. Emerging needs are unknown during the two-year planning and programming budget cycle and therefore not programmed in the Department’s budget requests. As a result, the Department is in the position only to request funds for known requirements. If dedicated funding for the new prototyping authorities is not appropriated, then the Department must prioritize middle tier of acquisition programs alongside other competing priorities for allocation of available funds. To enable the Department to efficiently and effectively react to emerging threats and take advantage of innovative technologies, I recommend that Rapid Prototyping Funds, or other flexible funding accounts, be appropriated at both the Department and Service levels.

Secretary ESPER. One challenge is the timeline allotted to complete rapid prototyping and fielding efforts. For these mid-tier acquisition projects, it would benefit the Army to have the option to continue the equipping phase beyond five years. While a rapid project may deliver the initial operational capability to the first unit equipped very quickly, and certainly within the five-year limit, the ability to continue fielding to additional units beyond five years would enable a multi-year approach to resourcing and incremental capability upgrades.

Secretary GEURTS. Although the authorities are present and aimed at speed, the current budget process limits innovation and agility. We still lack the flexible funding constructs and associated appropriations that will allow new technologies, engineering innovations and, in some circumstances, game changing capabilities to be introduced to the Fleet as fast as possible. We cannot afford to wait two years—our typical budget cycle time—to address our adversaries' new capabilities, nor should we wait two years to introduce our latest innovations.

Secretary WILSON. The Air Force has experienced challenges in funding, processes and training. While we appreciate the authorities the Congress has provided for rapid prototyping and rapid fielding, the limiting factors are often not the authority to execute, but rather clearly defined implementation guidance, a source of funds, and workforce training. The Air Force does not have a dedicated source of funds for rapid prototyping, so potential prototyping opportunities must still compete for funding against other pressing Air Force priorities. We continue to work towards a balance of rapid prototyping efforts and traditional acquisition programs to ensure the right mix of rapid and revolutionary capabilities. Additionally, the Air Force is waiting for Department guidance on implementation of these authorities and we continue to work with the OSD policy team in writing the instructions. In the interim, the Rapid Procurement of Air Force Capabilities Charter will provide the strategic guidance for our rapid prototyping efforts. Finally, the Air Force needs to continue educating our workforce on the new authorities, and how and when to use them appropriately.

3. Senators MCCAIN and REED. Can you highlight a few examples of programs that are taking advantage of the alternative approaches?

Secretary LORD. We’re working with the Navy on the pilot effort to use these authorities to accelerate Standard Missile (SM)-2 Block IIIC development through rapid prototyping. This effort will deliver an initial fielding capability 3 years ahead of the program’s planned Initial Operational Capability (IOC).
Secretary ESPER. Yes. Consistent with the intent of these approaches, the Army rapidly assessed commercially available Active Protection Systems (APS) candidates in fiscal year 2017 and is now actively exploring the feasibility of equipping Abrams, Bradley, and Stryker vehicle platforms with APS variants as an interim solution for the European theater. Another example is the Army Rapid Capabilities Office Electronic Warfare project, which used a rapid fielding approach in fiscal year 2017 to provide an integrated electronic support and attack capability for the European theater.

Secretary GEURTS. In accordance with the DON’s new Accelerated Acquisition governance policy we designated our first MACO Program (MQ–25) as a Key Performance Parameter (KPP) Reduction Pilot Program. Having just two KPPs allows the Department to better manage cost, schedule, and performance by focusing on MQ–25’s most important capabilities—Carrier Suitability and Aerial Refueling. Additional prototyping efforts in the Accelerated Acquisition process include:

- **Unmanned Undersea Vehicles (UUV) Family of Systems** which provides long-endurance and off-board systems for Intelligence Preparation of the Operational Environment.
- **Expeditionary Surveillance Towed Array Sensor System (SURTASS–E)** which prototypes and explores a “roll-on, roll-off”, modular, passive SURTASS capability.
- **Standard Missile (SM) Family of Systems** which provides new increments of capability and increased range and lethality leveraging SM investments and accelerated through rapid prototyping and rapid fielding.
- **Ship-to-Shore Maneuver, unmanned swarm systems, long range precision fires and electronic attack prototyping of new operational concepts for Naval amphibious warfare.**

Secretary WILSON. One program that is taking advantage of these authorities is the Next Generation Command and Control Digitally Aided Close Air Support (DACAS) Platform software. The effort is a $1 million, six-month project under Defense Innovation Unit Experimental (DIUx) to create a modular, core software architecture and Joint Terminal Attack Controller software apps. Another example is the Micro Weather Sensor. This project is designed to assist Air Force Special Operations weather teams by collecting critical weather information in inhospitable environments. Having successfully developed and tested the sensor, the program is planning to execute $1.7 million of fiscal year 2018 procurement funding to acquire 100 sensors to meet the current requirement.

Secretary ESPER. In your opinion, have there been any successful efforts to date or programs you would consider models?

Secretary LORD. Successful efforts specifically associated with utilization of rapid prototyping/rapid fielding authorities granted via fiscal year 2016 and fiscal year 2017 legislation have not yet be aggregated; however, in 2017, the Department established a Rapid Prototyping Program which co-funded eight prototyping projects with the Services. Each of these projects will rapidly develop prototypes and deliver new capabilities to the warfighter over the next three years, and are summarized as follows:

1. **Electronic Warfare (EW)—U.S. Army.** This project will accelerate EW prototyping to allow dominant maneuver in EW denied environments for the tactical soldier in the field. Technologies include offensive radio operations pods; Raven Claw software enhancements; electronic support and attack capabilities; radio frequency mitigation filters; and artificial intelligence and machine learning algorithms. This capability will support a USAREUR operational needs statement.

2. **Position, Navigation & Timing (PNT) / Project TITAN—U.S. Army.** This project will enable U.S. Army platforms to continue operations in global positioning system (GPS)-challenged environments, providing an anti-jam antenna for the Defense Advanced GPS Receiver (DAGR). Enhanced PNT prototypes will be evaluated for the Abrams, Stryker, Bradley, and Paladin systems. This capability will support a USAREUR operational needs statement.

3. **Passive Wide-Area Detection of Small Unmanned Aerial Systems (sUAS)—U.S. Navy.** This project will accelerate a counter-UAS capability for naval land and shipboard systems to automatically detect, track, and classify targets, and to provide threat alerts. Prototypes will consist of wide-area, 360-
degree electro-optical (EO) and infrared (IR) imaging systems, wide-area acoustic sensors, and high-speed, low-light EO and IR inspection of targets.

4. **Ship to Shore Maneuver Exploration and Experimentation (S2ME2)—U.S. Navy / U.S. Marine Corps.** This project will extend the reach and increases the capability of the individual Marine by prototyping a suite of unmanned assets that enable approaches to amphibious fire support and underwater survey. Prototypes will enable the Marine Corps Forces to plan, execute, and monitor battlefield conditions and deceive the enemy as to maneuvers, strength of the forces and intentions for deployment.

5. **High Power Microwave (HPM) for Air Base Air Defense—U.S. Air Force.** This project will advance two HPM prototypes capable of defeating enemy UAS’s and missiles. A counter-UAS prototype will integrate an Air Force developed counter-electronic system into a mobile unit to counter swarms of UAS’s. The counter-missile (CM) prototype will evaluate U.S. Navy HPM technology for use on a transportable system capable of defeating multiple missiles in a relevant operational environment.

6. **Open Mission Systems Contribution for Next-Generation Architectures (OCNA)—U.S. Air Force.** The Air Force will prototype a platform architecture that combines an on-board data communication bus with advanced broad-band multi-element antennas and shared processors to enable use of non-proprietary standard interfaces. This prototype will expand the open mission systems (OMS) open messaging standard to capitalize on the capabilities of PlatformNxt, the Air Force’s next-generation avionics architecture.

7. **Army Navy/Transportable Radar Surveillance and Control Mode 2 & 3 (AN/TPY–2) Adjunct Sensor—Missile Defense Agency.** The Missile Defense Agency will develop and provide a prototype adjunct sensor to be integrated with fielded forward-based mode ANTPY–2 radars. This sensor with X-band dish capability will provide an extended field of regard and low elevation angle tracking. The capability will expand the TPY–2’s performance against hypersonic glide vehicles.

8. **Mission Rehearsal Trainer (MRT)—Joint Staff/J8.** This project will prototype a distributed learning / training system to enhance the intelligence collection capabilities of a specific Combatant Command. Project details are classified.

The process being utilized to develop the above prototypes represents a successful template the Department will use to allocate funds to support rapid prototyping projects. These projects emerged from requirements from the military Services, Missile Defense Agency, and the Joint Staff and include such diverse capabilities as enhanced electronic warfare, counter unmanned aerial systems, and high-power microwave based air defense prototypes. All of these projects are intended to reduce overall cost and deliver capability to the warfighter more rapidly, in some cases by several years.

Secretary ESPER. While we are still in the early stages of incorporating these new authorities into Army business processes, I would consider both the Active Protection Systems project and Army Rapid Capabilities Office Electronic Warfare project good initial models. Both leveraged current and emerging technologies to deliver quick solutions to address urgent capability gaps. These projects are also following a phased approach that continuously improves capability and applies operator feedback to inform and reduce risk for enduring programs of record.

Secretary GEURTS. While we believe that projects and programs designated for accelerated acquisition will be successful in the timely delivery of critical warfighter capability, it is early in their respective execution.

Secretary WILSON. We are currently evaluating our prototyping efforts and organizational structures, training, and funding that support them so that we can establish model efforts. We will continue monitoring the progress of ongoing and future efforts and evaluate what lessons can be applied.

5. Senators McCAIN and REED. In your opinion, what additional steps are needed to advance these approaches?

Secretary LORD. Appropriating dollars in prototyping accounts will allow the Department to address some of the emergent warfighter needs to include fielding proven technologies of new or upgraded systems with minimal development in 6 months and complete fielding within 5 years.

In addition to funding prototyping and production, it’s also important to fund experimentation that facilitates prototype utilization in realistic settings by operational users. This maximizes the value of the prototyping efforts, and provides the real-world experience that lets the Services define more detailed requirements. These requirements enable transition to a current or new weapon system program.
Experimentation sometimes requires operations and maintenance (O&M) and other types of RDT&E.

Secretary Esper. The Army must continue to institutionalize these alternative approaches, which are critical to our efforts to defeat emerging threats and keep pace with technological change. While I am encouraged by the results thus far, we must expand the application of these approaches as part of our larger effort to reshape and improve the agility, synchronization, and responsiveness of the Army acquisition enterprise. With regard to “mid-tier” acquisition for rapid prototyping and rapid fielding addressed in section 804 of the Fiscal Year 2016 NDAA, we are hampered by the requirement within this language to complete fielding within five years as opposed to achieving Initial Operational Capability and block or unit set fielding within five years, which is more consistent with our multi-year resourcing process.

Secretary Geurts. The DON will work with the Congress to seek support for flexible funding constructs and associated appropriations, alongside an agreed-to framework of governance and oversight that will ensure the effective and efficient use of such funds for their intended purpose. In addition, we are ramping up training efforts for our acquisition workforce. We are developing course work and other lines of effort with our Defense Acquisition Workforce Development Fund with specific concentration on the new acquisition authorities and how these can be applied to speed capability to the Fleet through rapid prototyping and rapid fielding.

Secretary Wilson. Clear implementation guidance, as well as a dedicated source of Air Force funds for rapid prototyping would facilitate a streamlined process for quickly identifying and executing the highest priority prototyping efforts. Additionally, we need to train our workforce. Program managers are reluctant to try non-standard acquisition approaches due to fear of failure. We need to encourage prototyping strategies to be inserted into programs from the beginning. These efforts will require more cross-functional teaming to ensure they are provided a well-planned pathway to success.

STREAMLINED ACQUISITION PROCESS

Senators McCain and Reed. Secretaries Lord, Esper, Geurts, and Wilson, in recent years there has been an increased emphasis on adopting more streamlined acquisition management processes with a goal of reducing the administrative documentation and reporting burden on acquisition programs.

6. Senators McCain and Reed. In your opinion, has DOD and the Services been successful in achieving this goal?

Secretary Lord. The Department’s leadership at every level is firmly committed to streamlining our acquisition management processes. While I believe many of our reform efforts to date have put us on the path to achieving that goal, there’s clearly more to do. Consequently, we will continue to identify and eliminate burdensome administrative and reporting requirements. This is not a short term goal, but a long term commitment to improve the efficiency of our acquisition system. Additionally, we will scale practices used by the Strategic Capabilities Office (SCO), Defense Innovation Unit—Experimental (DIUx), Rapid Capabilities Office (RCO), Joint Improvised-Threat Defeat Organization (JIDO), Joint Rapid Acquisition Cell (JRAC), etc. to account for a greater percentage of our procurements.

Secretary Esper. The Army, empowered by Congress, has begun its efforts to streamline acquisition with several of the most important reform initiatives in progress. The Army has embraced the authorities provided by Congress in the fiscal year 2016 and fiscal year 2017 National Defense Authorization Acts and has taken action to reinvigorate the Army Requirements Oversight Council; consolidate Army staff elements; establish the Army Rapid Capabilities Office; and establish the Office of Process Innovation and Integration.

The Army is executing eight acquisition reform directives that will streamline acquisition processes and increase the Army’s ability to quickly provide capabilities to Soldiers. These reforms will not be accomplished overnight and there will be challenges; however, I am convinced that we are reshaping and streamlining the Army acquisition management process to improve the agility, synchronization, and responsiveness of our Army’s acquisition enterprise. I expect you will see marked, clear progress in the coming months.

Secretary Geurts. I agree that acquisition documentation is overly burdensome, and that we need to find a better balance between oversight and transparency and the need to move more expeditiously. I note that programs that have been delegated to the Services for oversight still require many program documents which by statute must be approved at the OSD level. The DON appreciates your efforts to reform and eliminate some of these burdensome requirements, and will continue to work with
you and your staff to identify requirements that can be eliminated or minimized where there is little to no value added by the requirement.

Secretary WILSON. We still have a lot of work to do, although we have had some successes. For example, I have directed a review of all Air Force directive publications with the goal of reducing the number ensuring they provide current, clear and concise guidance. Within acquisition, I have ensured approvals are delegated to the lowest appropriate levels, reducing the administrative burden for approvals and freeing up the workforce to manage their programs.

7. Senators MCCAIN and REED. What specific steps is the Department and Services taking to help achieve this goal?

Secretary LORD. Recent changes to our principal acquisition procedures have given decision makers in every acquisition category broad authority to tailor acquisition documentation and other regulatory requirements that are not required by statute. Tailoring in this context can include the elimination of the document where not required for the program under review and/or combining several documents where it is logical to do so. In addition, decision makers have the authority to tailor the acquisition approach consistent with specific program requirements and, consequently, reduce oversight and the associated reporting burden. We have also developed more focused procedures tailored to the unique requirements of services acquisitions and defense business systems. The associated documentation and reporting requirements are uniquely designed for the needs of those programs. As I mentioned in my testimony, we are initiating action intended to streamline our contracting procedures with the long-term goal of awarding a contract in 6 months from the issuance of the Request For Proposals. Now, we need to memorialize successful tailoring practices in the form of case studies and teach our Acquisition Workforce through these real examples at the Defense Acquisition University (DAU).

Secretary GEURTS. DON has recently refined its policy with regard to accelerating acquisition, to include our responses to urgent needs. The new governance policy was developed to take maximum advantage of recent acquisition reforms aimed at rapid prototyping, rapid fielding and acquisition agility at large, to include the use of Rapid Acquisition Authority when warranted. For our Defense Business Systems (DBS), many of the regulatory requirements and documentation requirements in the DOD 5000.02 have been eliminated in favor of 5000.75 because they are not applicable to DBSs. In addition, I have directed a review of all documentation required for all the different ACAT level programs to identify and eliminate documents which do not add value.

Secretary WILSON. To achieve the goal of reducing administrative documentation and reporting, the Air Force continues to review and revise acquisition guidance to eliminate duplication. Policy has been updated to allow for additional decision authority delegation and to encourage a culture of “information vs. documentation” based decision making. Additionally, we are finalizing Air Force guidance amplifying current DOD policy for Defense Business Systems that streamlines oversight by aligning the acquisition, functional, and information technology compliance com-
munities. We have implemented a Rapid Procurement of Air Force Capabilities Charter to streamline reviews and documentation for critical programs.

8. Senators McCain and Reed. In your opinion, what additional steps are needed?

Secretary Lord. We are finding more opportunities to tailor our policies and reduce administrative burden as we implement the acquisition reform provisions in the fiscal year 2016, 2017, and 2018 NDAAs. I believe an ongoing conversation with Congress is necessary to discuss what is working and what is not. I would like to hold hearings highlighting excellent examples of programs where creative solutions were applied in a compliant manner. If we held hearings showing the art of the possible and the value of critical thinking, then we have the opportunity to motivate the Acquisition Workforce.

I am also meeting regularly with the Advisory Panel on Streamlining and Codifying Acquisition Regulations (the section 809 panel) to discuss the recommendations they are making to Congress to streamline the acquisition process and to identify ways to update and modernize how the Department acquires systems while also reducing cumbersome procedures and statutory reporting requirements that no longer add significant value. Their final report’s Volume 1 includes some 74 specific recommendations in the areas of Commercial Buying, Contract Compliance and Audit, Defense Business Systems, Earned Value Management, Services Contracting, Small Business, Statutory Offices and Designated Officials, and Statutory Reporting Requirements. I look forward to continued discussions with the Panel on these and the next two volumes of recommendations.

Secretary Esper. The Army must successfully implement its ambitious slate of reforms to streamline acquisition processes and increase efficiency, cost effectiveness, and leader accountability while reducing administrative burdens. These reforms are underway and are expected to be implemented by the end of fiscal year 2018. We continue to seek flexibility in funding under Continuing Resolution and reprogramming authority once a funding bill has been enacted. The Army also believes greater flexibility in a Continuing Resolution that would allow the Services to execute programs at the lowest committee mark even under a Continuing Resolution would be beneficial.

In addition to these reforms, the congressionally chartered section 809 panel is reviewing defense acquisition regulations to streamline and improve the defense acquisition process. The panel will recommend statutory reforms to simplify the acquisition system. The delegation of authority to the Service Acquisition Executive, coupled with internal Army reform efforts and relief from unnecessarily burdensome acquisition regulations identified by the section 809 panel will provide the additional steps needed to implement an agile and accountable defense acquisition system. Steps in Continuing Resolution reform would allow the Services to move forward on programs at the lowest committee mark instead of waiting for the final bill.

Secretary Geurts. While OSD has delegated authorities for most Navy/USMC programs back to the DON, there are several statutes and OSD policies which require DON to gain OSD approval in spite of these delegated authorities, thus greatly reducing the positive impacts of the delegation of these programs back to the Services. The DON will continue to work with the appropriate offices within OSD to identify additional opportunities to delegate authority currently retained by OSD to the Military Departments (MILDEPs).

Secretary Wilson. The steps taken to date represent a significant culture change from risk aversion to risk management at all levels of governance. This culture change will enable speed but needs time to become standard practice.

9. Senators McCain and Reed. Given the other ongoing changes in the acquisition structure, such as shift of acquisition authority to the services, what challenges do you see in providing oversight of an acquisition program without placing an unnecessary burden on the acquisition workforce managing the program?

Secretary Lord. My statutory responsibilities as Under Secretary of Defense for Acquisition and Sustainment will include (among others) the responsibility to serve as the chief acquisition and sustainment officer of the Department and to be principal advisor to the Secretary on acquisition and sustainment. Consequently, I will have an enduring need for information about the status of our ongoing investments so I can assess progress, identify issues, and assist the program if needed. Access to program information will be a continuing requirement which I believe we can satisfy without burdening the services. I am using a monthly scorecard to follow MDAP cost, schedule and performance and will manage by exception. In order to increase the capability of the entire Acquisition Workforce, I am undertaking a reorganization of DAU and a total revamping of the curriculum. Only by attracting, developing
and training a skilled workforce, will we truly make an enduring difference in program execution.

Secretary ESPER. The major challenge is to provide oversight for the breadth and depth of programs already managed by the Army Acquisition Executive in addition to the Major Defense Acquisition Programs delegated from the Office of the Secretary of Defense. To mitigate these challenges the Army must improve acquisition oversight through centralized planning, decentralized execution, and improved performance metrics. To achieve this the Army is driving down Milestone Development Decisions (MDD) and Milestone Decision Authority (MDA) to Program Executive Officers (PEOs) for Acquisition Category (ACAT) II and III programs. PEOs with Milestone Decision Authority will be authorized to further delegate select ACAT IV programs down to O6/GS–15 Project Managers. We will align the duty assignments of PEOs and PM with the milestones established for their programs to ensure a clean handover of the program at critical points, and so that clear measures of effectiveness—cost, schedule, and performance—can be assessed. The Army has also initiated ACAT IV programs within our acquisition system. We have defined an ACAT IV program that includes efforts with mature technologies, limited complexities and lower risk that also have funding below $100 million for Research Development, Test and Evaluation and/or $400 million Procurement.

The delegation of this execution authority will improve accountability by empowering the PEOs and PMs. It will allow the Army Acquisition Executive to focus on higher risk ACAT I programs while maintaining the mechanisms required to oversee the remaining programs. For instances, the MDAs will conduct an annual program review of all non-ACAT I programs and provide a concise report of the results of the reviews no later than the end of the fiscal year. Additionally, PEOs will ensure that the Army Acquisition Program Master List (AAPML) is updated quarterly, and will report all performance metrics required by Army Directive 2017–35, (Acquisition Reform Initiative #8) no later than the end of each fiscal quarter.

Secretary G EURTS. With the ongoing changes in the acquisition structure, it is critical that the MILDEPs have sufficient numbers of trained acquisition professionals to provide the requisite oversight in light of the Services’ increased authority and responsibility. Continued support for the Defense Acquisition Workforce Development Fund (DAWDF) will be a key enabler for the Services to maintain effective oversight.

Secretary WILSON. We have made strides in reducing bureaucracy. We continue to monitor activities to balance providing sufficient and timely information to senior leaders on our delegated programs against the burden of generating the information. The key is to find the right balance of speed and risk acceptance versus risk aversion.

10. Senators McCAIN and REED. What additional steps, including legislation, do you feel are needed from Congress?

Secretary LORD. The Fiscal Year 2018 NDAA HASC report directed the Department to conduct a review of acquisition statutes to identify process requirements in acquisition statutes that hinder agile acquisitions; to identify obsolete statutes; and to recommend related statutory changes that should be considered to simplify or improve the agility of the defense acquisition system. As of today, there are 34 candidates for acquisition related legislative changes that are in review within the Department. These potential legislative changes span topics of delegation of various waiver and approval authorities, monetary thresholds, written determinations and approvals, information technology acquisition, and numerous other topics to include potential expansion of exceptions related to the Competition in Contracting Act.

Additionally, the Department currently has several authorities related to supply chain risk management considerations, based upon foreign ownership control and influence, in order to ensure secure procurements. Section 806 of the Fiscal Year 2011 NDAA provides the Department with authority to exclude a source on the basis that it presents significant supply chain risk to a National Security System, and the Department is requesting that this authority be extended by five years, from 30 September 2018 to 30 September 2023. In accordance with section 807 of the Fiscal Year 2018 NDAA, the Department is ensuring utilization of this authority and implementing processes for enhancing scrutiny of acquisition decisions in order to improve the integration of supply chain risk management into the overall acquisition decision cycle. Also, as part of this effort, the Department is collaborating with related activities underway in the Office of Management and Budget, Office of the Director of National Intelligence, the Department of Homeland Security, and the General Services Administration to inform processes and determine additional authorities that may be needed, such as provision of more streamlined authorities for
National Security Systems and expansion of authorities to cover other than national security systems.

Review and collaboration with your staffs will be key to ensuring we jointly champion implementation of changes with the goal of securely acquiring and fielding products that provide significant increases in mission capability and operational support in the most cost effective and schedule efficient manner as possible. I look forward to reviewing these with staffers as soon as possible.

Secretary Esper. Many of the reforms required to streamline acquisition management processes are now internal to the Army, and we appreciate Congressional action in the Fiscal Year 2018 National Defense Authorization Act (NDAA) to further streamline acquisition process. The Army could benefit further from: (1) a capabilities based versus program specific Program Element (PE) lines. Under this concept, the Army would be able to realign funding within a portfolio (with notification to Congress) should the need arise to accelerate or slow and effort without the need for an Above Threshold Reprogramming; (2) an additional increase in the ceiling of the Simplified Acquisition Threshold from $250,000 to $500,000 to provide greater agility and streamlining for these small purchases and allow us to keep pace with the threat and enabling a less bureaucratic and lengthy process in getting to expeditied contract awards; (3) protection of Technology Maturation Program Element in Research and Development (R&D) so that programs would have a balanced approach between requirements pull and innovative technology driven; (4) continuing resolution (CR) reform.

Secretary Geurts. By statute, several major defense acquisition program (MDAP) documents still require approval or action within the OSD, even for MDAPs for which the Service Acquisition Executive (SAE) is the Milestone Decision Authority (MDA). Congress can further reduce the administrative documentation and reporting burden on acquisition programs by assigning authority for these requirements to the MILDEPs when the SAE is the MDA. Examples include:

- Program cost, fielding, and performance goals under 10 U.S.C. § 2448a (must be established by the Secretary of Defense, delegable only to the Deputy Secretary of Defense);
- Independent cost estimates (ICEs) under 10 U.S.C. § 2334 (must be either conducted or approved by DCAPE);
- Analysis of Alternative study guidance under 10 U.S.C. § 2366a (must be developed by DCAPE).

In addition, amending 10 U.S.C. § 2306b(i)(3) to allow the Secretaries of the MILDEPs (delegable to the SAEs) to make the required certifications and determinations for multiyear contracts would reduce administrative burden for programs that are authorized by law to utilize such multiyear contracts.

Secretary Wilson. The Air Force appreciates the authorities provided by Congress and requests continued efforts to ensure authorities and decisions that still reside outside the Air Force are delegated to the Service or appropriate level to align with Congressional intent.

Current law (section 807 of the Fiscal Year 2017 NDAA) requires the Services to establish program cost and fielding targets and those cost and fielding targets must be approved by the Secretary of Defense or the Deputy Secretary of Defense, even for programs delegated to the Services. We believe that making the approval authority for these targets at the Milestone Decision Authority level would be more consistent with the direction Congress has been taking with delegation of other acquisition authorities. We would recommend that the law be changed to allow the Milestone Decision Authority be the approver of those targets.

NON-TRADITIONAL COMPANIES

Senators McCain and Reed. Secretaries Lord, Esper, Geurts, and Wilson, the Department of Defense has a history of investing in innovative technologies, allowing the United States to maintain superiority on the battlefield and beyond. Now that commercial science and tech firms—“non-traditional companies”—are on the leading edge of innovation, DOD relies on them for new products and ideas. However, many non-traditional companies find the cost of doing business with DOD to be expensive, slow, and cumbersome. As a result, they are often reluctant to modify their products for DOD’s use or give up trying to navigate DOD’s complex acquisition process.

11. Senators McCain and Reed. What do you consider to be the biggest obstacle to attracting non-traditional companies to modify their products for DOD use?

Secretary Lord. The biggest obstacle is overcoming the perception that DOD does not have the flexibility or the ability to contract with non-traditional companies using scalable, commercial-like acquisition practices. DOD can contract, or enter in...
other forms of agreements with these companies using commercial procedures consistent with Other Transaction Authorities (OTAs), and the commercial item acquisition methods in the Federal Acquisition Regulations (FAR) Part 12. Although their use has not been widespread in the Department, the military services and defense agencies began using OTAs in the 1990s. The challenge is to expand awareness of the available flexibilities and developments in statute, policy and regulations to the broader acquisition community to enable procurement of the innovative products and services that meet the rapidly evolving warfighter needs. The Department is taking steps to expand their usage by establishing centers of excellence including the Defense Innovation Unit Experimental (DIUx) as supported by Army Contracting Command—New Jersey, and Defense Advanced Research Projects Agency (DARPA), host OTA training events, and broaden acquisition and contracting workforce awareness of these techniques and best practices. We will ramp up our efforts to work with Industry Associations (AIA, NDIA, PSC, etc.) as well as government agencies like the SBA to reach out to small businesses. Additionally, we are leveraging our Defense Innovation Board members to connect with Silicon Valley software and artificial intelligence companies to establish working relationships that will allow us to connect with an entirely different base.

Secretary ESPER. The federal acquisition process is encumbered with stifling regulations and processes that make it difficult for non-traditional companies to participate, and make the acquisition process untimely and sometimes even costly. In particular, we would support change to make the current process more inviting and easy to navigate, and decreasing barriers such as rigid requirements standards.

Secretary GEURTS. Non-traditional suppliers to the DOD often cite factors such as (1) heavy legal requirements/regulations, (2) onerous cost accounting standards, (3) unpredictable contracting timelines, (4) slow contracting timelines, and (5) fear of loss of intellectual property as disincentives to working with the DOD. I would agree that these factors, as well as the lack of training of government acquisition professionals on how to incentivize and contract with non-traditional suppliers and lack of open interfaces and architectures are obstacles.

The feedback we have received from industry points to misperceptions and concerns about certified cost and accounting requirements the Department levies to meet the Truth in Negotiations Act and intellectual property requirements under the Federal Acquisition Regulation. These drive up the cost of doing business and increases the risks for these companies. Industry also does not want to risk giving away their Intellectual Property or to spend the money to get an “approved and certified” system when what they have works for every other facet of their business. From a small business perspective, entering into a contract with the DOD is a big challenge. Allowing the acquisition process to attract innovative and non-traditional businesses is key.

12. Senators MCCAIN and REED. What steps are the services and OSD taking to address concerns raised by non-traditional companies, specifically as they relate to (1) simplifying the acquisition process, (2) protecting intellectual property rights, (3) decreasing contracting timelines, (4) reducing contract terms and conditions, and (5) training the contracting workforce? How are you measuring your progress?

Secretary WILSON. The feedback we have received from industry points to misperceptions and concerns about certified cost and accounting requirements the Department levies to meet the Truth in Negotiations Act and intellectual property requirements under the Federal Acquisition Regulation. These drive up the cost of doing business and increases the risks for these companies. Industry also does not want to risk giving away their Intellectual Property or to spend the money to get an “approved and certified” system when what they have works for every other facet of their business. From a small business perspective, entering into a contract with the DOD is a big challenge. Allowing the acquisition process to attract innovative and non-traditional businesses is key.

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mation in fiscal year 2013. The Department has experienced a steady growth in actions and obligations associated with non-traditional companies. With the statutory changes provided by Congress, this trend is expected to grow significantly. We have pilot projects to measure how quickly we can get on contract and look forward to measuring progress using a series of metrics.

Secretary ESPER. The Fiscal Year 2018 NDAA continues a trend from the previous two NDAs by encouraging the procurement of commercial items. By using commercial procedures to purchase supplies and services, we can attract more non-traditional defense contractors, and allow the rapid acquisition and delivery of capabilities to our Warfighters. An emphasis on commercial contracting will simplify acquisitions, protect intellectual property rights, decrease contracting timelines, and reduce contract terms and conditions. DOD training requirements for contracting professionals are well established. The Defense Acquisition Workforce Improvement Act (DAWIA) requires personnel to become certified through contracting specific training.

In support of the NDAA reforms, the Army has taken steps to implement eight key Acquisition Reform Initiatives. The Army is in the process of streamlining the contracting process to reduce the time it takes to develop and award a contract and establishing metrics to improve efficiency and effectiveness.

Secretary GEURTS. The DON is exploring the increased use of Other Transactional Authorities (OTAs) to combat these concerns and offer a great deal of flexibility in working with non-traditional and traditional suppliers. We are taking steps to increase our knowledge and develop an expertise in contracting using OTAs. In addition, through the Office of Naval Research, DON has effectively used Broad Agency Announcements for research topics to encourage small and large companies to share and develop their ideas and new or improved technologies. For small businesses, the DON uses the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program to encourage small businesses to share and develop their new or improved technologies. To encourage small business participation in our programs, the DON has assigned each Deputy Program Manager the responsibility to be the small business advocate for all things associated with the program. The DON regularly promotes increased participation by nontraditional small and large companies through DON outreach efforts conducted jointly with our Office of Small Business Programs to hear different perspectives and ideas. Finally, we are exploring new collaboration models such as SOFWERX, to enable earlier and more robust sharing of our capability gaps to enable earlier identification of potential existing commercial solutions from non-traditional suppliers to solve DON capability gaps.

Secretary WILSON. The Air Force is making greater use of Other Transaction Authorities that allow more flexibility in negotiating intellectual property with companies. Additionally, our Small Business Innovative Research (SBIR)/ Small Business Technology Transfer (STTR) Program allows for a more streamlined process for small businesses to enter into a SBIR/STTR contract. The SBIR/STTR program has started working with innovative programs such as Technology Accelerators to align solicitation guidelines to best meet the rapid pace of an Accelerator and speed up contracting actions. Another benefit of SBIR/STTR is that all companies awarded a contract from a SBIR/STTR topic retain intellectual property rights. The Defense Acquisition University offers Other Transaction Authority training courses to acquisition and contracting personnel. The Air Force is reviewing its initial skills training course to incorporate Other Transaction Authorities.

13. Senators MCCAIN and REED. Congress has taken action to address some of the concerns raised by non-traditional companies in the fiscal years 2016 and 2017 National Defense Authorization Acts, for example by allowing greater use of Other Transaction Authority and eliminating or reducing the burden of some contract terms and conditions. What additional authorities, if any, do you need from the Congress to address concerns raised by non-traditional companies?

Secretary LORD. At this time we do not anticipate needing any additional authorities to address concerns raised by non-traditional companies. The Department appreciates the flexibilities provided by Congress in the fiscal year 2016 and 2017 NDAs, as well as the recently passed Fiscal Year 2018 NDAA. The Department continues its efforts to increase awareness and encourage use of OT authorities by the acquisition workforce through additional training and OTA delegations. We are implementing these provisions via Defense Federal Acquisition Regulation Supplement Cases, Defense Procurement and Acquisition Policy Memoranda, or updates to the OT Guide, with the intent of increasing awareness and access to non-traditional contractors. However; we would like to reserve the ability to revisit this topic with your staffs and discuss additional authorities needed as we identify areas of oppor-
tunity. As stated in responses to other questions, our ability to establish streamlined, effective training methodologies using a new approach at DAU is critical to enabling a sustained capability within our Acquisition Workforce to facilitate a simple, fast and flexible acquisition system.

Secretary Esper. DOD is implementing legislative reforms in fiscal years 2016, 2017 and 2018 NDAA. As we work towards instituting these reforms, we will identify the need for future legislative reforms and work with Congress to develop legislative solutions. One example is improving commercial buying policies to be more consistent with commercial practices in order to attract the best and the brightest non-traditional companies to the government market place. Achieving the definition of commercial items and challenging operational testing with commercial items also could add many of the implementation steps are in the early stages, therefore, it is too early to determine whether additional Congressional authorities are warranted.

Secretary Geurts. The DON greatly appreciates the additional acquisition flexibility provided with the expansion of our ability to use OTAs to reach firms, products and ideas that we have not been able to reach with the more traditional acquisition authorities for research projects, prototypes and limited production. No additional authorities are requested at this time. Continued support for the Defense Acquisition Workforce Development Fund will be critical so that we can properly train our acquisition workforce on best practices to leverage these new authorities to reach a broader set of solution providers.

Secretary Wilson. The Air Force appreciates the Congressional support of expanding the use of Other Transaction Authorities and minimizing the burden on small business entry into the Department of Defense. The Air Force would like to see authorization for Direct to Phase II Small Business Innovative Research / Small Business Technology Transfer contracts. It was not re-authorized in the Fiscal Year 2018 NDAA and lapsed as of 1 October 2017. The reauthorization of Direct to Phase II would give non-traditional companies a streamlined option to do business with the DOD.

MAJOR WEAPONS SYSTEMS

14. Senators McCain and Reed. Secretaries Lord, Esper, Geurts, and Wilson, when DOD awards major weapon system development contracts that establish cost, schedule and performance goals that are informed by mature technologies and early systems engineering analysis—an approach that reflects best practices used by many leading commercial companies—those goals are more realistic and program success is much more likely. While DOD has made progress in this area over the past decade, many programs continue to experience cost, schedule, and performance problems.

In your opinion, what are the root-causes of major weapon system program problems, and what additional changes, if any, do you think DOD needs to make to address them?

Secretary Lord. The Department conducts a detailed root cause analysis (RCA) on all programs that breach critical Nunn-McCurdy (N–M) thresholds. While these kinds of breaches are uncommon, the forensic analysis embodied in the root cause analyses illustrate how poor planning and/or execution leads to these poor outcomes. An analysis of all the critical N–M breaches from 2010 to 2018 revealed a number of cross-program trends. Among those are the development of unrealistic baseline estimates for cost and schedule and poor performance by government and contractor personnel responsible for program management. The most recent N–M breach on the Advanced Arresting Gear (AAG) program is an example of both these causes. The RCA concluded that the program failed to understand the technical maturity of the program at its inception and to plan properly. Additionally, program management and leadership failed to recognize these latent problems early and execute fixes early on. These causes are further demonstrated by the Next Generation Operational Control System (OCX) program where an unrealistic externally dictated schedule was established without reference to program content. Unrealistic schedules and cost estimates have been seen on a number of other N–M RCAs such as the F–35, the Assembled Chemical Weapons Alternatives (ACWA) program, and the Global Hawk. For this reason, the Department has been driving the requirement to understand and track throughout development the basic framing assumptions that programs baseline cost and schedule estimates are based on. Understanding cost, schedule and performance risk is greatly facilitated by prototyping and experimentation prior to program kickoff. We are striving to introduce more prototyping and experimentation through the new R&E construct. Additionally, I believe that flexibility with requirements is key as programs progress in order to facilitate
streamlined, cost effective and schedule efficient execution. As discovery occurs over
the course of a program and shortfalls are identified, non-materiel effective and suit-
able compensatory measures may be identified, such as updates to tactics, tech-
niques and procedures. Speed of decision is critical during program execution, and
every additional day represents more tax payer dollars spent and delayed fielding of
critical capabilities to our nation’s forces. As such, authority to approve such re-
quirements changes needs to be delegated to the lowest possible level.

In terms of personnel performance, I am taking major steps to improve program
management and the acquisition workforce. These steps include making sure we
have the right people in the right positions, as well as ensuring they have the right
education and training for the duties they will be expected to perform. Additionally,
the Defense Acquisition University curriculum is being reconsidered in regard to
content and delivery.

Secretary ESPER. A root cause for major weapon system program problems within
the Army starts with requirements that take too long to establish, are often too am-
bitious, and frequently change throughout the process.

Secretary GEURTS. Poorly defined requirements, a lack of proper change control,
and non-flexible architectures and processes are the root-causes of major weapon
system program problems. Our focus is on stable, well-defined and understood re-
quirements prior to weapons systems production while also building flexibility into
our systems and processes that allow for accelerated system delivery and adapt-
ability in the integration of new requirements within appropriate cost.

Secretary WILSON. The Air Force believes there are a few root causes of prob-
lems—technical challenges, requirement stability, and stable budgets. Technical
challenges during system development often cause delays and cost growth. We can
alleviate these by pursuing more prototyping and experimentation to identify the
achievable capabilities and technical requirements in the timeframe the warfighter
needs them. In addition, ensuring requirement stability curbs program cost growth
and schedule delays. For example, the Air Force has experienced challenges with
software development-intensive programs. We have started Pathfinder efforts to
relook at how we initiate these programs. The Air Force also experiences challenges
ensuring stable and timely program budgets. We identify the budgets programs
need to execute the acquisition strategy. However, the instability of funding
amounts and timeliness are challenges all programs face. We need stable, timely
budgets to execute the plans and programs to deliver the warfighter capability.

15. Senators McCAIN and REED. Given the shift in acquisition authority from
OSD to the military services, do you anticipate any challenges with ensuring pro-
grams begin with well informed and realistic goals?

Secretary LORD. I do not. The shift in authority to the Services is balanced by
the requirements of section 807 of the Fiscal Year 2017 NDAA which requires the
Secretary to establish cost, schedule and performance goals prior to beginning Major
Defense Acquisition Programs to ensure the Service programs are affordable and
will deliver when needed. We are currently working through section 807 require-
ments on the Army Lower Tier Air and Missile Defense Sensor (LTAMDS) program.

Secretary ESPER. I believe that the shift in acquisition authority coupled with the
establishment of Cross Functional Teams and a reinvigorated Army Requirements
Oversight Council posture us to establish well-informed and realistic goals. With re-
newed emphasis on aligning resources, requirements, and acquisition, and emphasis
on Senior Leader engagement, the real business of developing and fielding capabili-
ties quickly and efficiently can be addressed in real time with all of the key partici-
pants.

Secretary GEURTS. The delegated authority allows DON to manage the perform-
ance of programs designated as Acquisition Category 1C and IB. There are, how-
ever, numerous additional milestones and phase documents still requiring OSD ap-
proval. Examples include:

- Program cost, fielding, and performance goals under 10 U.S.C. § 2448a (must
  be established by the Secretary of Defense, delegable only to the Deputy Sec-
  retary of Defense);
- Independent cost estimates (ICEs) under 10 U.S.C. § 2334 (must be either con-
  ducted or approved by DCAPE);
- Analysis of Alternative study guidance under 10 U.S.C. § 2366a (must be devel-
  oped by DCAPE).

The DON will continue to ensure appropriate analysis and rigor is taken when
developing program capability, cost, and schedules, and will continue to work with
the experts across the DOD and industry for review, validation and best practices.
Secretary WILSON. The Air Force has put an emphasis on ensuring realistic technical requirements and cost goals that will result in the timely delivery of affordable capability within the appropriate level of risk. We will continue that emphasis for all of the Air Force acquisition programs. Additionally, Congress put in place requirements for both the Service Secretary and Chief of Staff to concur with the cost, schedule, technical feasibility, and performance trade-offs for our Major Defense Acquisition Programs. These reviews ensure leadership receives adequate information before program initiation.

16. Senators MCCAIN and REED. Given your prior experiences, what do you believe are the keys to a successful product development program, and to what extent do you believe those keys are resident within the DOD acquisition environment? Please explain.

Secretary LORD. Based on my industry experience, we need to establish a proper program baseline and identify realistic cost, schedule, and performance metrics. Then we put people with the appropriate skill sets, training and leadership capability in key roles and hold them accountable. As I did in industry, we look at the numbers every month to see where we are and establish action plans where we are not meeting targets. I believe the keys to success depend on attracting, developing and retaining motivated people in the acquisition workforce. I will also be retooling the Defense Acquisition University so that the workforce has the proper training and resources to be successful.

Secretary ESPER. I believe keys to a successful product development program are stable, realistic requirements, predictable and stable funding and sufficiently mature technologies prior to integration, test, production and fielding. We absolutely have the capabilities to successfully execute product development within the Department of Defense.

Secretary GEURTS. Successful programs have well defined requirements, built in open standards and flexible architectures. They have the right government and industry team for the particular program, who are both empowered and held accountable, with access to rapid decision making processes.

I believe there are many examples of these programs in the DON including the Virginia-class Submarine Program and the F-8 Program. My focus will be to continue to ensure we focus on these factors for success as we execute our existing portfolio or programs and design MDAPs in the future. I believe putting program responsibility back into the hands of the Services to execute will greatly enhance the ability of more programs to be successful in the future as it enables the key tenets of accountability, rapid decision making, and empowered teams.

Secretary WILSON. The keys to successful product development: understand the feasibility of capabilities given the required timeframe and available resources; continue to emphasize technical maturation and risk reduction activities; and aggressive use of tools such as prototyping and experimentation before pursuing the full development of a system.

17. Senators MCCAIN and REED. Secretaries Lord, Esper, Geurts, and Wilson, section 832 of the Fiscal Year 2018 NDAA prohibits the use of the low-cost, technically acceptable (LPTA) source selection approach for DOD’s engineering and manufacturing development contracts for MDAP’s.

In your opinion, is there any situation that you would feel warrants a LPTA source selection approach for DOD’s engineering and manufacturing development contracts?

Secretary LORD. No. The Lowest Priced Technically Acceptable (LPTA) source selection process is the appropriate source selection process to use when the products and services are well-defined, commercial, or non-complex; there is minimal risk of unsuccessful contract performance; price has a dominant role in source selection; and there is no value, need or interest to pay for higher performance. These are not characteristics of engineering and manufacturing development (EMD) contracts for Major Defense Acquisition Programs (MDAP); therefore, I do not believe there are any situations that would warrant an LPTA source selection approach for DOD’s EMD contracts.

Secretary ESPER. Current Army and DOD Source Selection procedure guidance specify that LPTA should only be used when there are well-defined requirements, the risk of unsuccessful contract performance is minimal, price is a significant factor in the source selection, and there is neither value nor willingness to pay more for higher performance. Since requirements for engineering and manufacturing develop-
ment phase contracts are typically not as well defined as requirements for subsequent program phases, use of an LPTA contract would generally be inappropriate.

Secretary GEURTS. The Lowest Price Technically Acceptable (LPTA) method is a tool in the Best Value Continuum, and when used in appropriate circumstances and combined with effective competition and proper contract type, can provide a best value solution. The first prerequisite to use of LPTA is a firm understanding of what constitutes “technically acceptable.”

Secretary WILSON. Every acquisition program is different and must be evaluated on the specific program details. In general, the LPTA source selection approach is not appropriate for Engineering and Manufacturing Development contracts for Major Defense Acquisition Programs.

18. Senators MCCAIN and REED. In the past, programs have stated that they are not using an LPTA source selection approach but the intent of the approach was to select the lowest cost, technically acceptable bidder, what steps will you take ensure that the approach taken by programs follows the intent of section 832?

Secretary LORD. The Milestone Decision Authority for each MDAP approves an Acquisition Strategy that describes the source selection strategy for the EMD contract. The Department also conducts multi-functional senior-level peer reviews of solicitations for contracts over $1 billion. Contracts less than $1 billion are reviewed by senior acquisition leaders as to leverage these tools to ensure that MDAP source selections are consistent with section 832.

Secretary ESPER. There are appropriate levels of review and approvals to monitor use of LPTA. The Army seeks best value in all procurements that ensure we secure the best price, the items meet technical standards and safeguard taxpayer dollars.

Secretary GEURTS. The intent of section 832 is regularly shared in senior acquisition forums such as the Naval Contracting Council. The statutory prohibition will be implemented by the DOD in the Defense Federal Acquisition Regulation Supplement.

Secretary WILSON. The Air Force will use the procedures established in the Defense Federal Acquisition Regulation Supplement as section 832 is implemented.

19. Senators MCCAIN and REED. In your opinion, what do you see as the challenges in enforcing this provision?

Secretary LORD. In 2010, the GAO reported challenges the Department faced when using best value tradeoff procedures and recommended developing training elements such as case studies. The Department concurred and implemented the recommendation in August 2012. The DOD Source Selection Procedures were issued in March 2011 and expanded in April 2016 to provide additional guidance in making sound award decisions. No further recommendations were made by GAO in its 2014 follow-up study or its 2017 report; however, we will also ensure that a module addressing section 832 is included in applicable Defense Acquisition University courses. I am confident that the processes described above are adequate to ensure compliance with section 832.

Secretary ESPER. Army and DOD guidance aligns with the provision in section 832 of the Fiscal Year 2018 NDAA regarding the use of LPTA. We will continue to scrutinize all program decisions including the contracting approach to identify and mitigate any emerging challenges with enforcing this provision.

Secretary GEURTS. As LPTA contracts were previously often contract “vehicles of choice” by many buying organizations, ensuring they have the proper training and mindset will be required. In addition, training the requiring organizations to be able to clearly articulate what is of value will be critical to ensuring we are selecting the right offeror for the requirement.

Secretary WILSON. Once the requirements of this provision are implemented for the Department of Defense we do not anticipate significant challenges enforcing this guidance.

OSD(AT&L) REORGANIZATION

20. Senators MCCAIN and REED. Secretaries Lord, Esper, Geurts, and Wilson, the Fiscal Year 2016 National Defense Authorization Act significantly enhanced the role of the service chiefs in acquisitions, giving the chiefs input into decisions regarding basing resources and priorities (such as tradeoffs between the cost, schedule, and performance of major weapon systems), and the management of career paths in acquisition for military personnel.¹

¹ Section 802 of the Fiscal Year 2016 NDAA, amending 10 USC 2547(a).
The Fiscal Year 2016 NDAA also requires the JROC to "seek, and strongly consider, the views of the Chiefs of Staff of the armed forces" and for the chiefs to advise the decision authority for Milestones A and B on cost, schedule, technical feasibility, and performance trade-offs.

Given their other responsibilities, is this asking too much of the Service Chiefs?

Secretary LORD. From my perspective, the goal is not to make the Service Chiefs and non-acquisition senior officers into experts in acquisition, but rather to ensure they have the opportunity to provide their warfighting perspective and recommendations before and during program execution. Their input on priorities and trade-offs facilitates more informed acquisition decisions and improved program outcomes. I value their input and perspective.

Secretary ESPER. No, I do not believe that this is asking too much of the Service Chiefs. The Chief of Staff of the Army has embraced his enhanced role in acquisitions while capably discharging his important title 10 responsibilities. I'm confident that the Chief of Staff of the Army is fully capable of executing his authorities.

Secretary GEURTS. The Service Chiefs provide a valuable perspective as we develop and procure systems for the warfighter. The DON has refined our gate review process to ensure the alignment of the new role of the Services Chiefs as part of the acquisition process, and have also established a new Accelerated Acquisition Board of Directors (AABoD), composed of the CNO, CMC and myself, to designate selected warfighting needs and priorities to be accelerated and increase the speed to capability. The involvement of the Service Chiefs is critical to this effort to streamline the development and approval of top level requirements designed to support a more flexible, agile and cost effective path to solution development and fielding.

Secretary WILSON. The inclusion of the Service Chiefs is critical to ensuring we are integrating and balancing requirements, technical feasibility and affordability in acquisition.

21. Senators MCCAIN and REED. Do you believe that there should be an increased focus on acquisition in senior officer training, to instill a greater understanding of acquisition among senior officers?

Secretary LORD. From my perspective, the goal is not to make the Service Chiefs and non-acquisition senior officers into experts in acquisition, but rather to ensure they have the opportunity to provide their warfighting perspective and recommendations before and during program execution. Their input on priorities and trade-offs facilitates more informed acquisition decisions and improved program outcomes. I value their input and perspective.

Secretary ESPER. Increased understanding of the acquisition process helps ensure better acquisition outcomes across the force. We will continue to build upon the progress made to date in training that encompasses the basics of the acquisition process but also includes a focus on writing clear, concise and executable requirements. Current senior officer training leads to a better understanding of the value that acquisition expertise brings to bear on the process and a greater synchronization of our total Army efforts to equip the force.

Secretary GEURTS. In order to grow the acquisition skills in our requirements offices, we must provide general acquisition training at every level of Officer training to ensure we are developing well rounded Officers that are positioned to have a solid understanding of the acquisition process as they progress through the ranks. My staff has been working very closely with the Service Chiefs to ensure increased communication and training.

Secretary WILSON. Yes, I believe that senior officers need to have a better appreciation and understanding of how the Air Force acquires systems. An understanding of acquisition assists in more informed decisions by those officers serving in crucial areas such as requirements, development, budgeting and financial management.

22. Senators MCCAIN and REED. Secretaries Lord, Esper, Geurts, and Wilson, the Fiscal Year 2016 NDAA shifted significant acquisition authority to the services. For example, generally, the service acquisition executive will be the milestone decision authority for major defense acquisition program.2

Do the services have the necessary expertise and personnel to execute these new responsibilities?

Secretary LORD. I believe the Services, for the most part, have the necessary expertise and personnel. The Services have always acted as the Milestone Decision

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2Section 825. Under certain circumstances, the Secretary of Defense may designate an alternate milestone decision authority, including for joint programs. See 10 USC 2430.
Authority (MDA) for those programs where USD(AT&L) was not designated as the MDA. Even in cases where USD(AT&L) was the MDA, the Service Acquisition Executives reviewed the programs prior to the OSD review. The same expertise and personnel will be resident in the Services for delegated programs. In addition, even where the USD(AT&L) was the MDA, the Services still executed the programs so no additional preparation on their part should be required. The measure of success should be whether needed capabilities are delivered on time, in militarily meaningful quantities, at an affordable cost. Progress towards these goals needs to be measured on a monthly basis. I plan to significantly revamp the Defense Acquisition University, add many short courses, focusing on utilizing the authorities provided by Congress. Acquisition professionals will have the opportunity to review case studies that show how these authorities have been successfully implemented to simplify and speed up acquisition.

Secretary Esper. In the Army, we have a skilled cadre of Acquisition Workforce professionals who are trained, educated, experienced and certified in the acquisition process within one or more of the Department’s 14 specific acquisition career fields. Depending on the mission, I am confident that there are extremely qualified and experienced acquisition professionals and teams ready to execute these responsibilities. That said, I understand from recent conversations with my Army Acquisition Executive that he has a plan for ensuring greater technical competencies both within the general acquisition workforce but in the leadership as well. This includes the requirements development community. I will work closely with Dr. Jette and, as necessary, officials within the office of the Assistant Secretary of the Army (M&RA) to ensure the Army acquisition workforce has the skills and capabilities to develop and acquire the best equipment, services and technologies available today and in the future. This includes properly balancing the necessary skills and resolving the constraints on developing inherently governmental technical talent.

Secretary Geurts. Yes. The Navy’s acquisition workforce has the necessary expertise and personnel trained to execute these new responsibilities. The Navy was the Milestone Decision Authority (MDA) for 29 of our ACAT I programs, and now is the MDA for 37 of our 39 ACAT I programs.

Secretary Wilson. Today, the Air Force has the expertise and personnel necessary to execute the increased responsibilities for acquisition authority. I will monitor the workload and skill sets needed to exercise these increased authorities.

23. Senators McCain and Reed. What steps does your service need to take to be fully prepared to execute these duties?

Secretary Lord. I believe the Services, for the most part, have the necessary expertise and personnel. The Services have always acted as the Milestone Decision Authority (MDA) for those programs where USD(AT&L) was not designated as the MDA. Even in cases where USD(AT&L) was the MDA, the Service Acquisition Executives reviewed the programs prior to the OSD review. The same expertise and personnel will be resident in the Services for delegated programs. In addition, even where the USD(AT&L) was the MDA, the Services still executed the programs so no additional preparation on their part should be required. The measure of success should be whether needed capabilities are delivered on time, in militarily meaningful quantities, at an affordable cost. Progress towards these goals needs to be measured on a monthly basis. I plan to significantly revamp the Defense Acquisition University, add many short courses, focusing on utilizing the authorities provided by Congress. Acquisition professionals will have the opportunity to review case studies that show how these authorities have been successfully implemented to simplify and speed up acquisition.

Secretary Esper. My understanding is that the steps are already in place. The Army Acquisition Workforce Human Capital Strategic Plan focuses on five major goals: Workforce Planning; Professional Development; Leader Development; Employee Engagement; and Communications and Collaboration. Readiness is the Army’s number one priority, and this plan, which is executed by the Army Director, Acquisition Career Management (DACM) Office, ensures our Army acquisition professionals remain ready to provide the equipment and services for our Soldiers to win across multiple spectrums, conditions and geographies now and in the future.

Secretary Geurts. To properly execute our new responsibilities, it will be necessary to maintain a robust acquisition workforce that can provide effective oversight without undue burden on programs. The Navy will continue to utilize and leverage the Defense Acquisition University and other acquisition training and continuous learning to maintain and grow our acquisition professionals.

Secretary Wilson. We already have the processes in place needed by the Air Force Service Acquisition Executive to make milestone decisions for programs at the Air Force level.
24. Senators McCain and Reed. How will your service manage these programs differently than OSD in order to deliver better outcomes?

Secretary Lord. I believe the Services, for the most part, have the necessary expertise and personnel. The Services have always acted as the Milestone Decision Authority (MDA) for those programs where USD(AT&L) was not designated as the MDA. Even in cases where USD(AT&L) was the MDA, the Service Acquisition Executives reviewed the programs prior to the OSD review. The same expertise and personnel will be resident in the Services for delegated programs. In addition, even where the USD(AT&L) was the MDA, the Services still executed the programs so no additional preparation on their part should be required. The measure of success should be whether needed capabilities are delivered on time, in militarily meaningful quantities, at an affordable cost. Progress towards these goals needs to be measured on a monthly basis. I plan to significantly revamp the Defense Acquisition University, add many short courses, focusing on utilizing the authorities provided by Congress. Acquisition professionals will have the opportunity to review case studies that show how these authorities have been successfully implemented to simplify and speed up acquisition.

Secretary Esper. The delegation of milestone decision authority will help the Army improve both accountability and efficiency in acquisition. First, control of the decision making process allows the Army to be accountable for its decisions. With the authority and manpower, the Army can take meaningful steps to ensuring its program managers’ tenures are aligned with the critical milestones, and ensure that those program managers and the Army will be answerable for their decisions. We intend to expand on this concept, and drive down the decision authority to the program offices where able. Centralized planning and decentralized execution will help drive agile initiatives as the program offices will be able to operate without unnecessary bureaucratic interference delaying programs, changing requirements, or driving up cost. Through our ongoing Army Acquisition reform efforts and developing organizational concepts, we intend to reduce the requirement development process from nearly five years down to one. It will also insure that our warfighters are involved from the earliest stages of acquisition and partnering in the decisions.

Secretary Geurts. The Navy takes the new responsibilities enacted in the Fiscal Year 2016 NDAA very seriously. We have worked with USD–ATL to delegate eight of our 10 ACAT 1D programs to the Navy for management, and will continue to work with ATL to identify additional opportunities for streamlining under the new authorities. The Navy already utilizes the gate review process to manage and review programs annually. I intend to provide a monthly snapshot of our acquisition programs to the Secretary, CNO and CMC. I also intend to conduct regular portfolio reviews with each of the Program Executive Offices (PEO) to ensure programs are on track and risks are identified. While delegating milestone decision authority to the Navy means that the PEO and program offices most familiar with the issues are the organizations resolving them, I note that programs that have been delegated to the Services for oversight are still subject to certain program documentation being approved at the OSD level. The Navy will reach out to the appropriate offices within OSD for subject matter expertise as required.

Secretary Wilson. The Air Force will not specifically manage the programs differently than OSD. With processes already in place to work towards major program decisions, we anticipate more timely decisions from the Service Acquisition Executive with the reduction of bureaucracy. The Air Force will continue to keep a streamlined decision process in place to prevent needless delay.

25. Senators McCain and Reed. How should we measure the success of the services in executing acquisitions?

Secretary Lord. I believe the Services, for the most part, have the necessary expertise and personnel. The Services have always acted as the Milestone Decision Authority (MDA) for those programs where USD(AT&L) was not designated as the MDA. Even in cases where USD(AT&L) was the MDA, the Service Acquisition Executives reviewed the programs prior to the OSD review. The same expertise and personnel will be resident in the Services for delegated programs. In addition, even where the USD(AT&L) was the MDA, the Services still executed the programs so no additional preparation on their part should be required. The measure of success should be whether needed capabilities are delivered on time, in militarily meaningful quantities, at an affordable cost. Progress towards these goals needs to be measured on a monthly basis. I plan to significantly revamp the Defense Acquisition University, add many short courses, focusing on utilizing the authorities provided by Congress. Acquisition professionals will have the opportunity to review case studies.
that show how these authorities have been successfully implemented to simplify and speed up acquisition.

Secretary ESPER. A measure of success should be whether we fielded the equipment necessary within specified resourcing allocations to achieve a sustained overmatch against our adversaries in time to meet the need. We should specifically measure acquisition programs against their approved Acquisition Program Baselines (APB) and should also use metrics to assess our success in achieving stability in resourcing and requirements.

Secretary GEURTS. The success of the Services in executing acquisitions should be measured by their ability to affordably deliver capable capacity to the warfighter in a timely manner, on cost and on schedule.

Secretary WILSON. The Air Force should measure success through the on-time, on-budget delivery of capabilities the warfighter needs. We have in place today measures that track our performance in these areas and we will continue to track our performance going forward.

26. Senators M CCAIN and R EED. What should be the benchmark for determining if this assignment of authority to the services was successful? Or for determining that the services have not lived up to expectations and acquisition authority should be assigned to OSD?

Secretary LORD. I believe the Services, for the most part, have the necessary expertise and personnel. The Services have always acted as the Milestone Decision Authority (MDA) for those programs where USD(AT&L) was not designated as the MDA. Even in cases where USD(AT&L) was the MDA, the Service Acquisition Executives reviewed the programs prior to the OSD review. The same expertise and personnel will be resident in the Services for delegated programs. In addition, even where the USD(AT&L) was the MDA, the Services still executed the programs so no additional preparation on their part should be required. The measure of success should be whether needed capabilities are delivered on time, in militarily meaningful quantities, at an affordable cost. Progress towards these goals needs to be measured on a monthly basis. I plan to significantly revamp the Defense Acquisition University, add many short courses, focusing on utilizing the authorities provided by Congress. Acquisition professionals will have the opportunity to review case studies that show how these authorities have been successfully implemented to simplify and speed up acquisition.

Secretary ESPER. The execution of acquisition programs against their approved APBs should be the benchmark we use to measure the success of delegation of Milestone Decision Authority to the services.

Secretary GEURTS. The Services ability to affordably deliver the required capability to the Fleet in a timely manner on cost and schedule should be the benchmark. The Navy will still work closely with the OSD AT&L staff during program execution and will transparently inform the Hill on program progress for any program within the Navy's portfolio.

Secretary WILSON. The Air Force should be reaching milestone decisions more expeditiously than before. The benchmark for determining if this assignment authority is successful will be the delivery of warfighter capability on time and within budget.

GENERAL ACQUISITION REFORM AND IMPROVEMENTS

27. Senators McCaIN and REED. Senators McCaIN and REED. Secretaries Lord, Esper, Geurts, and Wilson, we are hearing about numerous efforts to reform acquisition. Some of the services have publicly embarked on acquisition reform initiatives. OSD is working on reform efforts. The Administration has talked about such reform and issued an executive order that affects acquisition regulations. The 809 Panel—which this body established to put forward recommendations—will be issuing a report in January. Such a fragmented approach risks competing efforts and conflicting approaches, potentially leading to little meaningful progress. Who is coordinating, overseeing, and ultimately managing these disparate efforts to ensure unity of effort?

Secretary LORD. The Department recognizes that, as the attached chart shows, there are multiple and in some cases overlapping efforts ongoing, all with the goal to improve acquisition agility and innovation; improve acquisition outcomes; and reduce regulations. I am responsible for overseeing these efforts as the USD(AT&L); once the reorganization is in effect the USD(A&S) and the USD(R&E) will share that responsibility and will coordinate with each other and the Services. With regard to ongoing efforts:
a. With regard to the section 809 panel, while that panel was established as an independent panel I meet with them regularly. Their final report’s Volume 1 includes some 74 specific recommendations in the areas of Commercial Buying, Contract Compliance and Audit, Defense Business Systems, Earned Value Management, Services Contracting, Small Business, Statutory Offices and Designated Officials, and Statutory Reporting Requirements. I look forward to continued discussions with the Panel on these and the next two volumes of their recommendations. When they publish their final volume, I will provide my recommendations to you.

b. DCMO is leading the Department-wide Regulatory Reform Task Force, but my Defense Procurement and Acquisition Policy staff leads the acquisition-specific DFARS subgroup.

c. OSD and the Services are participating in the Acquisition Statute Review as called for in the fiscal year 2018 HASC committee report. That review is well underway. I will identify opportunities to modify statute that will help us streamline the acquisition process while still achieving the statutory intent. Among the 35 proposals under review include statutory revisions intended to delegate approval and waiver authority to a lower level than currently provided; elimination of certain written determinations and approvals; and other changes to streamline IT acquisition and generally allow for approval authorities closer to the level of execution. I will approve the recommendations included in the report which we will transmit to the HASC and SASC.

d. I anticipate USD(R&E) will coordinate with me on their Review of Barriers to Innovation in R&E Activities.

e. I will soon issue two key policies, the first a revision to DODI 5000.02 which provides overarching policy on the operation of the acquisition system and second, a separate policy document uniquely tailored for Middle Tier acquisition programs.

f. The Independent Advisory Panel on Tech Data Rights was established pursuant to the Federal Advisory Commissions Act. When they publish their final report, the Department will transmit it to the Defense committees and I will include my recommendations at that time.

Acquisition Reform Efforts

Secretary Esper. The Office of Assistant Secretary of the Army for Acquisition, Technology, and Logistics (OASAALT) has served as the Army’s lead for implementing the acquisition reforms Congress has enacted. The Army also is participating in the Department of Defense’s implementation efforts and has representa-
tion in most if not all fora for those endeavors. We are also attempting to pilot key efforts that will provide feedback on our lessons learned to the Office of the Secretary of Defense.

Secretary GEURTS. ASN (RD&A) oversees and manages all DON acquisition reform initiatives in close coordination with USD (AT&L) in order to ensure unity of effort within the DON and among the DON and other DOD components.

Secretary WILSON. Within the Air Force acquisition enterprise, we have a Chief Process Officer and a team coordinating, overseeing, and managing these efforts. This team tracks progress against acquisition reform efforts. Additionally, we have created an Acquisition Process Model, which gives program managers a tool for mapping their processes to align with the most recent guidance and policies.

28. Senators MCCAIN and REED. Secretaries Lord, Esper, Geurts, and Wilson, a number of analysts have raised concerns that there is not enough coordination between requirements, budget, and acquisition execution. Do you believe this to be true? If so, what are your thoughts on how to address any lack of coordination?

Secretary LORD. I do not believe there is a lack of coordination between the Department's three business cycles. Rather, there is a natural tension engendered by competing demands for scarce resources and the need to address shifting priorities to meet immediate threats. The key is for open communication between the stakeholders so that the Department can optimize resources to meet short-and long-term needs. I believe that there is good teamwork among DOD senior leadership that enables better communication and collaboration than in the past.

Secretary ESPER. Yes, the Army has taken several steps to improve coordination between its requirements, acquisition, and budget processes, and is currently implementing additional reforms to further integrate and strengthen these processes. The Fiscal Year 2016 NDAA (section 808) directed the Army to report on the links between requirements, acquisition, and budget processes. The then Acting Secretary and the Chief of Staff took some immediate actions as a result of this study to improve the Army's ability to evaluate and reform our acquisition process. Some of the actions include; (1) reinvigorating the Army Requirements Oversight Council; (2) consolidating staff elements; (3) establishing the Army Rapid Capabilities Office; and (4) forming the Office of Process Innovation and Integration to provide further support for Army Acquisition reform.

The Office of Process Innovation and Integration has followed these initial reforms with a total of nine new initiatives that will increase the Army's ability to more quickly provide capabilities to Soldiers while being fiscally responsible. The most pertinent reform is the establishment of Army Modernization Task Force to explore all options to establish unity of command and unity of effort that consolidates Army's modernization process under one roof. These initiatives will adhere to the following overarching principles to improve the Army's processes: use of (1) early engagement and collaboration, (2) centralized planning and decentralized execution, (3) cost- and resourced-informed decisions, and (4) consistent metrics to evaluate success. This ensures that those developing the requirements have insightful realistic advice on technologies essential to operational concepts, that realistic costing is applied to concepts for more informed trades, and that those involved in the specific acquisition process understand their programs from the underlying operational concepts, technologies, costs, and trades to contracting and execution.

Secretary GEURTS. No, I do not believe there is a lack of coordination between the requirements, budget and acquisition processes. The Navy ensures close coordination through the Gate Review process which enables the CNO and CMC to directly participate in the requirements and acquisition process and work with me to balance the necessary trades among cost, schedule and technical maturity to meet the Fleet needs. As the SAE, I participate with the CNO's requirements officials on the Corporate Review Board which is responsible for oversight of the Navy budget.

In addition, I am initiating monthly portfolio reviews that will bring together the acquisition, programming, and requirements officials to discuss coordination, support, execution and delivery of the right capability and capacity for the DON's warfighting requirements.

Secretary WILSON. The Air Force has made a concerted effort to improve the coordination between requirements, budget, and acquisition execution. We believe we have in place today the processes in all of these areas that bring these key players together to help make programs successful. There is always room for improvement and we need to continue to look at ways to ensure we have in place the appropriate checks and balances.
29. Senators McCaIN and REED. Senators McCaIN and REED. Secretaries Lord, Esper, Geurts, and Wilson, CBO and GAO have regularly reported that DOD starts more acquisition programs than it can afford to complete. As a 2016 CBO report stated “Several areas of DOD’s budget have frequently turned out to cost more than originally planned or to increase more rapidly than expected. Those areas include the following: costs to develop and purchase weapon systems… [and] operation and maintenance costs.” How do you guard against starting more programs than you can afford? How do you ensure that the cost estimates are realistic?

Secretary LORD. Current policy requires the Milestone Decision Authority (MDA) to assess affordability and establish corresponding acquisition and sustainment constraints which are to be monitored throughout the program’s lifecycle. This was reinforced in the Fiscal Year 2017 NDAA which codified establishing program cost, fielding, and performance goals before funds are obligated for technology development, systems development, or production of an MDAP. The Department is in the process of establishing the mechanisms to implement specific requirements of the statute, starting with near term new Army and Air Force programs.

To ensure cost estimates are realistic, I rely on the Department’s cost estimating community, particularly CAPE and the Service Cost Agencies to produce estimates based on historic data that consider prior contractor performance, historic program performance, and risk, plus the associated costs if those risks are realized. These cost estimates represent the best judgement and assumptions available at a point in time. Rather than being inviolable, costs estimates can and should change as we respond to changes in technology, threats, budget priorities, and other factors to ensure we’re responsive to evolving needs. I meet weekly, one-on-one, with the Cost Assessment and Program Evaluation (CAPE) Director to ensure adequate communication.

Secretary ESPER. The Army must fully fund programs to the cost position in the Future Year Defense Plan (FYDP) at Milestone (MS) A, B, and C Decision Reviews and Full Rate Production (FRP) Decisions or Full Deployment Decision (FDD) reviews. The Army identifies specific offsets to address any funding shortfalls that may exist in the current FYDP. In order to ensure cost estimates are realistic, the Army has implemented formal cost estimation measures for Major Defense Acquisition Programs (MDAPs) and Special Interest programs across the HQDA level that convene at the Request for Proposal (RFP) Releases and each of the Milestone Decision Reviews (MS A, MS B, MS C, and FRP) to reconcile the Program Office Estimate (POE) and the Army independent estimate into a single Army estimate through a Cost Review Board (CRB). The reconciled position is a complete life-cycle cost from inception to disposal and becomes the Army Cost Position (ACP). The ACP is compared to program funding to determine program affordability and ensure full funding of the program. If the program cannot be fully funded to the ACP, it is adjusted by adding additional resources, program re-phasing, or de-scoping. ACAT II and III programs are delegated to the Program Executive Offices (PEOs), which are responsible for conducting reviews at their respective levels. In addition, Headquarters Department of the Army conducts annual reviews of ACAT II programs. To further improve cost estimation, the Army validates early course of actions for Initial Capabilities Document (ICD) estimates and develops independent cost estimates for Army Acquisition Executive (AAE) selected non-Major Defense Acquisition Programs (MDAP). Finally, the Army conducts Operational Sustainment Reviews (OSRs), which are initiated five years after the Initial Operational Capability (IOC) is declared and continues through the life of the system. These engagements provide Army leaders with consistent and accurate information to make informed resource decisions.

Secretary GEURTS. Our program wholeness efforts as part of our budgeting process, combined with Gate Reviews, Configuration Steering Boards, and program Sufficiency reviews are geared to provide the leadership with the information about programs Cost, Schedule, and Technical challenges, and to inform on program affordability.

Stability is key to controlling costs across our acquisition programs. We accomplish this by: setting firm requirements; stabilizing designs; taking an incremental

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approach to technology development (via prototyping and experimentation, as appropriate) to decrease technical risk prior to approving major defense acquisition programs; employing acquisition strategies that maximize multi-year procurements, block buy contracts, and economic order quantity and cross program common equipment buys when applicable; obtaining stable budgets; and increasing competition at all levels of procurements whenever possible. Competition produces both technological and cost benefits to the Navy and is a critical enabler of performance.

Secretary Wilson. The Air Force has an established process to determine an acquisition program’s long term affordability. The process looks beyond the Future Years Defense Program and estimates costs to acquire as well as cost to sustain the programs. This process ensures the Air Force has a long term view and funding strategy before starting new programs.

To ensure cost estimates are realistic, cost estimators have been incorporated into the early phases of the acquisition process and they constantly update their cost estimation models with the latest program execution costs to keep the affordability process informed.

Secretary LORD. The stand-up of the new USD(R&E) organization will be the first true sign of culture change within the DOD. This organization will be designed to take risk and be forward leaning in providing capability to our Warfighters. Technology developers are motivated to take risk and to explore the art of the possible, while acquisition managers are motivated to minimize risk and to pursue stable, well-understood capabilities to minimize overall acquisition program risk. I believe that aligning incentives so as to motivate program managers to review technology options to improve performance and reduce cost, and to motivate technologists to harden, demonstrate, and de-risk emerging technologies, would significantly aid technology transition.

An example of a past failure that increased our knowledge base, a few years ago, we invested in a prototyping effort to provide a low cost orbital launch vehicle to address urgent warfighter needs for imagery augmentation. As we got into the project, we found out we underestimated technical risk associated with software limitations, which in turn increased program schedule and resulted in hardware re-designs. We eventually terminated the program, but residual assets, including engines, test data and a preliminary technical data package were transitioned to our missile and space programs to ensure we captured this innovation for use in future programs.

In addressing culture change, our goal is to ensure our design, development, and early production teams work more closely with the Intel, sustainment and test community, as well as the Warfighter, to identify and monitor risks early in the development process before transitioning technologies into Programs of Record. In parallel, we are working to increase the use of other transactional authority that employs simpler and more rapid contracting mechanisms that make it easier for non-traditional sources of innovation to work with the Department of Defense. We are also seeking to attract, train, and retain talented leaders uniquely skilled in the complex business of defense acquisition, bringing aboard innovative thinkers who understand the art of risk taking in both science and technology and acquisition programs as well as technical leaders in critical technology areas essential to our National Defense.

USD(A&S) will ensure that an acquisition ecosystem is developed that enables a culture of innovation, critical thinking and “creative” compliance. This integrated, flexible and adaptable acquisition ecosystem will be enabled by clearly articulated authorities, policy improvement, data and tools. We are striving to scale innovation.

Secretary Esper. Creating a culture that is accepting of risk and failure can be accomplished by prototyping new capabilities early, soliciting Soldier input and reducing the requirements timeline. Leaders must also communicate this philosophy to Program Managers and Program Executive Officers. This ensures issues are identified before large costs and lengthy development times are incurred, allowing us to fail small and early. One example of ensuring risks are small, managed and generate useful information is the Trophy Active Protection System effort for the Abrams tank. Utilizing the Buy-Try-Decide model has allowed the Army to take prudent risk by procuring the Trophy System, validating vendor performance claims and addressing integration issues, based on Soldier feedback, in less than 18
months. In addition to providing immediate capability for Soldiers, this method will also inform future efforts for all ground and air Active Protection Systems going forward.

Secretary Geurts. Maintaining our edge is critical and more challenging due to current strategic environment and the availability of leading edge commercial technology. Our ability to maintain Fleet capabilities and technological advancements requires us to identify, understand and take appropriate, well-informed, and calculated risks. Delegation of Milestone Decision Authority to the Services will enable better risk management by focusing and streamlining the Department’s oversight of programs and encourage faster decision making in response to market forces and industry operational needs. Through rapid prototyping and more agile acquisition, we will learn and advance more quickly, allowing early failures at relatively low cost of time and resources. Recent examples of designated rapid prototyping include Expeditionary Surveillance Towed Array Sensor System, and Navy Laser Family of Systems. We are also expanding the use of innovative approaches such as Prize Challenges, which have proven to enable outside the box thinking and development of ambitious, novel solutions to difficult technical and operation problems. These prize challenges attract a wide array of non-traditional and creative thinkers, and build an ecosystem of risk tolerant organizations. We continue to explore opportunities to adapt and leverage commercial best practices, as appropriate.

Secretary Wilson. In order to create a culture that accepts risk and failure, we need to experiment, try something, learn from it, and call it a “productive failure”. We need to celebrate “productive failure” and the individuals responsible. To date, we do not have an example of what I would categorize as a productive failure. We anticipate as we continue to delegate authorities and stress this culture shift with our people that examples will become readily available.

31. Senators McCain and Reed. Secretaries Lord, Esper, Geurts, and Wilson, please provide a few specific items that you are willing to be held accountable for over the course of the next calendar year. For each item, please establish a specific goal for success that you wish to be measured against and when would be an appropriate time during the calendar year to evaluate performance against that metric.

Secretary Lord. I am committed to organizing and staffing A&S to make it easy to do business with the government while being great stewards of taxpayers’ dollars. I am also committed to drive excellence with respect to program sustainment by increasing availability and responsiveness while lowering cost. I will lead efforts to increase the National Security Innovation base. I believe that an interim report on progress is appropriate in the mid-June timeframe with a final report no later than January 15, 2019.

Secretary Esper. While I am responsible for the execution of all Army programs, I will be focusing my efforts on standing up and fine tuning the Army Futures Command. Given that this command promises to fundamentally transform the Army modernization process, this is the most significant action that my performance should be evaluated against. Our intent is to achieve Initial Operating Capability by July 2018. An evaluation of our progress in the early autumn of this calendar year would be appropriate.

Secretary Geurts. In the first few months on the job, I’ve met with the Navy and Marine Corps Systems Commands and the Program Executive Offices to reinforce the lines of accountability and to establish my four specific focus areas of; lethal capacity for the Naval forces; increasing agility; driving affordability; and building the workforce for the future. I am developing a strategic plan to lay out my vision and focus areas throughout the organization which will include specific goals, objectives, and measures of performance.

In January we completed a DON Acquisition Workforce Summit to identify key activities, actions, and measures of performance for the next year to ensure we are recruiting, selecting, developing, and retaining the talent needed for the future. In February I will complete a comprehensive review of MDA levels for all DON programs. The results of this review will be used to adjust MDA authority to the appropriate level to provide effective oversight of Navy programs. Beginning in April I intend to institute monthly comprehensive portfolio reviews of all DON programs and provide monthly updates to the Secretary, CNO and CMC. These are but a few of the numerous actions underway to accelerate the DON Acquisition Enterprise.

While I welcome a review of these activities and the resultant impact on the DON Acquisition Enterprise at any time, a review this summer would be a reasonable time to assess the initial impacts of these initiatives and our recommendations where Congress could provide additional help to reduce bureaucratic burden and increase efficiency and effectiveness.
Secretary Wilson. I am working with the Assistant Secretary of the Air Force (Acquisition, Technology & Logistics) to establish a set of initiatives to measure the successes and challenges within the acquisition enterprise. We have implemented the Rapid Procurement of Air Force Capabilities Charter, with a goal of using it for at least one program in fiscal year 2018. In an effort to reduce the number of steps in the acquisition process, we are planning to transition to the Joint Business Clearance Pilot Program. This pilot program is for small acquisitions to implement across applicable Program Executive Offices to streamline business clearance by combining Milestone Decision Authority and Clearance Approval Authority review and approval into a single step.

OTHER TRANSACTION AUTHORITIES (OTAS)

32. Senators McCain and Reed. Secretaries Lord, Esper, Geurts, and Wilson, this committee believes that Other Transaction Authorities are an important tool to speed experimentation, prototyping, and acquisition. The DOD and services still underutilize this authority despite additional flexibilities being provided in recent years.

How will you ensure that OTAs are used as a matter of standard practice while guarding against their misuse?

Secretary Lord. There are opportunities to employ OTAs more broadly across the Department to spur innovation and attract companies with leading-edge technologies and business practices that enable us to explore innovative technology rapidly. Because OTAs are formed under the authorities that do not require standard terms found in Federal Acquisition Regulation (FAR)-based procurement contracts, DOD practitioners must have the requisite training and experience to guard against their misuse. Obtaining senior leadership support and establishing robust training programs to promote judicious use of OTAs with senior level acquisition personnel negotiating the terms and conditions of the agreements is the next step. Centers of Excellence in the use of OTAs are emerging in the Department to include the Defense Innovation Unit Experimental (DIUx) as supported by Army Contracting Command—New Jersey and the Defense Advanced Research Projects Agency (DARPA). Leveraging this expertise and sharing their best practices are an important first step toward adopting the innovative contracting and agreement changes to promote increased flexibility and speed in the acquisition process. We will establish training modules at the Defense Acquisition University (DAU) to ensure that we memorialize our OTA learnings and train acquisition professionals using actual examples.

Secretary Esper. The Army utilizes the standard practices outlined in the 17 January 2017 OSDOTA Guide which outlines the processes and procedures for executing OTAs. Use of OTAs is now widely considered in developing the contracting approach for Army weapon systems programs.

Secretary Geurts. The DON has delegated authority to utilize OTA to our major acquisition commands (i.e. NAVSEA, NAVAIR, SPAWAR, MARCORSYS, and ONR) for projects under $50 million. We look forward to implementing the even greater flexibilities included in the Fiscal Year 2018 NDAA. I will ensure that DON acquisition personnel are familiar with the appropriate potential uses for OTA under 10 U.S.C. §§ 2371 and 2371b and that highly trained contracting and acquisition personnel are assigned to DON OTA projects. The DON will leverage DOD's OTA Centers of Excellence to enhance OTA competency throughout the Department. As we expand the use of OTA, we must assign our best people the task of learning from those with OTA experience in order to make the most of this exceptional authority while simultaneously protecting the Government's legitimate interests.

Secretary Wilson. The Air Force has used and continues to use OTAs for research and prototyping as appropriate. We employ OTAs within established DOD processes to ensure they are used properly. As new efforts come forward, we are challenging our acquisition professionals to ensure they are considering OTA use.

33. Senators McCain and Reed. Do you have examples where OTAs have been used in a way you would like to see replicated?

Secretary Lord. A recent example of a streamlined program solicitation that resulted in the award of an OTA for prototype was DARPA's Robotic Servicing of Geosynchronous Satellites (RSGS) public-private partnership program.

Secretary Esper. Other OTAs that are either in process or we envision executing support the Lower Tier Air and Missile Defense System (e.g., accelerated the program’s Milestone A from 1QFY19 to 2QFY18, the Expedited Active Protection System effort for Bradley and Stryker, the Next Generation Weapon Systems (will allow for weapon fielding acceleration by five years), Long Range Precision Fires, and the planned Maneuver Short-Range Air Defense program (ASD(A)).
Secretary GEURTS. The DON’s recent and current OTA efforts leverage the U.S. Army’s OTA experts in Picatinny working through DIUx and a number of industry consortia for command and control, cyber, vertical lift and ordnance. Some examples include use of the Army’s DOD Ordnance Technology Consortium for prototypes and demonstrations for the Electromagnetic Rail Gun, the Hypervelocity Projectile, high energy lasers, and radio frequency weapons technology. Our special operations forces, explosive ordnance disposal community, C4I professionals, and unmanned underwater vehicle designers are all currently using OTA for advances in unmanned and counter unmanned systems, human systems and talent management, and leading edge software development techniques from Silicon Valley. We have and will continue to collect the lessons learned from these initial experiences, in order to expand the use of OTAs as we integrate them into our routine way of doing business and as the workforce becomes more comfortable with the tool.

Secretary WILSON. We have multiple examples where OTAs have been used and that we would like to see replicated. One of these highly successful examples is the Light Attack Experiment, a live-fly event held in August 2017. Use of the OTA allowed the Air Force to move quickly, with the Light Attack Experiment taking place within 5 months of the Invitation to Participate being released to industry. Being able to move rapidly is critical to ensuring the Air Force can efficiently and effectively execute our experimentation campaigns. These campaigns are not acquisition programs, and they allow the Air Force to explore the art of the possible and quickly assess utility for the warfighter.

A second example is the Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) OTA consortium managed by the Air Force Research Laboratory (AFRL). AFRL’s Information Directorate in Rome, New York has an OTA with the System of Systems Security Consortium (SOSSEC) to develop C4ISR Information System prototypes, which will provide “plug-n-play” technologies via modern open systems architectures to provide rapid adaptation and integration of new capabilities. The agreement allows AFRL to quickly and efficiently reach the 70 member companies of SOSSEC while leveraging SOSSEC as a single point intermediary, reducing overhead and facilitating project execution.

The Air Force currently has four OTAs with industry for rocket propulsion systems, all of which require shared cost investment between the government and industry. These investments initiate the transition away from the RD–180 by investing in critical Rocket Propulsion System technologies. These Rocket Propulsion Systems were proposed by industry for commercial launch systems that can be enhanced to meet more stressing National Security Space requirements. The Air Force intends to release an RFP later this summer for Launch Service Agreements to complete the development of the replacement launch systems continuing the shared industry/government investment approach.

Finally, the Air Force has established a Space Enterprise Consortium using an OTA for prototyping activities to attract new space and non-traditional mission partners.

SOFTWARE ACQUISITION REFORM

34. Senators MCCAIN and REED. Secretaries Lord, Esper, Geurts, and Wilson, the committee continues to be concerned about the way the DOD and services acquire software and software intensive systems. What specific changes are you making to the way you manage software? Which programs do you intend to make changes to? How will you ensure that new software intensive programs do not fall victim to the same problems that plague current programs?

Secretary LORD. I recognize that large-scale software development and sustainment are key acquisition challenges that the Department must confront across all of our programs—including information and weapon systems in all warfare domains. DOD is already challenged to deliver software on time and within budget. The demand for software-reliant capability will only continue to rise and the inherent challenge of large-scale development is further compounded as the DOD must maintain operational advantage in an environment of constant change (e.g., evolving threats; disruptive technological change).

To address the challenge, the Department is modernizing our practices, workforce, competencies and training to enable more rapid delivery of reliable and secure software across the enterprise—in all Warfare domains and application types. DOD needs to consider how modern, commercial best practices and robust software development and test environments can help avoid big bang integration and late, expensive defect discovery at the end of a prolonged development cycle—and help validate requirements and deliver value sooner.
However, we are in the early phases of adopting agile software development practices to deliver software capabilities more rapidly and in smaller increments in order to address the rapidity of change affecting our software intensive systems. We need to scale our efforts and are developing a plan to do so. I hired a Special Assistant for Software Development and Acquisition onboard, reporting directly to me, to organize and implement this process. Several programs are already utilizing a variety of agile development tools and quality metrics (such as velocity, sprint burn down charts, and release burn up charts) such as, Integrated Personnel & Pay System—Army (IPPS-A), Distributed Common Ground System—Navy Increment 2 (DCGS-N Inc 2), Global Command & Control System—Joint Enterprise (GCCS-JE) (DISA), Air & Space Operations Center—Weapon System (AOC–WS) (USAF), Next Generation Operational Control System (OCX) (USAF), Key Management Infrastructure (KMI) (NSA). These programs are also instituting governance forums to emphasize user involvement in early experimentation/observation efforts and allow user feedback to shape capability development, with less emphasis on perfecting requirements or upfront planning ahead of the actual development activity.

Our efforts are not yet mature enough to have settled on final best practices, but we have already revised formal policy guidelines.

The newly enacted sections 873 and 874 of the NDAA require that DOD select a number of programs to pilot agile development methods. These programs will be monitored to inform further development of best practices guidebooks, Defense Acquisition University training materials, and policy guidelines. It is important that we consider and assess the best approach for bringing essential reliability and cybersecurity skills into the engineering and design process early enough to avoid costly redesign and late defect discovery—and enable rapid delivery of secure, reliable software. Updating current policy will be an iterative effort as we continue to gain experience in agile development. A major change is forthcoming to the Department’s formal acquisition policy that will institutionalize several improvements suggested via legislation over the past two years and implement transition of milestone decision authority to the lowest appropriate level. This will reduce decision delays and streamline alignment of resources with schedules to reflect end-user capability needs and timelines.

People are the biggest enabler of program success, whether software or hardware or system of systems integration. To modernize Software Engineering (SWE) competency and practice, we need to attract, train and retain a capable workforce. We must incorporate modern software engineering skills, technology and development practices such as scaled Agile, build/test/release automation environments, continuous integration and tool chains, and DevOps. To increase use of these solutions, the Department must realign its processes for identifying, training and managing software competencies to keep pace with these advances. The Defense Acquisition University has begun to deliver continuous learning resources in the area of Agile software development for our acquisition workforce to enroll as part of their professional development. In the Fiscal Year 2018 NDAA, section 891 will provide a deeper Defense Acquisition University in residence training program to prepare the staffs of the Agile or Iterative Development Method pilots. As DAU constructs this workforce development program, they are expected to involve instructors and content from non-government entities to highlight the commercial best practices and well as lessons learned from DOD programs.

Secretary Esper. Virtually every warfighter and enterprise system in the Army today requires complex software that must be developed or acquired, updated, integrated, and maintained, in quick succession, to support the end user. Recognizing the criticality of software to maintain overmatch, the Army is establishing greater unity of effort in the governance, development, and sustainment of software. We are working to enable a more defensible network by improving the integration of software assurance and acquisition life cycle activities. Our software assurance activities will allow us to identify and fix cyber and software quality holes before software is put in the hands of our Soldiers. We are also driving Army-wide efficiencies in the software life cycle to improve readiness, while reducing cost, risk, and complexity. A key component of these efforts is optimizing Army software development and sustainment oversight and policy for both the operational and administrative elements of the Army. Our sustainment considerations will include Commercial-Off-The-Shelf product selection criteria, including license maintenance costs, and the appropriateness of acquiring rights for selected software code. On the tactical side, we are implementing a plan to update Mission Command software to a single standard baseline across 400 Army, Army Reserve, and Army National Guard units. This initiative will reduce system complexity; improve interoperability; simplify network initialization, software patching, and sustainment; and facilitate a smoother transition to the next baseline as part of the Army’s Common Operating Environment.
Secretary GEURTS. Information technology is changing faster than our processes and policies can keep pace. The DON is not an IT company so we do not want to duplicate IT sector efforts, but rather we want to be a faster follower of industry and leverage their investment in the IT sector. Our efforts are focused on buying IT as a service, essentially "leasing" commercially available products and infrastructure, and maximizing the use of enterprise license agreements. When we buy IT the same way it is sold and used in the commercial sector, the DON is able to take advantage of industry best practices, maximize efficiencies and receive all the patches and updates the vendors provide.

The acquisition of Defense Business Systems (DBSs) will pave the way for this new business model. OSD has recently issued the DODI 5000.75 to provide guidance for software dependent DBSs, and the DON is developing our own policy and implementation guidance for these systems. We will buy commercial-off-the-shelf (COTS) products that satisfy the majority of our requirements, modify our business processes to adopt the commercial product to the maximum extent possible, and only configure the products where needed to meet our unique Naval requirements. This process minimizes or eliminates costly custom development and shifts our resources from capital investment to operations and maintenance. We are also increasingly looking to acquire necessary hardware and/or infrastructure as a service, to include cloud services.

The Fleet's portfolio of software intensive weapons systems such as the AEGIS Weapon System, AN/SQQ–89(V) Surface Ship ASW Combat System, and the Submarine Warfare Federated Tactical Systems have been modernized using open architecture code bases; leveraging, to the maximum extent practical, the investment of the commercial IT sector in delivering effective warfighter capability. We are shifting to more Agile development so capability can be deployed more rapidly to pace the threat, technology can be inserted more frequently, and the overall system can be kept more current and secure. This shift to an Agile software development approach is occurring in weapon system development programs for the Aegis Weapons System and the Air and Missile Defense Radar Program (SPY–6). Within the Aegis Weapon System program, Agile software principles and the use of a common source library of have enabled engineering for maximum proliferation across baselines through In-Stride deliveries.

Secretary WILSON. To manage software differently, the Air Force has developed implementation across the acquisition enterprise and must continue oversight of software across our weapon systems. To manage software differently, the Air Force is embracing modern software development practices such as Agile DevOps for many programs across the acquisition enterprise. We have initiated pathfinder efforts and are working to improve the speed of software development. Likewise, we are continuing efforts with Open Mission Systems architecture, and initiatives with Defense Digital Services, Air Force Digital Services, and Defense Innovation Unit Experimental, in addition to improving our organic software development capabilities.

For example, the Air Force initiated AOC Pathfinder to test a new software development methodology to meet warfighter needs. AOC Pathfinder more closely aligns software development to commercial practices. To date, the AOC Pathﬁnder has delivered 3 applications to Air Force Central Command. These 3 apps iterate daily and push 10–20 new features to end users each week. We are delivering apps faster than originally planned, and significantly faster than AOC Increment 10.2 Program of Record.

Reforming software acquisition is a top priority for the Air Force. We must train our workforce appropriately and have dedicated subject matter expertise, just as we do for other science-related fields.

35. Senators MCCAIN and REED. Secretaries Lord, Esper, Geurts, and Wilson, as the Department and Services seek to change their acquisition systems, particularly in the context of software intensive systems, in what ways do you need to change your approach to testing? What changes do you intend to make to developmental test processes and organizations? How can you better collaborate with the Director of Operational Test and Evaluation to speed time to deployment while making sure that deployed capabilities are safe and fit for purpose?

Secretary LORD. Software is an integral part of all Department capabilities, to include weapon systems, information enablers and business systems. The Department needs to modernize our practices, workforce competencies and training to enable more rapid delivery of reliable and secure software across the enterprise. DOD needs to consider how modern, commercial best practices and robust software development can help avoid late big bang integration and defect discovery. The Department also needs to move towards earlier, more frequent test engagements, which
are focused on working capabilities, using short cycle, incremental, testable software builds. This allows developers to conduct multiple test and integration events and field intermediate products to gain user acceptance and feedback to improve future builds or increments. Cybersecurity test and evaluation (T&E) must be integrated with these efforts, and the Department is working to provide acquisition programs with approaches to integrate earlier cybersecurity testing and industry software testing best practices.

Testing is a critical component of software development and can be a time-consuming part of software delivery. The Department’s testing community needs to evolve their testing policies, procedures and approaches to accelerate software fielding cycles. Automation and artificial intelligence are areas the Department needs to invest in and leverage highly efficient industry best practice, improved adoption of automation, artificial intelligence, and higher fidelity integration labs. The Department's testing community needs to collaborate with industry to identify new ways of addressing software testing requirements and adopt best practices for agile development and DevOps development which leverage performance and cybersecurity test data from early in development through sustainment. For example, in fiscal year 2017, the current OSD level DT&E organization supported 22 Cyber Table Top Exercises with programs that averaged identified 15 High or Very High system vulnerability risks per event. Cybersecurity risk will continue to challenge the Department as it moves to more COTS based software and cloud-based environments. Mission-Based Cybersecurity Risk Assessments must become the norm across the system development life cycle for the Department.

I will work with the Undersecretary of Defense for Research and Engineering and the Director of Operational Test and Evaluation community to include the operational test community's equities of suitability, effectiveness, and cybersecurity are considered early in both the design and the developmental test process to ensure efficient testing is done. My ultimate goal is to acquire safe, combat-capable systems for the Warfighter at the speed of relevance.

Secretary Esper. Although the current Army approach is effective, we are considering new ways to better execute our test and evaluation mission. As part of the Army’s Reform, the Test and Evaluation Enterprise is examining and proposing legislative changes, as well as making changes to regulations, policies, and infrastructure to put in place a culture shift towards rapid and agile acquisition. A few improvements being considered are: (1) contract language that includes the requirement to show evidence of software analysis, safe design, implementation, coding, and low-level testing to ensure software safety; (2) shifting senior management assessments to the left by conducting program assessments at each software drop along the acquisition cycle to ensure program performance is demonstrated and validated prior to operational events; and (3) the Army Test and Evaluation Command (ATEC) will be directly engaged in the reform process, placing emphasis on tailoring test strategies to consider critical program requirements.

At the conclusion of the Army Acquisition Reform effort, I put several directives in place to improve the acquisition process as a whole and for testing specifically. The establishment of Cross Functional Teams (CFT) will streamline the development and approval of capability requirements thus streamlining the test and evaluation planning and execution processes. We are further streamlining and minimizing test and evaluation processes through standardizing test language, metrics, data dictionaries, and data methods. We are also bringing cybersecurity to the forefront of our test operations by requiring the test community to provide results of cyber and cyber electromagnetic tests at various milestones in the acquisition process to ensure program security prior to progressing into an operational test.

Successfully coordinating with DOT&E early to reach an agreement on the appropriate levels of testing and acceptable levels of risk for specific programs, will expedite the Test and Evaluation input to acquisition program decisions and the resulting fielding decisions.

Secretary Geer. The traditional snapshot-in-time testing of DOD systems is not applicable for IT systems and software given cyber vulnerabilities and threats can change daily. Our testing should focus more on process and less on the status of the system at a specific point of time. Testing should evaluate and validate risk management framework (RMF) processes and disciplined cyber hygiene processes. A product which passes a cyber ‘test’ today provides no assurance that it will defend against a threat tomorrow; however, a program with a solid RMF process should have adequate discipline to identify risk and defend against threats throughout the lifecycle. Certification, compliance and authority to operate a system on the network are of equal concern to testing. We need faster processes to get our systems approved to operate, and the RMF process should also facilitate this. The CIO is critical in this area as well on working reciprocity agreements. Within the DON, we
are reorganizing our CIO organization to streamline processes and reduce bureaucracy.

Testing of commercial IT products (hardware, software and services) which have already received commercial certification should not require the same level of testing as something developed from scratch or significantly customized. Doing so is redundant and costly. Acquiring hardware, software, and the cloud as they are developed, sold and certified, often as a service, allows us to be a fast follower of industry and pace technology. Additionally, products that have been previously certified and are considered cyber safe should not require lengthy retesting and recertifying when they migrate from a data center to the cloud. We need to leverage more reciprocity with industry and other government agencies and trust the vetting which has already been done. I intend to require the Navy team to ensure redundant testing is not performed.

This can differ for shore-based business systems and tactical afloat systems. Tactical IT systems often need a product developed or software customized, so an agile software development process should be used. Agile development requires continuous planning, continuous testing, continuous integration, and continuous fielding. Agile developmental efforts should develop a little, test a little and field a little. If the testing construct is not equally agile, the benefits of the agile process are negated. I will work with our Navy test organizations and DOT&E to streamline where applicable.

Secretary WILSON. Software intensive systems, especially those using agile development approaches, present unique challenges to test and evaluation. The Air Force is currently evaluating, with a few pilot programs, the impacts of agile software development compared to traditional test and evaluation methodologies. We have initially identified the need for more automated test tools and processes to provide more rapid feedback. Additionally, we’ve identified a need to address test and evaluation throughout a system’s lifecycle to continue to support agile development in the fielding of updates, patches, and fixes. We will also assess the workforce for skills and training required for agile software development. Finally, the Air Force works closely with the Director of Operational Test and Evaluation and will continue to collaborate on the approval of Test and Evaluation Master Plans, data sharing, and other areas as needed to speed fielding of capability to the warfighter.

**DEVELOPMENTAL TEST AND EVALUATION (DT&E)**

36. Senators McCAIN and REED. Secretaries Lord, Esper, Geurts, and Wilson, the Congress has demonstrated through legislation such as the Weapons Systems Acquisition Reform Act of 2009 and other Public Laws in recent years that the Congress places high value on the need for conducting thorough Developmental T&E to assist program managers and the Department leadership by providing essential information on the progress of a program during the acquisition process. The Congress has included legislation requiring high level reviews of the developmental test and evaluation for the Departments major acquisition programs. Do you agree that thorough DT&E is essential to program progress and the ability of the leadership and Congress to have independent information derived from the DT&E to measure the progress of programs and assist the program manager to find the best design solution during development of acquisition programs? How do you use that information at the Military Service leadership levels and Office of Secretary of Defense level and where within your organizations does the oversight for DT&E reside?

Secretary L ORD. Yes, I agree that thorough DT&E is essential and an effective way to minimize risk by avoiding discovery of deficiencies late in program development and providing valuable information to support sound decision making. The goal of DT&E is, put simply, to devise, resource and execute plans to discover as many issues as possible associated with the most significant risks on programs, and to do it as early as possible in these programs when the impacts are far less severe/costly and when appropriate corrective actions are feasible without major disruption in the programs. Methodical, build-up prototype testing and risk management approaches are necessary in support of design/technology maturation in order to minimize risks as programs progress, and hence increase confidence in successful engineering and manufacturing development efforts leading to production and fielding of critical capabilities.

Having said the above, I also believe that combined developmental and operational testing, under an integrated test and evaluation (IT&E) construct utilizing both developmental and operational test personnel, is absolutely key to success. Under this IT&E construct, effective communication and collaboration is achieved spanning the developmental and operational test agencies, utilizing a framework under which test data are collected and shared and deficiencies are jointly
dispositioned and assessed for potential corrective actions. The result is a more efficient means of achieving the goal of fielding effective and suitable systems/capabilities to the operational communities as rapidly as possible.

The information provided by DT&E, and IT&E, informs the acquisition community at several levels, from the program manager who must make informed decisions about when to proceed through critical phases between milestones, to acquisition executive who must decide program readiness to enter a major milestone and proceed to the next phase. As Milestone Decision Authority shifts to the Services, I am returning DT&E oversight responsibilities and program progress tracking to the Service developmental test organizations. Senior leadership will be informed of critical test results via monthly updates on MDAPs reviewed by OUSD(A&S) and subsequently submitted to DEPSECDEF and SECDEF.

Currently, the senior leader responsible for DT&E resides within the office of the Assistant Secretary of Defense for Research and Engineering in the Under Secretary of Defense for Acquisition, Technology, and Logistics. We are in the detailed planning phase of restructuring the offices and functions of AT&L into the two new Undersecretaries of Defense for Research and Engineering and Acquisition and Sustainment. Subsequent to the statutorily mandated reorganization effective February 1, 2018, I will work with the new USD(R&E) to implement an organizational structure that ensures a developmental test and evaluation office is properly staffed and resourced and given sufficient authorities within the Department.

Secretary Esper. Developmental testing is important in the Army and we understand Congressional desire for appropriate Service Department oversight. In the office of the Secretary, the Deputy Undersecretary, has responsibility to ensure that proper test plans, policy oversight and funding will enable a robust and independent testing program for Department of the Army. The independent US Army Test and Evaluation Command conducts Developmental testing as one of the three formal types of T&E, by statute. DT&E verifies that the system’s design is satisfactory and that all technical specifications and contract requirements have been met, and most importantly certifies readiness for operational testing.

Secretary Esper. Yes, the Air Force agrees developmental test and evaluation is essential in developing combat capabilities and informing the warfighter and decision makers, including Congress. The Air Force uses developmental test and evaluation results to measure program progress, determine overall system maturity, and define in system development, identify program risks, and prepare for operational test and evaluation. The Air Force includes these results in regular program reporting to senior leaders as well as the Office of the Secretary of Defense. The Air Force’s Director, Test and Evaluation (AF/TE) performs developmental test and evaluation oversight. AF/TE works with the Air Force Test Center and Air Force program offices to ensure developmental test and evaluation is properly resourced and that Air Force test ranges are capable of supporting Air Force programs. Individual program offices and lead developmental test and evaluation organizations provide day-to-day oversight of developmental test and evaluation activities.

Secretary Esper. Thorough DT&E, as part of the systems engineering process, conducted for acquisition programs, is essential to inform program managers, Department leadership and Congress. T&E is conducted to gain knowledge to advance systems development, understand technical and operating characteristics and performance to support acquisition decisions. DT&E provides early learning and identification of technical, operational and system deficiencies to ensure that appropriate and timely corrective actions can be developed prior to system fielding. Test results inform decision makers at critical points in a program’s development. Within the Navy, each program has a Chief Development Tester and a Lead DT&E Activity assigned to oversee developmental test planning, execution, analysis and reporting activities. The DON T&E Executive is the senior executive for T&E policy, capability and T&E workforce.

Secretary Wilson. Yes, the Air Force agrees developmental test and evaluation is essential in developing combat capabilities and informing the warfighter and decision makers, including Congress. The Air Force uses developmental test and evaluation results to measure program progress, determine overall system maturity, aid in system development, identify program risks, and prepare for operational test and evaluation. The Air Force includes these results in regular program reporting to senior leaders as well as the Office of the Secretary of Defense. The Air Force’s Director, Test and Evaluation (AF/TE) performs developmental test and evaluation oversight. AF/TE works with the Air Force Test Center and Air Force program offices to ensure developmental test and evaluation is properly resourced and that Air Force test ranges are capable of supporting Air Force programs. Individual program offices and lead developmental test and evaluation organizations provide day-to-day oversight of developmental test and evaluation activities.

37. Senators McCain and Reed. Secretary Lord, the Congress in recent years has passed legislation that included specific duties for a strong, well-resourced DT&E oversight organization within your broader organization at the OSD level. Do you agree that you need such an organization and, if so, where do you believe it should reside in your new reorganization plans and how do you intend to address the requirements for such an organization that we have included in prior legislation such as having direct access to your leadership, having authority to review and approve Test and Evaluation Master Plans and providing direct input to milestone decisions for major acquisition programs?

Secretary Lord. Yes. I believe in a strong, well-sourced Developmental Test and Evaluation (DT&E) because it is important to the success of acquisition programs in the Department. A strong DT&E organization, via “hands-on” engagement, can
assist programs in devising developmental test plans that enable discovery of as many deficiencies as possible associated with the most significant risks on programs, and as early as possible when the impacts are far less severe/costly, thus enabling programs to take appropriate corrective actions without major disruption. Ultimately, insight and active participation in programs, vice oversight, is what enables the DT&E organization to be most effective with respect to minimizing risks as programs progress, and hence increasing confidence in successful engineering and manufacturing development efforts leading to production and fielding of critical capabilities. Further, a well-resourced DT&E organization maintains insight and active assistance efforts on programs, establishes policy and direction, and ensures the up to date education and continuous learning of the 8,700 plus T&E workforce in the Department.

The final decision of where the senior leader responsible for DT&E will reside within the restructured Under Sectary for Research and Engineer is in the planning phase. The future roles and functions of the DT&E organization will be shaped by prior congressional legislation concerning access to leadership, Test and Evaluation Master Plans approval authorities, and inputs to milestone decisions for major acquisition programs. I, along with the new Under Secretary of Defense for Research and Engineering, will review and implement an appropriate organizational structure to ensure that developmental test and evaluation is properly staffed and resourced and given the right authorities in the Department.

Secretary WILSON. Yes, I agree that we need a strong, well-resourced organization providing DT&E oversight at the OSD level. In the Air Force, we oversee the execution of developmental and operational testing with a single Director of Test and Evaluation who is independent of acquisition. OSD and Congress should likewise consider a test and evaluation oversight construct that combines developmental and operation test oversight into a single office independent of the acquisition chain. This combination would promote both test and acquisition efficiencies and better align with the vision for rapid acquisition outlined in the National Defense Strategy. These efficiencies would include streamlined review and approval of Test and Evaluation Master Plans; encourage the sharing of data, analyses, and reporting; allow quicker identification of duplicative test needs or common test gaps; and provide a single, independent test voice to Milestone Decision Authorities.

QUESTIONS SUBMITTED BY SENATOR JAMES INHOFE

SUSTAINMENT COSTS OF NEW PROGRAMS

38. Senator INHOFE. Secretary Lord, Secretary Esper, Secretary Wilson and Secretary Geurts, do you think that weapons system sustainment is being adequately incorporated into initial acquisition planning for new weapons systems to ensure these programs can be efficiently and effectively maintained over their life cycles?

Secretary LORD. While there are many factors contributing the current troubling state of materiel readiness, not the least of which are budget uncertainty and high op tempo, the high cost to sustain our weapons systems is a factor that is particularly difficult to address once a system is fielded. For example as Naval aviation depot level repairable items costs have risen by 2.5 percent above inflation annually over the past 20 years, mission capable rates for Naval tactical aircraft have declined by 2.5 percent per year on average. The Department’s greatest leverage over weapons systems Operating and Support costs is in the earliest acquisition decisions, including initial design and those that precede the decision to down-select to a single vendor and commit resources to a particular design. During these early decisions typically 80 percent of program controllable O&S costs are determined through design decision. Leverage over O&S costs declines to under 10 percent by the time a systems enters production. Some of these early impactful decisions occur even before we’ve formally established a program of record. While the Department has made progress over the past few years emphasizing sustainment planning in weapons programs, there is still more that we can do to drive cost out of sustainment and improve our prospects to improve readiness in future systems.

It is vitally important to acknowledge, engage, and equip those functions upon which Program Managers are critically dependent for sustainment direction and support, specifically the requirements and resourcing functions. These functions fall under the purview of the Service Chiefs, but I see a real opportunity for the OUSD(A&S) to advise the Services on practical analyses that can inform development of sustainment requirements that will yield improved sustainment outcomes and lower cost, while not over constraining the design space such that capability is sub-optimized. An essential component of maintaining sufficient operational availability
at affordable costs is leveraging data analytics and machine learning. I believe that we have an opportunity to leverage industry practices to set up sustainment systems that are far more predictive in nature and better rationalize the number and physical location of spares.

Resourcing for appropriate sustainment analysis early in weapons system development is also critical to ensuring that systems are best postured for effective and efficient sustainment. Incorporating sustainment strategy options into an analysis of alternatives may add modestly to the cost of the analysis, but such cost is dwarfed by the returns in sustainment productivity over a weapon system's life cycle. Similarly, investment in supportability analyses in concert with technology maturation can yield technologies that are more reliable and maintainable when incorporated into system designs, yielding more supportable end items. History has shown us that 70 percent of product cost is in sustainment. We therefore have a significant opportunity to impact lifecycle cost if we improve our sustainment capability.

Secretary Esper. We currently plan and document weapon system sustainment in a Lifecycle Sustainment Plan (LCSP) for each weapon system. This is a detailed and collaborative effort between our acquisition program offices and the Army Materiel Command with great focus on key elements to include reliability, availability, maintainability and operations and support costs. In 2016, the Army introduced the Operational Sustainment Review (OSR) to examine how well each major defense acquisition program's sustainment strategy is performing once fielded to Army units. The OSR is a detailed metrics-based assessment that looks at all aspects of a weapon systems sustainment strategy two years after initial operational capability has been declared. Since 2016, we have conducted fourteen reviews and have six more scheduled for the rest of 2018. In addition, the Army is running a pilot to add a Transition to Sustainment annex to the existing Life Cycle Support Plan (LCSP) with a focus on setting the conditions early in a program as well as using insight gained from the OSRs that will improve the Army's sustainment functions. The Army can effectively and efficiently maintain our systems with these processes.

Secretary Geurts. While sustainment cost projections are considered through the phases of product development, the Department could do a better job of considering sustainment costs on equal footing with procurement costs. The goal of the Department is to produce, support, and maintain the required performance and readiness objectives of our weapon systems efficiently and effectively. In fiscally constrained environments, we have been challenged with achieving this goal with lower levels of Total Obligation Authority. Thus, it is important for programs to consider and review all potential strategies to optimize program planning and costs while providing the required levels of future readiness. Clearly, one standard solution does not fit all weapons systems sustainment scenarios. Program Managers have to consider organic, commercial, and hybrid sustainment solutions to meet both program and mandated United States Code, Title 10 requirements. DON uses integrated product teams and/or cross-functional relationships working groups in defining depot maintenance requirements. Additionally, Systems Engineering Technical Reviews, Life Cycle Sustainment Plans, and milestone reviews ensure programs include realistic considerations for industrial depot maintenance solutions to capture support and sustainment requirements.

Secretary Wilson. Yes. Product Support Managers, who are accountable to the Program Manager, support the Air Force's acquisition programs for planning and executing sustainment strategies that achieve operational readiness outcomes at an affordable cost. Throughout the acquisition process, the Product Support Manager continuously assesses system design to ensure they give adequate consideration to reliability, availability, maintainability and sustainment costs. The Air Force also places affordability constraints on acquisition programs, ensuring that each program's estimated sustainment costs fit within future Air Force resource allocations. Finally, the Air Force executes Independent Logistics Assessments to validate the sufficiency of sustainment planning and identify areas for improvement.

39. Senator Inhofe. Secretary Lord, Secretary Esper, Secretary Wilson and Secretary Geurts, how do we balance the need to consider long term costs associated with sustainment of aging weapons systems with the need to speed up the acquisition process and get emerging technology to warfighters?

Secretary Lord. Among our options to lower costs to sustain currently fielded systems is a greater emphasis on data-driven sustainment and condition-based maintenance. Our experience is that data driven condition-based maintenance approaches will yield conservatively a 5 percent increase in a system's materiel availability and an associated 5 percent decrease in the cost of sustainment. In concert, these thrust areas will provide DOD with the insight to target areas providing the greatest op-
portunity to reduce sustainment costs and the means to quickly address these leverage points. Such efforts could be accelerated and the likelihood of cross-Departmental adoption increased through an appropriately resourced DOD-level sustainment R&D program specifically chartered to improve sustainment productivity. Approximately 3 percent of RDT&E is currently used for readiness improvement and sustainment R&D.

Options for improving long-term sustainment for any acquired capabilities will vary in large part depending on the degree to which the new capability includes dual use commercial technology. Where the ratio of commercial technology is small compared to technology developed for DOD’s unique purpose through DOD funding, improved sustainment will depend on the Department investing in data, tools and analysts that support design influence and more effective technical data procurement. For capabilities largely comprised of commercially development technology, the Department’s sustainment options are likely to vary from disposable end items that are replaced rather than repaired to using field service representatives where the warfighting concept of operation is supportive or establishing innovative technical data provisions and pricing that supports organic sustainment.

Secretary Esper. The Army conducts comprehensive annual Strategic Program Analysis Reviews (SPAR) of future and sustained systems over 30-year roadmaps. These roadmaps include Science and Technology (S&T) insertion opportunities and serve as a guide for senior leaders to discuss the point at which emerging technology becomes mature enough to consider replacing our aging weapon systems. The end product is a coordinated strategy to meet the Army’s strategic equipping goals, including preservation of legacy equipment, at an acceptable level of risk. The decision process is key to balancing funding for systems in a disciplined approach to when the Army initiates a new development or procurement, a deliberate transition to sustainment, and a directed disposal timeline aligned with fielding new technologies.

Secretary Geurts. Speed to the fleet of new technology and restoring and maintaining readiness of our fielded products are equally important. Life cycle costs are considered throughout the development and sustainment of a weapon system. There are occasions where speed of a capability can temporarily drive a less cost effective sustainment solution that are usually tied to Urgent Need Statements from the combatant commanders.

To have an effective balance between legacy system sustainment and speed of emerging systems to the warfighter we must think in terms of velocity (speed in a given direction) vice simply speed. The collaborative work that the DON Product Support Managers and Program Managers do at the initiation and throughout each weapons system program provides system sustainment direction for each program throughout its life-cycle. Velocity is accomplished by making informed risk-based procurement and maintenance decisions at every stage of a programs life-cycle.

Secretary Wilson. The Air Force balances long term sustainment costs with the need to speed up the acquisition process by executing an integrated life cycle management approach. The Air Force has taken several steps to achieve this integration, better aligning at all levels the roles and responsibilities for acquisition and sustainment of our weapons systems. The Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics now has a Deputy Assistant Secretary for Logistics and Product Support responsible for ensuring that acquisition programs appropriately plan for the long-term sustainment of our systems. Also, the 2011 reorganization within Air Force Materiel Command reinforced our Program Executive Officers and Program Managers are responsible not only for acquiring systems, but also for sustaining them. Finally, the Air Force has assigned Product Support Managers to its program offices, ensuring that a senior life cycle logistician focuses on planning and execution of sustainment strategies that achieve operational readiness outcomes at an affordable cost. While we balance these long term sustainment costs with the need to field emerging technologies, we have not been able to retire weapon systems. The Air Force would like the flexibility to make these trades.

CHANGING ACQUISITION PROCESSES

40. Senator Inhofe. Secretary Esper, understanding the Army is in the process of replacing the M4, how can you ensure the Army will avoid another 350 page requirements document and years of wasteful testing?

Secretary Esper. The lengthy Request for Proposals associated with the Modular Handgun System was a Federal Acquisition Regulation-based contract which included many clauses that were mandated by statute. However, based on this experience in the fiscal year (FY) 2016 and fiscal year 2017 National Defense Authorization Acts, Congress has provided us the tools that allow us to shift the paradigm. The
Army will leverage Other Transaction Authorities to further streamline the acquisition process and leverage commercial industrial expertise for the technologies required to develop the Next Generation Squad Weapon.

The Army is also looking at test reform to focus on priorities of warfighters, specifically capabilities and limitations of our systems in a more cost and schedule effective way.

QUESTIONS SUBMITTED BY SENATOR ROGER WICKER

NATIONAL SECURITY TECHNOLOGY ACCELERATOR

41. Senator WICKER. Secretary Lord, Congress has expressed strong support for the MD5 National Security Technology Accelerator Initiative. MD5 accelerates technology development by facilitates collaboration between civilian and military personnel, their counterparts in academia, and the high-tech industry. The organization has launched a number of successful initiatives including Hacking 4 Defense, the Innovation Boot Camp, and the Marine Corps Adaptive Threat Force program. How do you plan to support MD5 in the future?

Secretary LORD. MD5 has provided real value, both to the Department and the broad array of non-traditional partners with whom it interacts, through the creation of two programs of record for the US Marine Corps and more than 900 new applications, concepts or solutions back to problem sponsors throughout DOD. Although I believe the Department needs to evaluate MD5 as part of a broader, holistic discussion related to program priorities and attendant resources, my office intends to advocate for its inclusion in the Department’s submission as part of the President’s Budget for fiscal year 2020 to build upon early success stories like Capella Space, which started as a Hacking for Defense team at Stanford University in 2015 and has already raised more than $20 million in private funding as a venture. I will also ensure that funds are available to sustain MD5 operations through fiscal year 2018 and fiscal year 2019 without disruption, including seeking continuing resolution funding for the program, so long as this is consistent with the intent of Congress.

EFFICIENT SHIPBUILDING

42. Senator WICKER. Secretary Geurts, the President will sign the National Defense Authorization Act into law very soon. The NDAA includes my legislation—the SHIPS Act—that will make it national policy to meet the 355-ship requirement. As part of a naval buildup, the Navy needs to accelerate shipbuilding and leverage our hot production lines. Is the Navy buying ships in the most efficient manner possible? If not, do you need additional authorities from Congress or modified authorities?

Secretary GEURTS. The Navy is committed to building ships in the most efficient manner possible to meet the 355-ship requirement summarized in the 2016 Force Structure Assessment. Our goal is to maintain stable production lines throughout the shipbuilding industrial base for all core platforms. This ensures a surge capacity throughout the industrial base that will allow the Navy to retain the ability to surge to meet fleet requirements.

By balancing long-term efficient acquisition profiles with targeted service life extensions and aggressive growth options, the Navy plans to stabilize the industrial base and set the foundation for efficiently and deliberately growing the force towards its warfighting requirement. Of particular importance is the sustainment of the industrial base at a level that supports more affordable acquisition, predictable and efficient depot level maintenance and modernization, and an appropriately sized experienced workforce for more aggressive growth if additional resources become available.

Key to maintaining stable production lines is stable funding coupled with contracting strategies that provide a long-term commitment to industry. The Navy utilizes contracting tools such as multi-year procurements, block buy contracts, and economic order quantity buys, when and where it makes sense to do so to provide a stable commitment to industry.

INCREMENTAL FUNDING AUTHORITY FOR AMPHIBIOUS SHIPS

43. Senator WICKER. Secretary Geurts, the NDAA also contains Incremental Funding authority for the Navy to buy either the 30th LPD amphibious ship or the first LXR amphibious ship. Incremental Funding is a tool to help the Navy to get started on ship production without having to budget for the entire ship. Can you
commit to me that the Navy will take advantage of the incremental funding authority in NDAA?

Secretary GEURTS. The Navy is currently exploring all options with regards to the fiscal year 2018 incremental funding of the next LPD or the first LXR. The funding will help jump start the LXR program. This earlier start will reduce the risk of a loss of learning and will help ensure the most efficient use of taxpayer funds.

BLOCK BUY OF FORD-CLASS AIRCRAFT CARRIERS

44. Senator WICKER. Secretary Geurts, the Senate Armed Services Seapower Subcommittee conducted a number of hearings on options to build the 355 ship Navy. We held a hearing with former Reagan Administration officials—including Secretary Lehman—to learn about the 1980s fleet buildup. The Reagan executed a block-buy of aircraft carriers. The Navy got carriers faster and saved money through leveraging competition in the supplier base. On the current trajectory, when will the Navy meet its requirement for 12 aircraft carriers? Could a block-buy strategy get us to 12 carriers faster? What are the implications for the shipbuilding industrial base? Would a block-buy stimulate the industrial base and generate competition and new suppliers? Do you see benefits for the rest of the shipbuilding program?

Secretary GEURTS. The current legislative requirement is for eleven operational aircraft carriers (CVNs). On the current trajectory with five-year build centers, the Navy will not meet 12 operational aircraft carriers. A multi-ship buy alone will not increase the operational aircraft carrier inventory to 12 CVNs any sooner. To achieve a 12-CVN force, the frequency of aircraft carrier procurement would have to increase to every three to four years in comparison to the current five-year build centers.

Returns from multi-ship buys have consistently shown that volume material buys and level loading of the shipbuilder and vendor base is a proven practice to reduce cost of shipbuilding programs. Previous experience with two ship buys of CVNs (CVN 72 and CVN 73 were procured in fiscal year 1983 and CVN 74 and CVN 75 were procured in fiscal year 1988) demonstrated significant savings. Multi-ship buys enable both the Navy and the shipbuilder to take advantage of material procurement efficiencies, and the stability it affords industry provides for more efficient use of resources and a more favorable market for suppliers to enter, thereby encouraging more competition. Component commonality between the submarine and CVN industrial base furthers the opportunity for stability and savings. Multi-ship buys also minimize fact-of-life changes between ships, thus reducing follow-ship drawing and construction costs, and affording the shipbuilder the ability to optimize production trades management. The shorter time between deliveries results in increased design stability, minimizes potential obsolescence, and provides greater opportunities for learning.

FRIGATE PROGRAM ACQUISITION STRATEGY

45. Senator WICKER. Secretary Guerts, the new Frigate will be an essential component of the future fleet. The Navy’s acquisition strategy for the Frigate is commendable. You are going to pick a proven design rather than start over with a clean sheet design. This decision should accelerate the program significantly. Is there anything else that could be done to accelerate this program?

Secretary GEURTS. The Navy is currently on the quickest path to procure the Frigate (FFG(X)). To allow adequate time to define FFG(X) requirements, thoroughly evaluate design alternatives and mature the design, the President’s Budget (PB) 2018 submission deferred the first year of FFG(X) procurement to fiscal year 2020 with additional Littoral Combat Ships (LCS) being procured in fiscal year 2018 and fiscal year 2019.

The Navy is using a two-phase acquisition approach to procure FFG(X) starting with a Conceptual Design phase from Q2FY2018 until Q3FY2019. This will allow Navy and Industry to reduce risk by maturing parent FFG(X) designs and identifying cost and capability drivers, to incorporate into the Navy’s requirements. The Conceptual Design phase will be followed by a full and open competition for Detail Design and Construction in Q4FY2019 with award to a single shipbuilder in Q4FY2020.
QUESTIONS SUBMITTED BY SENATOR MIKE ROUNDS

CESG MEMBERSHIP

46. Senator Rounds. Secretary Lord, at the SASC hearing on Dec 7, I asked whether Cloud Executive Steering Group (CESG) membership included warfighter representation from the services and combatant commands (including cyber command). You responded in the affirmative that “We have pulled in all of services.” Please provide the Committee the names of individuals from the military services and combatant commands who are voting members of the CESG and the roles they serve so that the Committee can consult with them on their participation.

Secretary Lord. The CESG, through their action officer representatives, has conducted numerous information gathering sessions with the Combatant Commands, Services, and agencies, and continues to do so on a regular basis. My response was not intended to imply that there were additional voting members of the CESG. Per the Deputy Secretary of Defense’s January 8, 2018 memorandum titled “Accelerating Enterprise Cloud Adoption Update,” the Deputy Chief Management Officer (DCMO) is responsible for execution of the new enterprise cloud program. DCMO will chair the CESG going forward. My role will be to serve as the acquisition decision authority.

BID PROTEST REFORM

47. Senator Rounds. Secretary Esper, you stated the Army needs help from Congress to protect programs from frivolous bid protests. You said the context was the Army's handgun program. What difference do you believe the reforms in Sec. 827 of the NDAA 2018 conference report will make?

Secretary Esper. I fully support the pilot program authorized by section 827, which will allow the DOD to determine the effectiveness of requiring larger contractors to reimburse the Department for costs incurred in filing protests denied by the Government Accountability Office. I believe this is a good first step in reducing frivolous bid protests.

48. Senator Rounds. Secretary Esper, how will you make use of this authority?

Secretary Esper. The Army will work closely with the DOD to develop and implement the pilot program authorized by section 827. Authorizing Competition in Contracting Act (CICA) reform would hold contractors responsible for frivolous protests and for the Services to be able to execute their contracts in a timely manner to avoid schedule delays awaiting a decision that typically takes 90 days to occur. The delays, pending the results of a bid protest end up shifting program schedules to the right, even when protests are usually ultimately resolved in the government’s favor.

49. Senator Rounds. Secretary Esper, what additional legislative support do you require to address the Army’s needs and concerns?

Secretary Esper. The Army recommends Congress consider legislation that would give Competition in Contracting Act (CICA) relief and the ability for the Government Accountability Office to implement a ten day rule on stays, instead of the traditional 90 days, and a penalty if the contractor loses the protest. Penalties can be scaled based upon contract value as to not discourage small businesses from filing legitimate protests. We would also recommend enacting relief right away as opposed to waiting for a pilot program.

QUESTIONS SUBMITTED BY SENATOR DAN SULLIVAN

BLANK SLATE ACQUISITION REFORM

50. Senator Sullivan. Ms. Lord, Dr. Esper, Mr. Guerts, and Dr. Wilson, what are your best, most radical ideas to improve Department of Defense acquisitions? If you could start with a clean slate for acquisitions, what would you do?

Secretary Lord. Fundamental changes are required of the Department of Defense’s acquisition system if we are to achieve the objectives articulated in the National Defense Strategy (NDS). In my view, we require a transition from the traditional linear acquisition process to an Adaptive Acquisition Ecosystem. This unified framework would enable key stakeholders in execution organizations (e.g. R&E, the Services, and COCOMs) to use both traditional and innovative acquisition pathways based on program need as a standard practice. I intend to organize OUSD(A&S) to manage, analyze, and provide data to govern programs, executed by components, by...
linking their products to NDS objectives. We will fundamentally change the Defense Acquisition University (DAU) to teach through case studies that will highlight real examples of how a variety of contract vehicles are appropriately utilized to simplify and speed up acquisition. We have goals of reducing acquisition time by 50 percent with pilot programs currently being executed. We are not only focused on domestic procurement, but Foreign Military Sales (FMS) as well.

Secretary ESPER. A successful acquisition system is fast and responsive to current and emerging needs, and visionary in meeting long-term threats, leaping ahead of capabilities of major adversaries. It requires centralized planning, decentralized execution, and accountability. With these concepts in mind I have three recommendations. First, authorize and appropriate “colorless” acquisition funding to provide predictable, stable, and adequate defense acquisition funding over a two year cycle. To increase effectiveness of this recommendation, reduce current restrictions under Continuing Resolutions and amend the Budget Control Act that create budget uncertainty hindering the Army’s ability to predictably start new programs, enter into multi-year contracts, increase production rates, or realign funds to higher priority requirements or simply allow the Services to execute at the lowest committee mark under a Continuing Resolution. Second, allow greater reprogramming thresholds. Higher below-threshold reprogramming gives the Army greater authority to move cost savings within our funding lines and incentivize delivering programs on time and under budget. Third, improve the flexibility of the acquisition personnel system to alleviate required wait periods to hire former military personnel and accelerate the accession process to hire and relocate civilian personnel.

Ideally we would request the flexibility to execute our programs, including the ability to start new programs, enter into multi-year contracts, increase production rates or realign funding to higher priority requirements, even under Continuing Resolutions.

Secretary GEURTS. I offer the following ideas to improve DOD acquisition:

1. Significantly reduce or eliminate statutory information requirements for MDAPs and major systems acquisition programs, and allow DOD to set and refine these requirements in regulatory issuances such as DOD Instruction 5000.02 (similar to recent legislation pertaining to major automated information system (MAIS) programs). This would allow program managers and milestone decision authorities greater flexibility in tailoring program information requirements to the needs of the particular program.

2. Provide for defense budgeting and defense appropriations to be made on no shorter than a two-year basis, rather than an annual basis, to provide stability in program budgets and mitigate the impact of continuing resolutions.

3. Expand certain acquisition authorities of the Secretary of Defense to the Secretaries of the MILDEPs, in particular:
   a. Congress has granted the Secretary of Defense, without power of delegation, statutory authority to waive any acquisition law or regulation to acquire a capability that would not otherwise be available to the DOD Components. Congress can grant similar waiver authority to the secretaries of the MILDEPs.
   b. Congress has granted the Secretary of Defense, without power of delegation to the Under Secretary of Defense only, statutory authority to initiate section 804 (Fiscal Year 2016 NDAA) rapid prototyping projects and rapid fielding programs by using on an annual basis up to $200 million cumulatively of any funds available to DOD. Congress can grant similar funding flexibility for section 804 initiatives to the secretaries of the MILDEPs.

I will continually encourage the DON acquisition enterprise to identify game-changing ideas to improve DOD acquisition, including clean-slate proposals. I will also work with USD (R&E), USD (A&S), and the other MILDEPs to develop such ideas.

Secretary WILSON. If I could start with a clean slate, the Air Force would streamline the approval process required to execute an acquisition program, so that all decisions are made at the appropriate level. Additionally, the Air Force would like additional funding flexibility particularly for software development efforts. On software development efforts, the line between development, production and sustainment is blurred or non-existent. The current appropriation categories limit and slow acquisition activities and fielding of software-intensive capabilities. The Air Force encourages the establishment of a new appropriation for software-intensive systems.
MULTIYEAR ACQUISITIONS AND ICEBREAKERS

51. Senator SULLIVAN. Secretary Lord and Secretary Guerts, does it make sense to sign multi-year acquisition contracts to reduce overall program costs for shipbuilding?

Secretary LORD. I fully support the use of multi-year acquisition contracts for shipbuilding programs once there is a stable design baseline for the program accompanied by realistic estimates of contract cost and savings. Multi-year acquisition contracts have proven to reduce overall shipbuilding program costs by reducing risk via stabilization of the shipbuilders’ workforce and the vendor base that supports many of our shipbuilding programs, by enabling economic order quantities, and by reducing overhead costs related to multiple proposals and contract negotiations. Some programs include fragile suppliers that might not otherwise be able to remain viable or cost effective. Multi-year acquisition contracts can incentivize the shipbuilders to establish a procurement plan with their suppliers to sustain the industrial base through workload balancing, process improvements, or other investments.

Secretary GUERTS. Yes. Multi-year contracts provide stability, commitment, and more effective use of funding to the shipbuilding industrial base that result in lower costs to the Navy. Multi-year contracts enable the Navy and Industry to take advantage of material procurement efficiencies and to utilize resources in an efficient manner, while also providing industry at the prime and sub-vendor levels with the commitment necessary to support investment in their facilities and people. The Navy will continue to aggressively pursue multi-year procurement contracts whenever feasible and where it makes sense to do so.

52. Senator SULLIVAN. Secretary Guerts, if we do not procure ice-breakers through a multi-year procurement contract, in your personal opinion, will it likely result in an inefficient use of valuable U.S. tax dollars? Shouldn’t any plan for icebreaker procurement include a multi-year acquisition plan?

Secretary GUERTS. Since forming an Integrated Program Office in 2016, the Coast Guard and Navy have been developing an acquisition strategy that makes the most efficient use of government resources to procure heavy polar icebreakers. Although the statutory requirements in 10 U.S.C. § 2306b prevent the use of a multi-year procurement contract for the lead ship, the Services are jointly exploring cost-saving acquisition approaches on follow-on ships, including block buy contracts. The Navy and Coast Guard will work with Congress to determine whether additional authorities are required.

53. Senator SULLIVAN. Secretary Guerts, given the urgent need of U.S. icebreaker capability and capability, combined with an outlook for limited procurement, does it make sense to analyze purchasing icebreakers from allied and partner nations?

Secretary GUERTS. The U.S. Coast Guard (USCG) has conducted the analysis to determine whether there are any in-service, foreign icebreakers available for purchase and has determined that there are none that meet the USCG’s heavy polar icebreaker requirements. As a bridging strategy and to maintain the nation’s current heavy icebreaking capability the USCG has chosen to extend the service life of the POLAR STAR (the nation’s only operational heavy polar icebreaker) until new heavy polar icebreakers are delivered.

JAASV ACQUISITION

54. Senator SULLIVAN. Secretary Esper, how will recent acquisition reforms enable system like the JAASV—which should consider existing domestic or foreign platforms—be procured more efficiently and expediently? Would you recommend procuring the JAASV as a “middle tier” program to enable rapid fielding?

Secretary ESPER. In 2012, the Army determined that no short-term or long-term operational warfighting requirement exists that supports the continued ownership and sustainment of the current Small Unit Support Vehicle (SUSV) or a successor (e.g. JAASV). The Army’s current modernization priorities are designed to drive the allocation of limited resources to ensure overmatch with respect to anticipated threats and operational requirements. At the same time, I also recognize that our Total Force faces unique needs in cold weather, austere, and other environments. I remain committed to evaluating how those capability requirements align with the Army’s modernization and sustainment priorities—including identifying the optimal way to procure new capabilities within available authorities and funding.
COMBAT RESCUE HELICOPTER ACQUISITION TIMELINE

55. Senator SULLIVAN. Secretary Wilson, given the critical importance of the personnel recovery mission to the Air Force, what steps is the Air Force taking to ensure an on-time delivery of the Ops Loss Replacement helicopter (and eventually, the Combat Rescue Helicopter) to sustain this sacred mission?

Secretary WILSON. The Air Force is diligently working to deliver the Operational Loss Replacement HH–60Gs. The Air Force is committed to Combat Rescue Helicopter. The Air Force structured the contract for Combat Rescue Helicopter to incentivize early delivery. If the contractor meets the goal, they receive an incentive and we immediately start procurement.

QUESTIONS SUBMITTED BY SENATOR DAVID PERDUE

ACQUISITION STRATEGY—ARE WE IGNORING THE MEDIUM TERM?

56. Senator PERDUE. Secretary Lord, DOD is facing today in terms of balancing readiness, modernization, and this time in between where we’re seeing increasing capability gaps. The last big boost in military spending, wasn’t to recap, but rather was spent fighting wars. As you well know, we’re still living on the last legs of the Reagan build-up, and all the bills are coming due at once with a major acquisition bow wave. At the same time, our adversaries are showing that they can get new platforms online a lot faster than we can. Right now, we’re dealing with the near-term issue of restoring readiness in the immediate future of 0–3 years and the medium term readiness in the 3–12 year window. I’m also focusing on future threats and capabilities in the 15–25 year-out window. I’m concerned we’re not looking to the 3–12 year window, where we’re going to see a lot of capability gaps—including with our submarine fleet, the JSTARS recap, and other programs. Defense expert Mackenzie Eaglen told this committee last week that, quote, “policymakers must avoid a “barbell” investment strategy that deemphasizes the medium-term needs of the 2020s.” As I said on Thursday, I worry that’s what we’re doing now with JSTARS. How will acquisition reforms help us bridge the capability gaps we’re going to have in the next 3–12 years?

Secretary LORD. While the modernization of the platforms supporting the nuclear triad is a long term challenge, we are making investments in more robust capabilities for the mid-term. We are ramping up production of the F–35; increasing quantities of ground systems such as Joint Light Tactical Vehicle, Armored Multi-Purpose Vehicle, Paladin Integrated Management, and the M–1 Abrams Tank Modification/Uaugrades; and going to maximum rates of production across multiple preferred munitions. We also have opportunities to address medium term capability needs by inserting innovative technologies that enhance our capabilities and confound our adversaries; for example, by exploring opportunities and new capabilities that sustain and extend DOD’s military advantage in the Electromagnetic Spectrum. The Department’s commitment to Modular Open Systems Architecture and standard interfaces encourage traditional and non-traditional sources of supply to offer subsystem options and more rapid insertion of capabilities into platforms. And our investments in advanced design and manufacturing tools enable faster and more affordable prototype development, which accelerates time to market. The broad reform efforts within the Department aimed at improving business operations will generate savings that can be applied to more pressing warfighting needs in the 2020’s. The Department also requires the support of Congress to reduce the costs of things we no longer need such as excess infrastructure and, where warranted, program cancellations. Most importantly, we need repeal of the Budget Control Act caps and substantially higher topline to pay for increases in procurement and targeted force structure growth.

57. Senator PERDUE. Secretary Lord, will you commit to working with me and this committee to look at low-cost, rapid solutions which support our first National Defense Strategy, for JSTARS recap and other programs so we can be sure that we’re taking care of our needs in the near, medium, and long term?

Secretary LORD. I look forward to working with you and the committee to look at low cost, rapid solutions to meet our national defense needs for the future.

JSTARS—EXAMPLE OF RAPID ACQUISITION?

58. Senator PERDUE. Secretary Lord, the JSTARS program is a unique capability that provides not only valuable ISR—including ground moving target indicator—but also battle management and command and control in an on-board management suite that allows warfighters on the tactical edge of battle to cut through the fog.
of war, real-time. In fact, Air Combat Commander General Holmes testified in March of 2015 that, quote, “The capability to perform this dual mission at the tactical edge provides C2 (command and control) mission assurance in a contested environment. The USAF is fully committed to the JSTARS mission.” Since 1991 when the initial JSTARS concept was proven as a critical, joint, combat capability for real-time intelligence, battle management and command and control which we still use today on the E–8C fleet of aircraft. In 1999, the Air Force decided the unique JSTARS capability should be recapitalized and developed the initial JSTARS recap for the E–10. However, in 2008 and after spending almost $2 billion in research and development, the E–10 program was cancelled, with the intent of replacing JSTARS with a future, space-based or networked technology. The legacy fleet continues to perform and support forces across the globe identifying threats on the ground and providing timely intelligence analyzed by airmen and soldiers on board to manage the battle for ground forces. According to the Congressional Research Service, in 2008 the E–10, which was the first attempt at a JSTARS recap, was cancelled because quote, “Some people believed the mission could be accomplished by space-based assets, while others, viewed unmanned aircraft as most cost effective, while others believed in downgrading with role of high-cost platforms in favor of networked, distributed collection systems.” That sounds like the exact same strategy the Air Force is considering pursuing again, while the legacy fleet continues to support real world missions and is now 9 years older, with uncertainty on the what the replacement will be, how much the replacement will cost, and when that replacement will be developed, tested and fielded if the JSTARS acquisition strategy changes. This envisioned future, space-based technological replacement never came to fruition, and not until 2015 did the DOD decide to start the current JSTARS recap program. And as they looked at how to move forward, they had 5 analyses of alternatives telling them that the current JSTARS recap plan is the best way to proceed to fulfill this critical capability. The current JSTARS recap program is scheduled to announce source selection early next year based on the fiscal year 2018 acquisition strategy. All while the current, aging legacy fleet is being sustained for $348 million per year, with growing sustainment costs and time in depot to conduct maintenance and modifications. I agree that the Air Force needs to plan for and maintain Air Superiority, today and in the future, in 2030 and beyond with cost effective modernization. However, for JSTARS we need rapid, innovative, bridging or interim solutions to cover the gap created by cancelled and changing acquisition strategies based on something better in the future without a cost or schedule. Right now, we’re heading towards a massive capability gap. The current JSTARS recap, which could be fielded within the next five year Future Years Defense Program (FYDP) based on the latest schedule we have seen, is a perfect candidate to use for rapid acquisition to field the next planes quicker and reduce the sustainment costs of the legacy fleet, which is probably a lower cost solution than the proposal I have seen to bridge the gap until the latest and greatest can come online in 2030 or even later. We need to close this capability gap that I see happening between fiscal year 2019 (when 3 planes from legacy fleet go offline) and 2030 (an optimistic estimate of when the new system will be up and running). We need this capability today and in the future with non-traditional concepts. Do you think the JSTARS recap is a program that could benefit from a rapid acquisition, given the legacy fleet sustainment costs, PDM delays, and long lead time for us even getting the technology to provide a new solution? Secretary Lord. As the Department moves forward in recapitalizing the JSTARS capabilities, I believe there should be opportunities to leverage rapid acquisition processes to ensure we continue to provide the capabilities provided by JSTARS in all warfighting environments in a prudent and expeditious manner.

59. Senator Perdue. Secretary Lord, General Holmes previously testified to Congress that the recap would reduce operation and sustainment costs by 27 percent compared to the legacy fleet. Would you be open to looking at the JSTARS recap as a rapid acquisition as a way to save costs as we work towards a future solution?

Secretary Lord. Yes, I would be open to looking to leverage rapid acquisition processes to save cost as we pursue future solutions to provide the battle management command and control and wide area surveillance capabilities capable of operating in all warfighting environments.

60. Senator Perdue. Secretary Lord, if JSTARS is not a candidate for rapid acquisition, why not?
Secretary LORD. We will explore opportunities to leverage rapid acquisition processes to save both cost and time as the Department moves toward future solutions to provide JSTARS capabilities.

61. Senator PERDUE. Secretaries Lord, Esper, Wilson, and Geurts, do you agree that the JSTARS should be considered a joint program in terms of your oversight policy since the Air Force, Army, Marine Corps and Navy all depend on its targeting information to detect and attack moving ground targets?

Secretary LORD. While the JSTARS platform is but one of our many warfighting assets that provide vital data to a myriad of joint customers, only the Air Force will procure and operate the aircraft. This is different from traditional joint programs, such as the F–35 Lightning II and the Joint Light Tactical Vehicle, where more than one service will procure and operate the weapon system. Our traditional management approach is appropriate for the JSTARS program.

Secretary ESPER. We have no issues with the Air Force continuing to be the executive agent for JSTARS.

Secretary GEURTS. From an acquisition perspective, the Navy does not believe that JSTARS should be considered a joint program in terms of Navy oversight policy. That being said, the Navy’s Intelligence, Surveillance and Reconnaissance (ISR), requirements are satisfied by the Global Force Management (GFM) process. The Navy agrees that JSTARS fills a Combatant Commander (COCOM) requirement.

Secretary WILSON. The Air Force would defer to Ms. Lord and Secretary of Defense, in consultation with Combatant Commanders, on this inquiry.

62. Senator PERDUE. Secretaries Esper and Geurts, since the JSTARS platform supports your soldiers on the ground, could you tell me if you’ve been consulted about the new approach to the JSTARS recap, and how this decision to accept more risk in the interim will impact to our soldiers, sailors and marines in theater on the ground?

Secretary ESPER. The Army is aware of the approach to the JSTARS recap. The Air Force plans to utilize the RQ–4 Global Hawk Block 40 GMTI sensors during the JSTARS recap transition to mitigate risk. The Air Force has committed to continuous coordination with the Army to ensure interoperability and maximize sharing of collected data. The Army remains platform-agnostic to how we receive GMTI data.

Secretary GEURTS. Having assumed my position as ASN RD&A in December 2017, I have not yet been consulted about JSTARS.

63. Senator PERDUE. Secretary Wilson, as a follow up to a RFI submitted through the Air Force Liaison Office on November 2nd, could you clarify the ISR statistics for me—you have said that today only 5 percent of ISR requirements are being supported. Of the 5 percent supported, what percentage is filled by JSTARS?

Secretary WILSON. While the JSTARS currently accounts for 1.4 percent of the total AF ISR contribution and 13 percent of the total Ground Moving Target Indicator (GMTI) support provided to combatant commanders, it does this in an uncontested environment. In the future, near-peer competitors will not allow the joint force unimpeded access across the battlespace we enjoy today. The JSTARS cannot survive in that contested environment. However, the Air Force will keep the JSTARS through the current Future Year Defense Plan, and invest in a family-of-systems to support combatant commanders in the highly contested environment of the future.

64. Senator PERDUE. Secretary Wilson, could you provide an apples-to-apples comparison of percentage of ISR requirements being fulfilled by each of the Air Force’s ISR platforms? And of what percentage of ISR provided is done by each ISR platform?

Secretary WILSON. Our inventory of ISR assets have different capabilities by design. Together with our team of ISR Airmen doing analysis, these assets each provide pieces of the puzzle to answer key intelligence questions. They are part of a larger Joint Force ISR and Intel Community Enterprise. The table lists the platforms and contributions to the COCOMs in 2017:

<table>
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<tr>
<th>Air Force Asset</th>
<th>GMTI</th>
<th>FMV</th>
<th>SIGINT</th>
<th>GEOINT</th>
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<td>Air Force Asset</td>
<td>GMTI</td>
<td>FNAV</td>
<td>SIGINT</td>
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</table>

65. Senator PERDUE. Secretary Wilson, today 5 percent of ISR requests are supported, and in 2030, the supported percentage is expected to fall to 1 percent of ISR requirements supported. If so, what are the factors driving that reduction in support of ISR request from 5 percent to 1 percent?

Secretary WILSON. The exact percentage of ISR requirements that will be satisfied in 2030 is unknown and could vary greatly based on assumptions. However, based on the historical trends and an increasing demand for ISR, we know combatant commander requirements will continue to grow. At the same time service inventories remain constrained at a relatively steady state. This increasing quantitative gap is further exacerbated by retaining inventory that is challenged by peer adversary advancements, reducing our previous qualitative advantage. The Air Force supports the National Defense Strategy position to migrate away from costly, non-survivable weapons systems and move toward countering the gaining influence by potential adversaries. We are building a strategy to leverage data from multiple domains to create clear advantage for our military.

66. Senator PERDUE. Secretary Wilson, I understand that of the 5 percent of ISR requirements being supported, I understand that roughly 80 percent of the GMTI requirements are supported by JSTARS. Is that number correct?

Secretary WILSON. JSTARS provides approximately 13 percent of the total GMTI requirements supported by assets through the Global Force Management Allocation Process. That equates to about 1 percent of the total GMTI requested by combatant commanders.

67. Senator PERDUE. Secretary Wilson, if we know and expect that today, what is the plan to address this decrease in support? For example, if we only have 11 Block 40 Global Hawks that can provide GMTI (which reportedly would take at least 4 to match the JSTARS in area covered), and no plans to procure more Block 40 Global Hawks, how are we going to meet requirements in the interim?

Secretary WILSON. JSTARS will continue to operate throughout the Future Years Defense Program, as will RQ–4 Global Hawk Block 40, so we do not anticipate a drop in support to the joint force in the near term.

68. Senator PERDUE. Secretary Wilson, what is a low-cost solution to fill the loss in capability between today and 2030 and beyond?

Secretary WILSON. We believe a networked system of systems approach will provide more capability and greater flexibility in the near term at a lower lifecycle cost, while also providing more capability to the warfighter in a near-peer engagement.

69. Senator PERDUE. Secretary Wilson, what is the feasibility of an interim solution to mitigate the forecasted gap and reduction in support between now and 2030 and beyond?

Secretary WILSON. Our work up to now points to a low technical risk in achieving a near-term, networked GMTI solution.

70. Senator PERDUE. Secretaries Lord and Wilson, if we know there will be a gap in 2030 and beyond, we should work to a rapid acquisition solution for JSTARS recap, or use a used plane and existing radar for the recap. Wouldn't you agree that supporting 1 percent of our ground forces ISR requirements is better than not providing or supporting any requirements, especially given what JSTARS is doing in less-contested environments (like counter-drug and counterterrorism missions)?

Secretary LORD. ISR is a critical enabler for our ground forces and is in extremely high demand across all operational levels. The demand is insatiable so any amount
of ISR we can provide is operationally valuable. That said, the Department must be prepared to provide critical ISR capabilities, such as those provided by the current JSTARS platform, in both contested and less (or non-)contested warfighting environments. We are committed to doing that in the most cost-effective and operationally-relevant manner.

Secretary Wilson. ISR is a critical enabler for the joint force and is in high demand across all spectrums of conflict. The Air Force must prepare itself to provide ISR for not only counter drug and counterterrorism missions, but also for high-intensity, near-peer conflicts. As we move to the future, in line with the National Defense Strategy, we will use a combination of existing platforms and sensors while investing in new systems for the long term. We will keep current E–8C JSATRS operational through the mid-2020s, as we develop and transition to an advance battle management system.

ACQUISITION SPEED

71. Senator Perdue. Secretary Lord, do you think the JSTARS recap is a program that could benefit from a rapid acquisition, given the legacy fleet sustainment costs, PDM delays, and long lead time for us even getting the technology to provide a new solution?

Secretary Lord. As the Department moves forward in providing the next iteration of the Ground Moving Target Indicator (GMTI) and Battle Management Command & Control (BMCC) capabilities, I believe there are benefits in leveraging rapid acquisition processes to acquire key technology solutions for the JSTARS recap program.

72. Senator Perdue. Secretary Lord, given that JSTARS recap is a joint Major Defense Acquisition Program, will this program be managed by AT&L or will this Air Force led program which supports the other services ground forces or will the management of this program be delegated to the Air Force?

Secretary Lord. The USD(AT&L) is the Milestone Decision Authority for the JSTARS recap program, however, I am working closely with the Services to look at every program individually to determine if and when a given program can be delegated.

JSTARS—UNIQUE CAPABILITIES AND DEMAND FROM COCOMS

73. Senator Perdue. Secretaries Lord, Esper, Wilson, and Geurts, as you know, JSTARS is a truly joint platform that provides unparalleled Battlefield Management, Command and Control, and Intelligence, Surveillance, and Reconnaissance (BMCCISR) capabilities. Could you comment on what makes the JSTARS platform unique across the services and the importance of this Joint Force capability to the warfighter on the ground?

Secretary Lord. JSTARS is an important component of a suite of airborne-based sensors and platforms that support our warfighting requirements. What makes this unique from other capabilities is that JSTARS provides airborne Battle Management Command and Control (BMCC) using an on-board radar capable of providing ground moving target indications (GMTI) of various target sizes and speeds to our warfighters in a permissive environment. This target information can then be matched to direct attack aircraft, stand-off weapons, and ground based attack assets in direct support to the warfighter on the ground. This is why it is important the JSTARS replacement be viable in future contested environments in order to support the joint warfighter anywhere and anytime.

Secretary Esper. The Army utilizes a wide range of Ground Moving Target Indicator (GMTI)/Synthetic Aperture Radar (SAR) collection platforms and sensors to determine patterns of life, perform intelligence preparation of the battlefield, define the operational environment, and evaluate the threats in support of ground forces. The specific platform and sensor tasked depends on the mission, terrain, weather, region, and factors such as platform/sensor specifications and the Joint Commander’s priorities. The Army is platform agnostic as to how it receives GMTI data.

GMTI capability is not unique to JSTARS. There are two other Air Force platforms that provide high altitude global GMTI coverage, the U–2 and RQ–4B Global Hawk Block 40. The Navy’s MQ–4C Triton and the new P–8A Poseidon multi-mission aircraft also have this capability. The Army’s medium altitude Aerial Reconnaissance-Low (ARL), Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS), and the MQ–1C Gray Eagle provide GMTI to Army ground tactical units. While the Army does not utilize the JSTARS’ BMCC capabilities, the Air Force utilizes this capability to coordinate air assets to support air and ground missions.
Secretary GEURTS. I am not aware of anything about JSTARS that makes this platform unique although I do note that it provides critical capabilities to the Joint Force.

Secretary WILSON. JSTARS is an important airborne BMC2 platform that can effectively integrate on-board battle management command and control, robust communications, and wide-area surveillance sensors into a single platform. However, the system cannot survive in contested environments. It cannot safely get close enough to perform its critical mission. We owe it to our warfighters and the American Taxpayer to find a better way to provide the capabilities.

74. Senator PERDUE. Secretaries Lord, Esper, Wilson, and Geurts, what does JSTARS do that other platforms (specifically AWACS, Global Hawk, or RPAs) can’t?

Secretary LORD. JSTARS provides real-time battle management and organic wide-area surveillance in support of ground forces on a single platform.

Secretary ESPER. JSTARS is a manned platform that provides both BMC2 and GMTI data. AWACS is manned but only provides BMC2. The RQ-4 Global Hawk Block 40 and other Remotely Piloted Aircraft (RPAs), such as Predator or Reaper, are unmanned and provide GMTI data.

Secretary GEURTS. I defer to the Air Force regarding JSTARS capabilities.

Secretary WILSON. JSTARS combines robust communication systems, on-board battle management, and an organic wide-area surveillance sensor onto a single aircraft in support of ground forces.

75. Senator PERDUE. Secretaries Lord, Esper, Wilson, and Geurts, Admiral Locklear, the former PACOM Commander, said before Congress in 2015, “JSTARS is a critically important capability in the ISR world, also in the battle management world, particularly when you operate in potentially contested environments where other parts of your command and control may be under cyberattack or space attack, having an aircraft that’s manned that has that ability to have that functionality and thinking work is good.” Would you agree with that assessment?

Secretary LORD. The ability to operate in contested environments requires us to maintain the right mix of cross-domain solutions for command and control of our forces.

Secretary ESPER. Yes. The mobility of the JSTARS platform will prove valuable, if other parts of the Joint and Satellite Command and Control System are under attack. However, the intensity of the contested environment will impact JSTARS’ ability to operate due to vulnerabilities to threat anti-air capabilities.

Secretary GEURTS. I believe this was an honest and accurate assessment in 2015. Regarding current ISR requirements, I defer to the Joint Staff and the Combatant Commanders the importance of JSTARS.

Secretary WILSON. The global security environment has changed and future wars against near-peer adversaries will be devastating if the Air Force does not change to focus our readiness and lethality on resources for a highly contested environment. The JSTARS cannot survive in contested environments. Adversary threat systems have evolved denying our ability to access battlespaces from where JSTARS communications and sensor capabilities are effective. We believe this requires us to carefully consider the right mix of capabilities to ensure resiliency and agility of our ISR and command and control forces in the future.

76. Senator PERDUE. Secretaries Lord and Wilson, without going to a classified level, can you tell us how JSTARS could maintain command and control during a cyber or other attack on sensors or satellites?

Secretary LORD. In order to operate in contested environments, JSTARS requires redundant and protected communications paths to maintain combat effectiveness.

Secretary WILSON. The system cannot survive in contested environments, where the aircraft cannot safely get close enough to perform its critical mission. We expect to operate in contested environments in all domains, including both space and cyber domains. Our forces will require redundant, agile communication paths to enable combat effectiveness. We owe it to our warfighters and the American Taxpayer to find a better way to provide these capabilities.

77. Senator PERDUE. Secretaries Esper, Wilson, and Geurts, how and why is JSTARS (specifically, its BMC2ISR capabilities) so important to the joint and combatant commanders needs?

Secretary ESPER. The combatant commanders’ ability to access GMTI capability is integral to react to a dynamic and changing operating environment. This capability to collect GMTI data deep into enemy territory provides collection to support
the combatant commanders’ Priority Intelligence Requirements (PIRs). The Army
does not have a requirement for BMC2.

Secretary Geurts. I defer to the Joint Staff and the Combatant Commanders the
importance of JSTARS.

Secretary Wilson. Effective BMC2 and ISR capabilities accelerate the find, fix,
track, and engage kill chain and provide direct support to ground units.

78. Senator Perdue. Secretaries Esper, Wilson, and Geurts, what is the demand
signal looking like from your Soldiers, Airmen, Marines and Sailors through combat-
ant commanders for JSTARS capabilities?

Secretary Esper. The combatant commands’ demand for Aerial Intelligence Sur-
veillance and Reconnaissance (AISR) continues to grow. The demand for JSTARS
GMTI capability is comparable to other AISR platforms. Demand currently exceeds
capacity.

Secretary Geurts. Regarding the current and future demand signal for JSTARS,
I defer to the Joint Staff and the Combatant Commanders.

Secretary Wilson. JSTARS demand signal consistently exceeds capacity.

79. Senator Perdue. Secretaries Esper, Wilson, and Geurts, could they use more
JSTARS to help with their missions?

Secretary Esper. Additional AISR capability and specifically GMTI, are always in
demand so our current requirements exceed available capacity.

Secretary Geurts. Regarding the current and future demand signal for JSTARS,
I defer to the Joint Staff and the Combatant Commanders.

Secretary Wilson. Combatant commanders request the use of the capabilities
JSTARS brings in multiple theaters and demand currently exceeds capacity.

80. Senator Perdue. Secretaries Esper, Wilson, and Geurts, do you expect de-
mand signal to decrease any time in the near future?

Secretary Esper. No. The Army does not expect the demand signal for GMTI to
decrease, but rather to increase based upon the anticipated threats and the increas-
ing complexity of the operational environment.

Secretary Geurts. Regarding the current and future demand signal for JSTARS,
I defer to the Joint Staff and the Combatant Commanders.

Secretary Wilson. We do not expect to see a reduction in the demand signal for
JSTARS capabilities in the near future.

81. Senator Perdue. Secretaries Esper, Wilson, and Geurts, to give you some sce-
narios, without going into a classified level, if we had a war with North Korea in
the near term, would you need JSTARS?

Secretary Esper. Yes. Once air superiority is established, platforms with GMTI
capability are key components in responding to combatant commanders’ Priority In-
telligence Requirements. We need GMTI, along with other AISR capability.

Secretary Geurts. Regarding operational use of JSTARS, I defer to the Joint Staff
and the Combatant Commanders.

Secretary Wilson. Yes, JSTARS would benefit the Joint Force as both a battle
management command and control and intelligence, surveillance, and reconnais-
sance platform. However, the system cannot survive in contested environments
where the aircraft cannot safely get close enough to perform its critical mission. We
owe it to our warfighters and the American Taxpayer to take a new approach to
fulfill the GMTI and BMC2 missions. To achieve this evolutionary shift, the Air
Force is transitioning from a primarily aircraft-centric approach to a net-centric ap-
proach using sensors across the battlespace linked by agile, resilient communica-
tions to provide the warfighter persistent capabilities in both uncontested and high-
ly-contested environments well into the future.

82. Senator Perdue. Secretaries Esper, Wilson, and Geurts, if we had a simulta-
neous problem in Europe and Korea, or in the Middle East—for example Syria or
Afghanistan—do we have all the assets today that we need to meet those simulta-
neous requirements, in terms of the JSTARS fleet?

Secretary Esper. No. Requirements exceed current GMTI capacity. The Joint
Staff reallocates assets to meet priorities.

Secretary Geurts. Regarding operational use of JSTARS, I defer to the Joint Staff
and the Combatant Commanders.

Secretary Wilson. No, the simultaneous requirements for BMC2 and GMTI in
these conflicts would likely exceed our current capacity.
83. Senator PERDUE. Secretaries Lord and Wilson, has a cost estimate been conducted on a new JSTARS replacement (ie the ABMS if JSTARS recap is cancelled), and how does that compare to the current JSTARS recap total program cost?

Secretary LORD. I have not been briefed on an updated cost estimate, however, I will continue to work with the Air Force to understand the costs as they evolve to their future system of systems approach to providing battle management command and control and wide area surveillance to the Joint Force.

Secretary WILSON. The Air Force realizes the importance of the Ground Moving Target Indicator and Battle Management Command & Control missions. As we evolve the mission to a system of systems approach, we will provide a detailed cost estimate.

84. Senator PERDUE. Secretaries Lord and Wilson, has a cost benefit analysis been conducted on a new strategy for JSTARS recap, given that JSTARS recap is the number four acquisition priority for the Air Force in a fiscally constrained environment?

Secretary LORD. There has not been an updated cost benefit analysis conducted by the Air Force regarding their new strategy for JSTARS Recap.

Secretary WILSON. No, there has not been a cost benefit analysis regarding a new strategy for JSTARS Recapitalization.

85. Senator PERDUE. Secretary Wilson, I understand that it would take multiple RQ–4 Global Hawk Block 40s to provide the same broad view of the battlespace as JSTARS does today with one aircraft. How many Global Hawk Block 40s would provide the same coverage as a legacy JSTARS for GMTI given the difference in size of the antennas on the E–8C and RQ–4 block 40?

Secretary WILSON. It would take approximately two RQ–4 Block 40s to provide the same maximum geographic coverage as a JSTARS system. However the long endurance of the RQ–4 Block 40 significantly reduces the force structure costs and eliminates the air refueling costs to sustain a 24-hour operations. Also, the RQ–4’s higher operating altitude provides better visibility in complex terrain types. Lastly, the remotely piloted aspect of the RQ–4 eliminates risk to aircrew in a more contested operations environment.

86. Senator PERDUE. Secretary Wilson, I understand there will be a capability gap if the RQ–4 Global Hawk Block 40s provide GMTI in place of the E–8Cs, given the sensors and ground-based BMC2 are not currently available. Does the Air Force intend to invest in more Block 40s to provide an equivalent capacity (comparable coverage) and capability (comparable timely analysis and battle management) of GMTI coverage for ground forces?

Secretary WILSON. At this time, the Air Force has no plans to invest in additional RQ–4 Global Hawk Block 40s and there is no funding allocated for the procurement of additional Block 40s in the future.

87. Senator PERDUE. Secretary Wilson, if not, why not?

Secretary WILSON. We routinely consider the right mix of ISR capabilities and currently we don’t believe additional RQ–4 Global Hawk Block 40s are required.

88. Senator PERDUE. Secretaries Esper, Geurts, and Wilson, what is the risk to the ground forces of no longer having GMTI and BMC2 available to ground forces with a capability gap and possible transition to RQ–4 Global Hawk Block 40s with yet-to-be-developed sensors ground based BMC2 capability?

Secretary ESPER. The Army does not foresee a risk, assuming the capability gap can be mitigated by other Services’ GMTI capabilities.

Secretary GEURTS. Regarding operational use of JSTARS, I defer to the Joint Staff and the Combatant Commanders.

Secretary WILSON. The Air Force budget request in the Fiscal Year 2019 President’s Budget operates the E–8C JSTARS and the RQ–4 Block 40 Global Hawk, at the same level of support to ground forces, throughout the Future Year Defense Plan (2019–2023). This mitigates near-term capability gaps while the Air Force develops the future replacement systems.

89. Senator PERDUE. Secretaries Esper and Geurts, what are your thoughts on a possible JSTARS recap capability gap in the next 3–12 years in support for your ground forces?
Secretary Esper. JSTARS recap would be important to the Army to continue to receive GMTI data to ground forces from the future JSTARS platform.

Secretary Geurts. I am not aware of a future JSTARS recap capability gap.

90. Senator Perdue. Secretaries Esper and Geurts, what is the risk to our ground forces in the next 3–12 years without a JSTARS recap, and relying on other ISR assets that are currently overstretched?

Secretary Esper. Without a JSTARS recap and no other replacement for the GMTI capability that JSTARS currently provides, the Joint Force will have less GMTI capacity.

Secretary Geurts. Regarding operational use and demand signal for JSTARS, I defer to the Joint Staff and the Combatant Commanders.

91. Senator Perdue. Secretaries Esper and Geurts, have you submitted issue papers or letters of dissent during the POM–19 process regarding the JSTARS recap decision?

Secretary Esper. No. The Air Force provided a bridging strategy to utilize the RQ–4 Global Hawk Block 40, which will provide GMTI to ground forces. Additionally, the Services can provide other GMTI capabilities for Joint Staff allocation.

Secretary Geurts. To my knowledge, the Navy has not submitted any issue papers or letters of dissent during the POM–19 process regarding the JSTARS recap decision.

92. Senator Perdue. Secretaries Lord and Wilson, I understand that a competitive range determination was made on November 8, 2017 for the radar for the JSTARS recap. However, the Radar Risk Reduction was extended through December 20, 2017, and the RRR was not yet complete when this decision was made. Why did the Air Force “down-select” on a radar prior to the completion of a $130 million radar risk reduction program? How will this impact the source selection for the JSTARS recap?

Secretary Lord. The details regarding the Air Force’s competitive range determination are source selection sensitive. Therefore, I have not been briefed on the Air Force’s rationale or the impacts on their source selection timelines.

Secretary Wilson. The Radar Risk Reduction and competitive range determination for source selection activities are independent efforts. The competitive range decision was not contingent upon the completion of Radar Risk Reduction activities. Any further details regarding the acquisition remain source selection sensitive.

SOFTWARE ACQUISITION REFORM

93. Senator Perdue. Secretary Lord, what specific changes are you making to the way you manage software?

Secretary Lord. The Department believes that software development is never complete and must be managed as a continuously improving product. This is largely done post initial capability development. Industry best practices of smaller incremental improvements that are robustly and automatically tested then deployed are being pursued. In short, contracting language to incentivize agile software development frameworks and secure continuous development and delivery is now being considered.

Several programs, such as the Reserve Component Automation System, already utilize a variety of agile development tools and quality metrics (such as velocity, sprint burn down charts, and release burn up charts). Newer piloting activities, particularly in the area of cyber capability development, are also instituting governance forums to emphasize user involvement in early experimentation/observation efforts and allow user feedback to shape capability development, with less emphasis on perfecting requirements or upfront planning ahead of the actual development activity. We anticipate that new programs of record that stem from these pilots, such as the forthcoming Joint Cyber Command and Control, Unified Platform, and Persistent Cyber Training Environment, will benefit from these types of governance processes.

Our efforts are not yet mature enough to have settled on final best practices, but we have begun revising policy guidelines. Since publishing a new instruction for business systems acquisition in February 2017, the Department continues to work through organizational and cultural changes, implement the policy and adopt industry best practices. OSD established a community of practice approach to policy clarification and training. Business systems acquirers in the Services and DOD Components work with functional proponents to manage their programs. As part of the AT&L reorganization, I am creating a Special Assistant for Software that will report
to me directly. This office will focus on addressing the challenges that the Department has faced with implementing and managing major software based programs or complex weapon systems, like the Joint Strike Fighter program, that include a significant amount of embedded software.

As you know, newly enacted sections 873 and 874 of the Fiscal Year 2018 NDAA require that DOD select a number of programs to pilot agile development methods. My staff is assessing several high-risk, software-intensive candidates to pilot use of tailored acquisition procedures and DevOps software methods to meet simplified requirements. Each Service has had programs that experienced cost growth, schedule delays, or difficulty in delivering operational capability. These programs present opportunities to try new and innovative acquisition approaches precisely because cost/schedule/performance are already off track. The potential benefits from new development methods outweigh concerns about deviating from an existing and previously unsuccessful plan. We will monitor the selected programs to inform further development of best practices guides, Defense Acquisition University training materials, and policy changes. It is important that we consider and assess the best approach for bringing essential reliability and cybersecurity skills into the engineering and design process early enough to avoid costly redesign and late defect discovery—and enable rapid incremental delivery of secure, reliable software. Updating current policy will be an iterative effort as we continue to gain agile software development experience. Formal policy changes are forthcoming that will institutionalize several improvements undertaken over the past two years via legislation, including transition or delegation of milestone decision authority to the lowest appropriate level. This will reduce decision delays and streamline alignment of resources with schedules to reflect end-user capability needs and timelines.

In addition, we will leverage several years of work piloting Rapid Cyber Acquisition processes allowed within existing law and policy to assist United States Cyber Command as they comply with the Fiscal Year 2018 NDAA section 1642 requirement to complete an “...evaluation of alternative methods for developing, acquiring, and maintaining software-based cyber tools and applications.” In short, we are committed to rapidly modernizing how DOD develops software.

94. Senator PERDUE. Secretary Lord, which programs do you intend to make changes to?

Secretary LORD. I defer to the Service Acquisition Executives to confirm changes envisioned for those programs for which I have delegated Milestone Decision Authority, in accordance with section 825 of the Fiscal Year 2016 NDAA. However, I anticipate the Services and DOD Components will be making changes to several programs, with OSD support as needed.

In addition, we are changing our approach to some complex, joint programs for which I have retained acquisition oversight. We are leveraging commercial best practices and lessons learned from early work of the Defense Digital Service and the Defense Innovation Unit Experimental (DIUx) for programs such as the F–35 Lightning II, Next Generation Operational Control System (OCX), and Air & Space Operations Center—Weapon System (AOC–WS).

The F–35 Joint Program Office (JPO) has reassessed the planned approach for executing Follow-on Modernization (FoM) and determined that we cannot continue as we did in the System Development and Demonstration (SDD) phase to apply a slow, rigid “big bang” development approach designed and optimized for hardware intensive solutions. The F–35 JPO is instead establishing a holistic acquisition strategy based on agile practices called Continuous Capability Development and Delivery (C2D2). The C2D2 methodology is designed to deliver continuous modernization, enhancements, and improvements to the entire F–35 Air System, and deliver Block 4 in smaller capability drops to the Warfighter on an expedited timeline. This new agile approach to capability development will be characterized by capability-based engineering, agile/automated test, parallel development and operational test, flexible contract strategies, and new Cost Estimating Relationships. Additionally, this approach will be facilitated by an increased use of open architectures, Government-purpose data rights, and the right organic software engineering skill sets to effectively manage the process. The result is that capabilities will be continuously developed using expedient, tailored, predictable processes and will be available to the field in relevant, timely, verified releases. The Department must apply a more rapid and iterative process to field its software intensive solutions, aligned with enabling hardware upgrades, to keep pace with the dynamic threat environment and maintain the viability of the Joint and International F–35 fleet over its 50+ year lifecycle. The F–35 JPO is now in the process of formalizing the C2D2 acquisition strategy.
Following a Critical Change in 2016, the AOC–WS program continued to struggle with a traditional acquisition approach. Even the most optimistic schedule projections indicated the program would not field capability for several more years. The Air Force re-assessed AOC modernization plans in light of DIUx successes with agile development of the Tanker Planning Tool (TPT). The Air Force is now pursuing a twelve month Pathfinder proof of concept that will deliver a dynamic targeting capability and validate the agile methodology. OCX is currently implementing modern software development techniques via DevOps. This approach, recommended by Defense Digital Services, will help produce high quality software for Blocks 1 and 2. Raytheon expects to field those major system elements in 2021–2022.

As a result of sections 873 & 874, of the Fiscal Year 2018 NDAA and with the Department’s adoption of commercial best practices, the Services and Defense Agencies are encouraged to adopt iterative and agile approaches more broadly in order to reduce the time needed to deliver capabilities. The Defense Innovation Board, the Defense Digital Service, DIUx, and the Department as a whole will continue to examine high payoff opportunities for streamlining of current policies, practices, and processes.

95. Senator PERDUE. Secretary Lord, how will you ensure that new software intensive programs do not fall victim to the same problems that plague current programs?

Secretary LORD. The Department is early in the process of adopting DevOps and agile software development practices to deliver software capabilities more rapidly and in smaller increments. Several programs, such as the Reserve Component Automation System, already utilize a variety of agile development tools and quality metrics (such as velocity, sprint burn down charts, and release burn up charts). Newer piloting activities, particularly in the area of cyber capability development, are instituting governance forums to emphasize user involvement in early experimentation/observation efforts and allow user feedback to shape capability development, with less emphasis on perfecting all requirements before proceeding to development activities. We anticipate that new programs of record that stem from these pilots, such as the forthcoming Joint Cyber Command and Control, Unified Platform, and Persistent Cyber Training Environment, will benefit from these types of governance processes.

In addition, practitioners will be able to share lessons learned, isolate recurring challenges, and identify requests for policy-makers to remove bureaucratic roadblocks. OSD will engage with governance across portfolios of programs to ensure they are progressing toward their objectives.

We should expect improved outcomes when DOD and industry collectively empower a workforce of motivated and properly trained program management teams with sufficient insight into the risks, opportunities and ultimate rewards of a capability developed, tested, and fielded quickly and with end-user participation. To modernize software engineering (SWE) competency and practice, we need to start with our people. The Department needs to be able to identify and characterize its software engineering and acquisition professionals so that it can assess and address its SWE workforce gaps (quantity/quality) and inform its recruiting efforts. Recent rapid advances in SWE skills, technology, and modern software development practices have proven highly successful in a competitive marketplace. Examples include scaled Agile, build/test/release automation environments, continuous integration and tool chains, and DevOps. To increase use of these solutions, the Department must realign its processes for identifying, training and managing software competencies to keep pace with these advances. Initial policy changes and process improvements are already underway. These initial steps are part of a crawl, walk, run strategy that addresses an increasingly complex and uncertain cyber environment and that will transform our software development processes and improve our products in the months and years to come.

96. Senator PERDUE. Secretary Lord, as the Department and Services seek to change their acquisition systems, particularly in the context of software intensive systems, in what ways do you need to change your approach to testing?

Secretary LORD. Software is an integral part of all Department capabilities, to include weapon systems, information enablers and business systems. The Department needs to modernize our practices, workforce competencies and training to enable more rapid delivery of reliable and secure software across the enterprise. DOD needs to consider how modern, commercial best practices and robust software development can help avoid late big bang integration and defect discovery. The Depart-
ment also needs to move towards earlier, more frequent test engagements, which are focused on working capabilities, using short cycle, incremental, testable software builds. This allows developers to conduct multiple test and integration events and field intermediate products to gain user acceptance and feedback to improve future builds or increments. Cybersecurity T&E must be integrated with these efforts, and the Department is working to provide acquisition programs with approaches to integrate earlier cybersecurity testing and industry software testing best practices.

97. Senator PERDUE. Secretary Lord, what changes do you intend to make to developmental test processes and organizations?

Secretary LORD. Software is an integral part of all Department capabilities, to include weapon systems, information enablers and business systems. The Department needs to modernize our practices, workforce competencies and training to enable more rapid delivery of reliable and secure software across the enterprise. DOD needs to consider how modern, commercial best practices and robust software development can help avoid late big bang integration and defect discovery. The Department also needs to move towards earlier, more frequent test engagements, which are focused on working capabilities, using short cycle, incremental, testable software builds. This allows developers to conduct multiple test and integration events and field intermediate products to gain user acceptance and feedback to improve future builds or increments. Cybersecurity T&E must be integrated with these efforts, and the Department is working to provide acquisition programs with approaches to integrate earlier cybersecurity testing and industry software testing best practices.

Testing is a critical component of software development and can be a time-consuming aspect of software delivery. The Department’s testing communities need to evolve their testing policies, procedures and approaches to accelerate software fielding cycles. Automation and artificial intelligence are areas the Department needs to invest in and leverage highly efficient industry best practice, improved adoption of automation, artificial intelligence, and higher fidelity integration labs. The Department’s testing community needs to collaborate with industry to identify new ways of addressing software testing requirements and adopt best practices for agile development and DevOps development which leverage performance and cybersecurity test data from early in development through sustainment. For example, in fiscal year 2017, the current OSD level DT&E organization supported 22 Cyber Table Top Exercises with programs that averaged identified 15 High or Very High system vulnerability risks per event. Cybersecurity risk will continue to challenge the Department as it moves to more COTS based software and cloud-based environments. Mission-Based Cybersecurity Risk Assessments must become the norm across the system development life cycle for the Department.

I will work with the Undersecretary of Defense for Research and Engineering and the Director of Operational Test and Evaluation community to include the operational test community’s equities of suitability, effectiveness, and cybersecurity are considered early in both the design and the developmental test process to ensure efficient testing is done. My ultimate goal is to acquire safe, combat-capable systems for the Warfighter at the speed of relevance.

98. Senator PERDUE. Secretary Lord, how can you better collaborate with the Director of Operational Test and Evaluation to speed time to deployment while making sure that deployed capabilities are safe and fit for purpose?

Secretary LORD. Software is an integral part of all Department capabilities, to include weapon systems, information enablers and business systems. The Department needs to modernize our practices, workforce competencies and training to enable more rapid delivery of reliable and secure software across the enterprise. DOD needs to consider how modern, commercial best practices and robust software development can help avoid late big bang integration and defect discovery. The Department also needs to move towards earlier, more frequent test engagements, which are focused on working capabilities, using short cycle, incremental, testable software builds. This allows developers to conduct multiple test and integration events and field intermediate products to gain user acceptance and feedback to improve future builds or increments. Cybersecurity T&E must be integrated with these efforts, and the Department is working to provide acquisition programs with approaches to integrate earlier cybersecurity testing and industry software testing best practices.

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QUESTIONS SUBMITTED BY SENATOR BEN SASSE

99. Senator Sasse. Secretary Lord, what obstacles do you anticipate while making DOD’s overall acquisition effort function more like DIUx, the Strategic Capabilities Office (SCO), and the Rapid Capabilities Offices (RCO) in the various services?

Secretary Lord. We intend to transition from a traditional, linear acquisition process to an adaptive acquisition ecosystem. The goal of this transition is to allow acquisition professionals to use multiple pathways/models for their programs as a standard practice. In some cases, that will require the agility demonstrated in the DIUx/SCO/RCO models. When successfully prototyped and implemented, the goal would be to scale the innovative solution across the adaptive acquisition ecosystem. We will need to attract, develop and retain the appropriate acquisition work force. A key element for training will be to reorganize the Defense Acquisition University (DAU) curriculum to focus on the appropriate use of specific contract vehicles by presenting case studies that depict actual programs. I envision a much more modular approach to developing courses with one to two day modules focusing on specific subjects with pertinent examples. We desire to instill a culture of “creative compliance”.

100. Senator Sasse. Secretary Lord, how will you scale the acquisition success you’ve had with DIUx, SCO, and the RCOs as you begin the formal split of Acquisition, Technology, and Logistics (AT&L) into Research and Engineering (R&E) and Acquisition and Sustainment (A&S) on February 1, 2018?

Secretary Lord. We intend to transition from a traditional, linear acquisition process to an adaptive acquisition ecosystem. The goal of this transition is to allow acquisition professionals to use multiple pathways/models for their programs as a standard practice. In some cases, that will require the agility demonstrated in the DIUx/SCO/RCO models. When successfully prototyped and implemented, the goal would be to scale the innovative solution across the adaptive acquisition ecosystem. We will need to attract, develop and retain the appropriate acquisition work force. A key element for training will be to reorganize the Defense Acquisition University (DAU) curriculum to focus on the appropriate use of specific contract vehicles by presenting case studies that depict actual programs. I envision a much more modular approach to developing courses with one to two day modules focusing on specific subjects with pertinent examples. We desire to instill a culture of “creative compliance”.

101. Senator Sasse. Secretaries Esper, Geurts, and Wilson, how has your service worked with DIUx or other offices to use Other Transaction Authority (OTA) to speed up acquisition cycles?

Secretary Esper. The Defense Innovation Unit Experimental (DIUx) provides a mechanism for the Army to connect with small, non-traditional businesses in the technology sector, and has assisted the Army with contracting and market research to speed up acquisition cycles. For example, DIUx supported the Army Cyber Command in the procurement of an industry standard end-point platform that increases network asset awareness and visibility. The Army has achieved success using Other Transaction Authority (OTA) for prototyping and limited fielding of defensive cyber-
space operations (DCO) capabilities. The Army will continue to leverage OTAs and other instruments to keep pace with the rate of technological change, as well as enable widespread use of evolutionary and streamlined acquisition approaches.

Secretary GEURTS. The DON uses OTAs to accelerate prototyping and acquisition, where appropriate, and has engaged with DIUx and other offices on multiple occasions.

DON’s recent and current OTA efforts leverage the U.S. Army’s OTA experts in Picatinny working through DIUx and a number of industry consortia for command and control, cyber, vertical lift and ordnance. Some examples include use of the Army’s DOD Ordnance Technology Consortium for prototypes and demonstrations for the Electromagnetic Rail Gun, the Hypervelocity Projectile, high energy lasers, and radio frequency weapons technology. Our special operations forces, explosive ordnance disposal community, C4I professionals, and unmanned underwater vehicle designers are all currently using OTA for advances in unmanned and counter unmanned systems, human systems and talent management, and leading edge software development techniques from Silicon Valley.

Early collaboration has shown promise in getting the best commercial innovators and technology to help develop superior war fighting capability. Future efforts include expanding with key Naval warfare centers, system centers and laboratories, and continued leveraging of existing mechanisms such as Small Business Innovative Research.

Secretary WILSON. We have multiple examples where OTAs have been used and would like to see replicated. One of these highly successful examples is the Light Attack Experiment, a live-fly event held in August 2017. Use of the OTA allowed the Air Force to move quickly, with the Light Attack Experiment taking place within 5 months of the Invitation to Participate being released to industry. Being able to move rapidly is critical to ensuring the Air Force can efficiently and effectively execute our experimentation campaigns. These campaigns are not acquisition programs, and allow the Air Force to explore the art of the possible and quickly assess utility for the warfighter.

A second example is the Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) OTA consortium managed by the Air Force Research Laboratory (AFRL). AFRL’s Information Directorate in Rome, New York has an OTA with the System of Systems Security Consortium (SOSSEC) to develop C4ISR Information System prototypes, which will provide "plug-n-play" technologies via modern open systems architectures to provide rapid adaptation and integration of new capabilities. The agreement allows AFRL to quickly and efficiently reach the 70+ member companies of SOSSEC while leveraging SOSSEC as a single point intermediary, reducing overhead and facilitating project execution.

The Air Force currently has four OTAs with industry for rocket propulsion systems, all of which require shared cost investment between the government and industry. These investments initiate the transition off the RD–180 by investing in critical Rocket Propulsion System technologies. These Rocket Propulsion Systems were proposed by industry for commercial launch systems that can be enhanced to meet more stressing National Security Space requirements. The Air Force intends to release an RFP later this summer for Launch Service Agreements to complete the development of the replacement launch systems continuing the shared industry/government investment approach.

Finally, the Air Force established a Space Enterprise Consortium using an OTA to utilize for prototyping activities and to attract new space and non-traditional mission partners.

AFFORDABLE ACQUISITION

102. Senator Sasse. Secretary Lord, are any legislative, policy, or regulatory changes needed to increase small businesses or non-traditional defense contractor involvement in DOD acquisition programs?

Secretary LORD. As I lead the congressionally directed reorganization of DOD's management of Acquisition, Sustainment, Research and Engineering; I will identify and implement or recommend appropriate legislative, policy, or regulatory changes to increase small business or non-traditional defense contractor involvement in DOD acquisition programs. In the meantime, I recommend the following six legislative changes related to the Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) programs to immediately help DOD increase small business or non-traditional defense contractor involvement in DOD acquisition programs.

1. Program Permanence for SBIR and STTR—The SBIR and STTR programs are proven enablers that allow DOD to engage with small business and research
institutions to develop technical capabilities for many complex problems facing our warfighters today. In addition to providing enhanced capabilities for national security, these programs are a significant driver of innovation in our Nation—leveraging U.S. strengths in entrepreneurship, acceptance of risk, and access to technical talent and smart capital to create businesses that are shaping the commercial technology landscape. In fact, the section 809 panel volume 1 report recommended DOD, “Build on the success of the SBIR/STTR and RIF programs.” Unfortunately, these two critical programs, SBIR/STTR, are not permanent and require periodic reauthorization by Congress. Making these programs permanent would allow for consistency and remove uncertainty over the long-term support for this critical driver of innovation for DOD and job growth for the country. Permanency also improves the ability for the DOD consumers of SBIR/STTR technology solutions to plan for technology integration and insertion, and clarifies the program status for contracting officers, thus improving the timeliness of awards and development of technical solutions.

2. Use of Other Transaction Authority (OTA)—Other Transaction Authority (10 U.S.C. sections 2371 and 2371b) provides DOD with a flexible business tool to enable smarter and more efficient acquisition of research projects and prototype systems. Agreements under this authority can improve the operation of the SBIR and STTR programs by allowing a flexible agreement with the ability to quickly award SBIR/STTR efforts and decrease the time between Phase I and Phase II awards. In addition to decreasing time to prototype, the use of OTA can reduce wait times for small businesses and decrease the level of contracting overhead during the Phase II award process. Amending 15 USC 638(e)(3) to include OTA in the definition of SBIR/STTR funding agreement will greatly enhance the ability of OTAs to contribute to innovation and job growth by including them as an option for funding SBIR and STTR research.

3. Reauthorize the pilot three percent Assistance for Administrative, Oversight, and Contract Processing Costs Authority—The SBIR/STTR Reauthorization Act of 2011 (Public Law 112–81) authorized the head of each federal agency required to conduct an SBIR program to use up to 3 percent of such funds for costs relating to administrative, oversight, and contract processing activities. This pilot admin authority expired on September 30, 2017. Reauthorization of this authority will provide necessary resources to administer the programs, conduct targeted outreach, enhance fraud waste and abuse efforts, and implement efforts to improve program responsiveness. DOD Components used this authority to enhance SBIR/STTR outreach and marketing efforts and improve the availability of commercialization and transition support to small businesses. An effort to use Contracting Focus Centers for SBIR/STTR to streamline acquisition processes, reduce time to contract award, reduce proposal burdens and standardize the experience for submitters has been discontinued due to expiration of this authority.

4. Reauthorize Phase Flexibility—In today’s environment, rapid delivery of technical capabilities to the warfighter is critical. Phase flexibility, or Direct to Phase II, provides the Department with the ability to shorten the development cycle for critical technology solutions as appropriate. By using the phase flexibility authority, the Air Force was able to quickly develop and field devices for dismounted navigation in a GPS denied environment. The potential for a direct to Phase 2 award also encourages companies with more mature technologies to participate in the program, further enhancing the technical solutions available to DOD.

5. Authorize DOD to approve waivers—The ability to approve waivers for DOD Components and Agencies consistent within the intent of the SBIR/STTR programs will improve the ability for DOD to provide responsive program execution. DOD and its components need the ability to make rapid decisions for the most effective use of SBIR/STTR funding in support of technology overmatch. This request is not to change the SBA’s role but would provide the Secretary of Defense with the authority to approve waivers for DOD components and agencies in the efficient use of SBIR/STTR funding. Examples of the waiver types are a waiver to exceed the time limit to notify a small business of their selection for award and a waiver to exceed award amount guidelines by more than 50 percent.

6. Authorize DOD to conduct pilot programs to improve SBIR and STTR processes—DOD needs the ability to experiment with new processes and procedures in the use of SBIR/STTR authority to quickly respond to emerging threats, technology advances, and market changes. DOD needs the ability to create and execute pilot programs to evaluate the effectiveness of innovative SBIR and STTR processes to include but not be limited to, efforts to decrease...
time to prototype, methods to work with DOD innovation efforts to include SBIR technology in capability enhancements, developing methods to work with DIUx and other organizations to leverage rapid contracting and rapid prototyping initiatives, and contracting process improvements.

PROGRAM MANAGERS

103. Senator Sasse. Secretaries Lord, Esper, Geurts, and Wilson, what problems exist with the way program manager personnel rotations are currently conducted and how might such rotations be altered to increase continuity and efficiency in acquisition programs?

Secretary Lord. Recent statutory changes require any Program Manager for an ACAT I or IA program assigned before Milestone B to be assigned at least through Milestone B approval. Any ACAT I or IA Program Manager assigned immediately following Milestone B approval is required to be assigned until initial operational capability is achieved. By policy, program managers outside of these periods will be assigned for at least 4 years or until the completion of the phase of the program that occurs closest in time to the date on which the person has served in the position for 4 years. These changes are recent enough to preclude recognition of any trends.

Based on trends previous to the statutory change, the biggest challenge to ensuring adequate tenure length for military program managers of major acquisition programs is competing with requirements associated with career progression and promotion. In the past, some military program managers were rotated from their program manager position with notably less than four years of tenure (the previous requirement). This was often due to being promoted to general/admiral, or to gain other experiences needed to remain competitive for promotion. Follow-on job opportunities also led to shorter than optimum tenures for some civilian program managers, albeit at a lower rate than military counterparts.

The most effective means to improve continuity and efficiency is to more strictly enforce the tenure agreements program managers are required to sign before beginning their tour as program manager. The Department needs to ensure the agreements conform to the above criteria and that they are adhered to. Some have suggested that continuity would be improved if only civilians were eligible for the program manager position. However, I do not feel there is a need for this limitation since each community brings unique skills and knowledge. Personnel with these varied skills should be available and selected based on the needs of the program.

A second initiative that may improve continuity and efficiency in acquisition programs is for the Services to ensure program managers have completed all required training before beginning their program manager tour. Often, for various reasons, some resident training is not completed before the program manager has started in their position and must be completed sometime during their tour. The Department can increase consistency and take better advantage of skills and knowledge gained in class if all required training was done prior to managing the program.

Secretary Esper. In an effort to promote greater accountability, I would aim to ensure the alignment of the duty assignments of PMs with the Milestones established for their programs to ensure there is a clean handover of the program at critical points, and that clear measures of effectiveness—cost, schedule, and performance—can be assessed. I would aim to do the same with PEOs and their responsibility for the highest priority programs in their portfolio.

Secretary Geurts. I believe Program Manager (PM) personnel are rotated properly in the Navy. We assign PMs and Deputy Program Managers (DPMs) using a very selective slating process where both military and civilian applicants are considered for each PM and DPM position. We closely monitor the performance of the PMs and DPMs and have these individuals sign tenure agreements based on the ACAT Level of their program. While the personnel have a prescribed tenure, Navy Leadership monitors the phase of the program and determines the proper time to rotate personnel on a case by case basis as necessary. For example, in certain circumstances, Navy Leadership may extend a PM to ensure disruptive changes are not made immediately prior to a program milestone.

Secretary Wilson. The Air Force takes the rotation and development of its program managers seriously. The Air Force strives to make certain its program managers rotate between assignments based on the individual’s skill-levels and capabilities so they are developed for future assignments. We have established processes to approve program manager moves earlier than their expected tours are completed. These are approved by the Service Acquisition Executive. We continue to closely monitor key leadership moves during critical milestones on our programs.
104. Senator NELSON. Secretary Wilson, recently the Commander of STRATCOM, General Hyten, said this country has lost the ability to "go fast". He said we now take four years to study a problem before doing something about it. He also said this is not acceptable when it comes to space, because while we can compete right now, in the future, others will easily overtake us. I was glad to hear that you had agreed with him. So, what institutional changes is the Air Force making when it comes to space acquisition?

Secretary WILSON. I have requested delegation of Acquisition Category I programs from AT&L to the Air Force in order to speed decision making and avoid multiple levels of bureaucracy. Internally, the Air Force delegated Acquisition Category II and Acquisition Category III programs to the lowest possible level. We are evaluating how we organize our acquisition centers to be more responsive and agile to new and changing threats and to work with our operators to make our warfighting forces more effective. We are also leveraging developmental planning, experimentation, and prototyping to support fielding of future Air Force capabilities to support the joint force. Our technically advanced Air Force must embrace a willingness to "fail fast" in order to iterate and harvest lessons as keys to innovation.

105. Senator NELSON. Secretary Wilson, to what extent does space acquisition need to be different than other programs outside of space?

Secretary WILSON. Every warfighting domain faces unique challenges that impact how we develop, acquire, and present our forces. All domains need to be responsive to new and changing threats and be able to rapidly integrate new capabilities to make our warfighting force more effective. This agility must extend through the entire space enterprise, to include how we learn about the threat; develop solutions; acquire, test, deploy, operate, and evolve new systems; and ensure our space mission force is ready to defeat a thinking adversary in a complex, multi-domain battlespace.

106. Senator NELSON. Secretary Wilson, how will you prioritize making these changes in regards to the other Air Force missions?

Secretary WILSON. The action I have taken are for all programs, not just for space. The Air Force has requested the delegation of the Milestone Decision Authority for Acquisition Category I (ACAT I) Major Defense Acquisition Programs from the Under Secretary of Defense for Acquisition & Sustainment back to the Air Force. Of the 14 programs recently delegated or reverted back to the Air Force, seven fall under the space umbrella.

We will continue to work with the Under Secretary of Defense for Acquisition & Sustainment for additional delegations of Milestone Decision Authority to the Air Force for other programs, which we are well-suited to execute.

While the Office of the Secretary of Defense has delegated significant programs to the Air Force, the Air Force has taken steps to delegate decision authority for ACAT II programs from the Service Acquisition Executive to lower levels, either the Program Executive Officer (PEO) in order to shorten the acquisition timeline to field needed capabilities. PEOs have also delegated ACAT III programs to O–6 level Program Directors where appropriate.

107. Senator NELSON. Secretary Wilson, what changes need to be made to space acquisition that would capitalize on cost savings that have been made by commercial space?

Secretary WILSON. Private sector research and development continues to outpace military investments in space. The Air Force is actively exploring opportunities to leverage the commercial sector wherever possible, including launch, space command and control, and satellite communications. One place where change would be helpful is in the use of next-generation commercial satellite communication services. The Air Force has been using commercial satellite communications for years but found legal and policy impediments to taking full advantage of the cost savings. A legislative proposal that is working through the approval process for fiscal year 2019 would remove hurdles and allow the Air Force to take full advantage of the potential reduced costs and increased performance capability of commercial systems.
108. Senator NELSON. Secretaries Lord, Esper, Geurts, and Wilson, another area we need to be able to move fast in is in acquiring cyber capabilities. Can you explain how your services are acquiring cyber capabilities in coordination with Cyber Command?

Secretary LORD. As the Department stands up its Cyber Mission Force (CMF) of 133 teams, the Services and U.S. Cyber Command are both playing a key role in equipping this force for conducting cyberspace operations. Currently, the Services have the lead role for acquiring the capabilities for equipping Cyber Protection Teams. Equipping the Combat Mission Teams and National Mission Teams is a shared acquisition responsibility. To help synchronize the acquisition of cyberspace capabilities across the Department, U.S. Cyber Command conducts quarterly cyber capability reviews with the Services.

U.S. Cyber Command’s acquisition authorities were recently enhanced. As part of the Fiscal Year 2016 NDAA section 807 (Acquisition Authority of the Commander of U.S. Cyber Command), the USD(AT&L) delegated acquisition authority to Commander, Cyber Command to organically manage non-major system acquisitions (i.e., acquisition category (ACAT) III or below).

For larger ACAT programs or acquisitions of foundational infrastructure (e.g., the Unified Platform (UP)) or software architectures the duration of which is expected to last more than five years, U.S. Cyber Command works with the Services to provide validated cyberspace operations requirements.

In response to previous Congressional direction (e.g., NDAA 2016 section 1645), the Department designated Executive Agents (EAs) for critical cyber capabilities. The U.S. Army is the DOD EA for DOD Cyber Training Ranges and the acquisition lead for the Persistent Cyber Training Environment. The U.S. Air Force is the EA for Joint Cyber Command and Control as well as the UP. For the UP, the U.S. Air Force is the EA. The stand-up of these EAs and governance boards has helped the Department place the appropriate emphasis on delivering these key capabilities required to train and equip the Cyber Mission Force.

One of our most important ongoing acquisition efforts is for the Unified Platform, a cyberspace operations capability that will help the CMF teams more effectively conduct cyberspace operations. U.S. Cyber Command conducted UP operational prototyping in fiscal year 2017 and is continuing prototyping in fiscal year 2018 to supplement the longer term technology prototyping and development of the U.S. Air Force’s UP Program Management Office (PMO) and the Services’ related acquisition PMOs.

Secretary ESPER. The Army recognizes the need to rapidly evolve cyber capabilities by quickly injecting technologies in response to new and emerging threats. The Army is increasingly synchronized with U.S. Cyber Command and the other services through joint programs such as unified platform, joint command and control, and the persistent cyber training environment. Through Army Cyber Command, the Army’s component headquarters to the U.S. Cyber Command, the Army remains aligned to US Cyber Command requirements and priorities. In fact, the Army was designated by Joint Staff as the lead service for a priority US Cyber Command Joint Urgent Operational Needs Statement last year. The Army continues to rapidly develop that solution and other capabilities based on US Cyber Command prioritization. With regard to the Army’s portion of the Cyber Mission Forces, the Army has made great strides by developing requirements, prioritizing resources, and establishing rapid acquisition models. The Army’s cyber acquisition approach leverages rapid requirements development, the use of Other Transaction Authority to achieve commercial off the shelf solutions, some limited authorities for Army Cyber Command in-house procurements, and a “DevOps” environment to create new capabilities. Through this approach, the Army is well-postured to present fully equipped Cyber Mission Forces to US Cyber Command according to joint standards.

Secretary GEURTS. The Navy works closely with both US Cyber Command (USCC) and the Defense Information Systems Agency (DISA) to acquire joint/common cyber tools. As the service components of USCC, Navy Fleet Cyber Command (FCC) and Marine Forces Cyberspace Command (MARFORCYBER) are the direct links between the Department of the Navy and USCC, FCC and MARFORCYBER coordinate requirements and acquisition with the Navy and Marine Corps operational staffs (OPNAV and HQMC) and their acquisition commands. OPNAV and HQMC also directly coordinate with the Joint Staff and USCC on Joint Urgent Operational Needs that trigger rapid acquisition efforts. The cyber Subject Matter Experts at FCC, MARFORCYBER and PMW 130 assist USCC and DISA with design, analysis, and acquisition of cyber tools and systems to meet Naval requirements. An example of this is the current system used DOD wide (with metrics and reporting to USCC).
of the Host Based Security System (HBSS). DISA manages the central acquisition of the HBSS system and licenses based on USCC and Service requirements and the Navy (via PMW 130) deploys the system to all required networks and computers. The Navy also acquires other cyber capabilities (e.g., SHARKCAGE) that are unique to the Navy for cyber intrusion detection. In accordance with the direction given in Fiscal Year 2018 NDAA section 1642, USCC is also working closely with the Services to evaluate alternative methods and repeatable, disciplined processes for increasing the speed of developing, acquiring, and maintaining effective cyber tools across the DOD.

Secretary Wilson. As the Executive Agent for the Unified Platform and Joint Cyber Command & Control programs, the Air Force is overseeing the standup of program management offices focused on agile software development processes. Direction from stakeholder governance bodies, which includes representatives from the Air Force, Cyber Command and other Department of Defense stakeholders, guides the course for these programs. To support maximum warfighter responsiveness for evolving requirements, the primary decision body is delegated to the lowest practical level (O–6/Civilian equivalent) with stakeholder Senior leadership providing oversight and strategic direction. This framework allows for close teaming between the operations and acquisition communities.

QUESTIONS SUBMITTED BY SENATOR CLAIRE MCCASKILL

109. Senator McCaskill. DOD IG audits have determined that contracting officials do not always use the Contractor Performance Assessment Reporting System as required system, and that the system itself has ineffective internal control measures that allow incomplete evaluations of contractor performance to be submitted. Secretary Lord, what is being done to shore up the weaknesses in this system to ensure that Federal source selection officials have access to timely, accurate, and complete past performance assessment information necessary to make informed decisions related to contract awards?

Secretary Lord. The Department is fully committed to improving past performance assessment information. The Department addressed and closed out all the recommendations in the latest DOD IG audit (DODIG–2017–081) issued on May 9, 2017. The Director, Defense Procurement and Acquisition Policy issued a memorandum on May 16, 2017, to DOD Contracting Organizations and Service Acquisition Executives emphasizing the importance of contractor past performance evaluations and the quality of written narratives to ensure ratings given are fully supported as described in the Federal Acquisition Regulation. In addition, they were reminded to assign responsibility and management accountability for the completeness of past performance submissions.

Furthermore, the Department forwarded the DOD IG auditors system enhancement recommendations to the General Services Administration (GSA), who has management responsibility for the Federal wide mandated Contractor Performance Assessment Reporting System (CPARS). GSA implemented a system enhancement in August 2017 to require narratives for every factor for which there is a rating. An additional enhancement was made to provide the FAR ratings definitions as a "prompt" to facilitate ratings consistent with written narratives. GSA and the Department believe these system enhancements will improve the quality of past performance information available to our Acquisition Officials. The CPARS Guide was also amended to emphasize that "a supporting narrative must be provided for each factor used."

Lastly, the Department monitors and posts quarterly compliance CPARS Metrics to ensure evaluations are being accomplished in a timely manner. The metrics are posted here: https://www.acq.osd.mil/dpap/pdi/eb/monthly—contract—distribution—metrics.html. The January 9, 2018, metric for the first quarter of fiscal year 2018, shows a DOD compliance rate of 83 percent, which far exceeds the average Federal Agency compliance rate of 60 percent.

110. Secretaries Esper, Geurts, and Wilson, what training is being done for your contracting officials to ensure they know how to properly use this required system, and what are you doing to hold contracting officials accountable for their failure to use systems like this? Are you ensuring that their use of or failure to use such systems is included in their regular evaluation reports?

Secretary Esper. The Army leverages existing Contractor Performance Assessment Reporting System (CPARS) training provided by the CPARS Program Man-
ager for those Army contracts that meet reporting eligibility requirements. Additionally, many of our Command-level contracting activities provide one-on-one training to assessing officials (including requiring activity representatives) on the “how to” workflow process for the use of the CPARS system. The Army also takes advantage of Army Logistics University and Defense Acquisition University training modules that incorporate limited CPARS instruction.

The Army’s contracting leadership continues to place emphasis on monitoring contractor performance of all contracts that meet reporting eligibility requirements through CPARS. Contracting Leaders are held accountable at the Command-level for ensuring that CPARS accurately captures contractor performance.

There are a number of systems that contracting officials utilize in the performance of their duties. CPARS is just one of those systems. Metrics and measures are in place to ensure compliance with utilization of those systems across the Acquisition community. Depending upon mission priorities, leadership includes compliance with set standards in individual evaluation assessments which would include utilization of the standard reporting systems such as CPARS.

Secretary Geurts. The DON is committed to ensuring that Navy and USMC contracting officials and program offices are using the Contractor Performance Assessment Reporting System (CPARS). Contracting officials are responsible for registering applicable contracts after award into the CPARS and program/office personnel are responsible for completing the actual assessments of Contractor performance. DON works closely with the Naval Sea Logistics Center Portsmouth, which is charged with providing supplier performance and material quality support/services across a broad customer base that includes the DON, Joint Services, DOD, and Federal and Civilian Agencies. Together, we develop and implement CPARS training and guidance that is supportive of Navy procedures and processes. Additionally, each Navy buying activity has specific CPARS Agency POCs charged with monitoring local CPARS compliance.

Secretary Wilson. The Air Force uses the Contractor Performance Assessment Reporting System (CPARS) tool and policies established by the Defense Department to train personnel and record evaluations of contractor performance. Individuals appointed to CPARS roles must complete training specific to their CPARS role(s) within 30 days of appointment. This includes contracting officers as well as program managers and PEOs.

111. Senator McCaskill. Secretary Esper, in June 2017 the GAO released a report (GAO–17–457) that I asked them to conduct regarding the Army’s contract operations. One of their key findings was that Army leaders regularly did not have the necessary information to properly evaluate and improve operations regarding contracts. Another important finding was the existence of the “use it or lose it” mentality when it comes to measuring the efficiency of obligating taxpayer funds. Essentially, the most important metric involved was whether or not funds were obligated, but not whether they were obligated efficiently or whether the best deal was obtained for the taxpayer. One of the key recommendations made that go to both of these issues was to develop metrics to assess contracting operations in terms of timelines, cost savings, and contractor quality—metrics that are not currently part of the assessment of the quality of the Army’s contracting operations. What has the Army done since the publication of this report to try and change the “use it or lose it” culture mentality of the Army’s contracting and procurement personnel? What is the Army doing to ensure that proper metrics are being put in place so that senior Army leaders like yourself and Acquisition Decision Authorities can make informed decisions when it comes to overseeing, evaluating, and managing the Army’s contracting operations?

Secretary Esper. The Army acquisition community emphasizes proactive requirements development and timely funding obligation. Early planning requirements review with all stakeholders, and the receipt of funding improves contracting execution and counters the “use it or lose it” culture. The frequent reliance on Continuing Resolutions to provide incremental funding to the Army, however, has an extremely negative impact on contract and budget execution. Continuing Resolutions force the Army to postpone projects, the maintenance of equipment, and initiatives involving training and recruitment. Continuing Resolutions also prevent the Army from reprogramming funding to meet emerging needs and prohibit the start of new programs to modernize for future threats. For the current fiscal year, it locks the Army into previous levels, mandating a level of spending that is billions less than the fiscal year 2018 President’s Budget.

In September and November 2017, the Acting Secretary of the Army issued eight key Acquisition Reform Initiatives, to include evaluating the health of Army Contracting through assessment of contracting operations. Subsequently, an initial set
of metrics have been put in place. An integrated product team was formed to identify additional strategic metrics that will be value-added, influence strategic decisions and support optimal acquisition outcomes.

112. Senator McCaskill. In October 2016 GAO released a report (GAO–17–17) on the need for DOD to improve its efforts to identify and use contractor inventories in particular for contracted services. GAO noted that the services have not developed the plans to integrate the contractor inventories into their total workforce planning, strategic budgeting, and decision-making process.

Secretary Lord, what efforts are you taking at the Departmental level to drive better integration of contractor inventories into the workforce planning, strategic budgeting, and decision-making process for determining the use of service contracts?

Secretary Lord. As the Department seeks to maximize lethality, improve and sustain readiness, grow the force, and increase capability and capacity, we must improve the overall management of our Total Force of active and reserve military, government civilians, and contracted services. The contractor inventories that DOD Components are required to compile provide increased visibility into contracted services, supporting and informing the Total Force planning and management necessary in achieve these objectives. Jointly with the Under Secretary of Personnel and Readiness, I signed out annual guidance in September 2017 directing DOD Component heads to complete reviews of contracted services in accordance with the statutory requirements of 10 U.S.C. sec. 2330a. These reviews are particularly focused on categories of high-risk contracted services providing special studies or analysis that is not research and development, information technology services and telecommunications services; and contracts providing professional, administrative, or management services, especially where they are staff augmentation contractual efforts to in-house organic government staff. These reviews are designed to: 1) ensure that DOD components are not inappropriately leveraging contract support for inherently governmental functions or critical work; 2) assess the level or reliance on contractor support and capabilities; and 3) facilitate and inform workforce mix determinations, force management decisions, risk assessments, mission prioritization, and resource allocation. However, the inventory and subsequent review process is just one tool/process that DOD components have at their disposal. We are also continuously improving on and executing Services Requirements Review Boards to validate and prioritize contract requirements. As part of the on-going reform efforts, the Deputy Secretary of Defense (DEPSECDEF) established a Services Contract Reform Team to initiate key reforms and develop new capabilities in support of these goals. As a member of the DEPSECDEF's Reform Management Group, I am overseeing the Reform Team's efforts as they develop / implement new capabilities in requirements prioritization, category management, should-cost for contracted services and data management to ensure the required integrated cross-functional areas appropriately support all the aforementioned processes that govern how the Department acquires services and utilizes services contracts within the Department to execute its mission.

113. Senator McCaskill. Secretaries Esper, Geurts, and Wilson, what are your plans for using service contract inventories to inform the strategic budget and workforce planning and implementation processes?

Secretary Esper. The inventory of contracted services enables the Army to fully understand the composition of its workforce, provides better oversight to avoid duplication of effort or shifting of in-house reductions to contract, enables the Army to better account for and explain its total workforce, and allows for more informed workforce staffing and funding decisions.

Since its implementation in 2005, the Army has learned that gaps and discrepancies between the Inventory of Contracts for Services (ICS)/Enterprise Contractor Manpower Reporting Application (eCMRA) data and our programming/budgeting information systems has limited our ability to use the data to inform the strategic budget and workforce planning and implementation processes. Beginning in fiscal year 2017 (FY17), the Army embarked on an initiative to integrate the contracted services data and our programming, budgeting, and execution information systems. The goal of this initiative is to improve the accuracy and auditability of contracted services data throughout the programming, budgeting, and execution cycles; increase the accessibility of contracted services data to support planning, programming, and budgeting decisions; and ensure the most appropriate and cost efficient application of military, civilian, and contract sources of labor. Full data integration is scheduled to be complete for development of the Army Fiscal Year 2021–25 Program Objective Memorandum.
Secretary GEURTS. The DON compiles the annual inventory of contracted services per Defense Department guidance and distributes the information to the financial and manpower Assistant Secretaries for planning purposes. DON uses the Service Requirements Review Board (SRRB) process as a means to provide oversight and to validate services acquisition requirements. The DON requires that every services acquisition requirement valued in excess of $150,000 be reviewed, vetted and approved by a SRRB. These SRRBs are chaired by Flag Officers or Senior Executives and involve leadership reviews by the requirement owner(s) as well as the acquisition and financial communities.

Secretary WILSON. The Air Force utilizes our service contracts as required for mission accomplishment and will ensure compliance with all statutory requirements as described below:

Budget Process: The Air Force will continue to utilize the service contract inventory to establish an average contractor work year cost by appropriation which is used to calculate contractor full-time equivalents as required in 10 U.S.C. § 235.

Workforce Planning and Implementation Process: All contracted services requirements are reviewed by the cognizant manpower office which is incorporated into the requirements approval processes across the Air Force prior to initiating a service contract. The local level decision authorities throughout the Air Force have real-time access to the information that is used to build the service contract inventory and are able to use this information for their decision making processes.

114. Senator McCASKILL. Secretary Wilson, we have discussed the need to improve the timeliness and efficiency of civilian hiring within the Air Force and that you established a taskforce to identify and reform the hiring process including a review of regulatory and legislative fixes. Can you please submit more details on the goals and efforts of the taskforce and provide a list of existing hiring authorities the Air Force is using to recruit new talent and any regulatory or legislative barriers to improving the hiring process?

Secretary WILSON. Civilian hiring is a top priority for the Air Force. The ability to hire top-tier talent efficiently and effectively is essential to sustaining a ready and lethal force. The Air Force is undertaking a multi-pronged approach that will significantly improve civilian talent management from recruiting through the entire employee life-cycle.

Four lines of effort include: Resources, Legislation, Policy and Process. Within these lines of effort, the Air Force team has identified near-term (Quick Wins), midterm (1–3 years) and long-term (3–5 years) goals to reform and accelerate civilian hiring. These goals include, but are not limited to: fixing IT infrastructure latency, streamlining employee onboarding, increasing workforce planning efforts and maximizing usage of direct hiring authorities. In addition, the Air Force is pursuing a civilian talent management pilot program that incorporates greater flexibilities associated with attracting, compensating and retaining top talent. The desired end state of these Air Force civilian hiring efforts is to have an agile, flexible Talent Management System responsive to warfighter needs.

Under the National Defense Authorization Act for fiscal years 2016 and 2017, Congress provided the Department of Defense with numerous new Direct/Expedited Hiring Authorities enabling the Air Force to hire faster in critical occupations like depot maintenance and cyber. By using these authorities, the average time-to-hire is reduced by 40–50 days. These authorities include:

- Fiscal Year 2016 NDAA, section 1112, Direct-Hire Authority (Acquisition-Veterans Technical Experience)
- Fiscal Year 2017 NDAA, section 1106, Direct-Hire Authority for Post-Secondary Students and Recent Graduates
- Fiscal Year 2017 NDAA, section 1110, Direct Hire Authority for Financial Management Experts in the DOD
- Fiscal Year 2017 NDAA, section 1125, Temporary Direct Hire Authority for Domestic Defense Industrial Base Facilities, the Major Range and Test Facilities Base, and the Office of the Director of Operational Test and Evaluation
- Fiscal Year 2017 NDAA, section 1643, Direct Hiring Authority for Cyber Workforce

A critical barrier to Air Force civilian hiring is the lack of an Interchange Agreement that allows managers the ability to effectively manage its workforce across Title 10 Defense Civilian Intelligence Personnel System (Excepted Service) and Title 5 General Schedule employees (Competitive Service) in response to mission needs. The Office of Personnel Management rescinded this agreement back in 2010 and there is currently no legal authority to internally manage this part of the hiring
process. The Office of Secretary of Defense and Intelligence Community’s efforts to have this agreement reinstated have not been successful. Absence of this agreement presents major obstacles to developing and retaining our civilian Airmen in the Intelligence career field.

QUESTIONS SUBMITTED BY SENATOR JEANNE SHAHEEN

THE SMALL BUSINESS INNOVATION RESEARCH (SBIR) AND SMALL BUSINESS TECHNOLOGY TRANSFER (STTR) PROGRAMS

115. Senator SHAHEEN. Secretary Lord, through the SBIR and STTR programs, Congress has provided the participating agencies with tremendous statutory flexibility to design their programs to best meet their needs. For example, even though the law says a Phase I award is typically six months in timeframe and $225,000 to explore the promise of an idea, and a Phase II award is typically a maximum timeframe of two years and $1.5 million to further develop the idea, an agency has full authority to speed up the process. If DOD likes the shorter turn-around time of DIUx, the same can be done with the SBIR and STTR programs, for all the topics or topics that your program offices deem more time-sensitive. Will you make sure to maximize the SBIR and STTR programs and their transition into the warfighter as you form the two new Under Secretary offices for (Acquisition and Sustainment (A&S)) and (Research and Engineering (R&E))? Secretary LORD. I am committed to taking the lessons learned from programs conducted by DIUx, the Strategic Capabilities Office and the Special Operations Command’s SOFWERX and applying them to other acquisition programs. As we work over the next two years to design and implement the new structure I will ensure that we maximize the effectiveness of the SBIR and STTR programs to provide innovative solutions for our warfighters. The reauthorization of the Assistance for Administrative, Oversight, and Contract Processing Costs authority (Pilot Admin Authority) will improve our ability to improve program execution. Administration of the SBIR and STTR programs requires significant effort to improve commercialization, perform outreach initiatives to attract participants, streamline and simplify contracting and program procedures, implement and continue oversight and quality control measures, and perform activities related to the oversight and congressional reporting including fraud, waste and abuse prevention activities. Dedicated administrative funding will allow DOD organizations to more effectively administer the SBIR/STTR programs and maximize contributions.

116. Senator SHAHEEN. Secretary Lord, as part of the Fiscal Year 2018 National Defense Authorization Act, Congress enacted a five-year pilot program that will help streamline the acquisition of technologies developed by non-traditional small businesses through the SBIR and STTR programs. Specifically, the provision requires the Secretary of Defense to establish this pilot program within 180 days that uses multiple award contracts for the purchase of technologies developed under the SBIR and STTR programs. Will you commit to me that the Department will work with the Senate Committees on Small Business and Entrepreneurship and Armed Services to develop and implement this pilot program within the 180-day deadline?

Secretary LORD. Yes, we will implement the pilot program within the 180 day deadline. The Navy currently supports this approach by using Indefinite Delivery/Indefinite Quantity contracts for the purchase of technologies developed under the SBIR and STTR programs. I am committed to maximizing the effectiveness of all programs that contribute to the readiness and technological superiority of our forces. To that end I will work with all stakeholders to seek input and develop an effective pilot program to award multiple award contract vehicles to covered small business concerns for the purchase of technologies, supplies, or services that the covered small business concern developed under the SBIR or STTR program. I believe this effort has the potential to improve the efficiency of transition of SBIR and STTR technologies by simplifying the ability for all Services to acquire the innovations developed by small businesses under these programs.

117. Senator SHAHEEN. Secretary Lord, please highlight recent successes of the SBIR/STTR programs in transitioning technologies to Phase III.

Secretary LORD. I will highlight four successes of SBIR/STTR technologies transitioning to Phase III, one each from the Army, Navy and US Special Operations Command and one example of a cross agency transition success.
The PowerShade, a portable, survivable, and sustainable energy source for deployed operations, was developed by PowerFilm Inc. to support the US Army. The PowerShade integrates flexible solar panels into a fabric structure to provide power from solar energy and reduce the heat load on the structures it covers. This provides opportunities to reduce fuel consumption at Forward Operating Bases and provide tactical level power to deployed forces. The Army SBIR Program supported development of technology for applying PowerFilm’s flexible photovoltaic (PV) material to fabric and fabric structures. The two main products coming out of this program were the PowerShade structure and the lightweight foldable PV array. The PowerShade structure can span most standard military tents and work areas providing solar power and shade. The smaller foldable arrays can be carried in a backpack and deployed to recharge standard military batteries. Significant follow-on investments came from both DOD and private sources to drive continual improvement and implementation of these products. PowerFilm has received over $20 million in Phase III funding to improve and expand the technology into new products and allowed significant expansion of their manufacturing capacity. As a result, PowerFilm is a stable supplier of advanced portable power technology to DOD and commercial markets.

The Adaptive Diagnostic Electronic Portable Testset (ADEPT) was developed by Mikros Systems, Inc. for the Navy as a maintenance workstation for AEGIS SPY–1 radar, designed to maintain, diagnose, align, repair, and calibrate this complex electronic system while also supporting remote predictive analytics and Condition Based Maintenance (CBM). A SBIR investment of just under $2.1M has generated over $100 million in Phase III funding as Mikros has extended ADEPT to cover other radar variants and developed a logistics support suite for surface combatants. ADEPT continues to expand its footprint into new radar and other systems, with a planned enhancement to provide remote support to the AEGIS Mk 99 Fire Control System, a collaboration with IBM that will provide big data analytics for combat systems CBM data. ADEPT will be installed in varied ship classes to help manage a broad inventory of Combat System Elements.

Physical Optics Corporation developed the Advanced Micro Weather Sensor (AMWS) for USSOCOM for a SBIR investment of $2.45 million for a low-cost, lightweight, ruggedized, highly integrated sensor gathers and describes 18 characteristics of weather, such as wind speed, wind direction, precipitation, temperature, humidity and visibility. The AMWS replaces a much larger, less capable legacy system that is quickly becoming obsolete with a three-pound package less than 200 cubic inches in size. The Air Force awarded a $24.5 million Indefinite Delivery/Indefinite Quantity contract for the system and has funded $4.8 million for development and procurement of the AMWS and Micro Weather Sensor.

The Creare LLC Directed Heating System for High Speed Manufacturing of Thermoplastic Composites, was developed under an Army SBIR and received US Air Force funding for transition to the F–35 program. The Directed Heating System (DHS) allows the local and efficient heating of thermoplastic composites improving tape feed rates by a factor of two over current techniques. Creare’s laser-based approach received approximately $1.5M in Phase III funding to transition this technology to the production of the F–35 aircraft. Creare is also working with a major fiber placement supplier to adapt the DHS technology to support carbon fiber applications in the automotive industry.

BUY AMERICA CONTRACTING

118. Senator SHAHEEN. Secretary Lord and Secretary Geurts, the Committee continues to be concerned about the Department of Defense (and Federal Government at large) support for “Made in the USA” contracting opportunities. As qualified American companies—especially small businesses—consider participating in the Federal government procurement process, all options should be made available to consider these domestic manufacturers and employers when competing with comparative foreign firms for all federal contracting opportunities. The Committee has made clear our belief that price is not the single significant contributing factor toward making contracting awards for critical DOD contracts—a best value approach that considers past performance, quality and preferably domestic manufacturing should be incorporated in the procurement decision-making process. What are the Department of Defense and service branches taking to ensure that domestic small businesses are afforded every opportunity to compete openly and fairly with foreign-owned large businesses for future contracts?

Secretary LORD. The Department universally applies the restrictions of the Buy American statute (41 U.S.C chapter 83) which restricts the purchase of supplies that are not domestically produced end products. This law mandates that a pref-
erence be given for procuring “domestic” supplies/products, construction materials, and in some instances services. On limited cases, the Department considers offers of foreign products or components that are exempt from the restrictions of the Buy American statute if the origin of the products or components are from a Qualifying Country, which has a reciprocal defense procurement memorandum of understanding (MOU) or international agreement with the United States. Other limited exceptions may be granted to Designated Country products or components covered by the World Trade Organization Government Procurement Agreement or Free Trade Agreement, if purchasing eligible products or components that are valued above the particular trade agreement threshold.

The Department awards a significant percentage of all contracting dollars to small businesses. DOD provides small businesses increased opportunities when competing with large businesses, foreign and domestic. The increased opportunities include small business goals, negotiated annually with the Small Business Administration (SBA). DOD and Federal Government contract programs authorize contracting site Small Business Professionals supplement this training with updates and on-going guidance. On-going engagement with industry allows us to hear their concerns and know where to target additional oversight or education efforts.

In addition, the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Program requires that all effort be performed within the USA. One of the unique selling features of the SBIR/STTR Program is the ability of the small businesses to deliver quality products and services, usually at lower prices, and to respond quickly to customer needs. An independent professional study of the DON SBIR/STTR Program concluded that Phase II projects conducted between 2000 and 2013 resulted in an average of $5.5 million in sales per contract, and a total of $14.2 billion in commercial and military sales, while creating 200,000 new jobs at an average $70,000 wage.

119. Senator SHAEEN. Secretary Lord and Secretary Geurts, do foreign-owned firms benefit from less stringent contracting requirements, including small business sub-contracting rules?

Secretary LORD. The Department universally applies the restrictions of the Buy American statute (41 U.S.C chapter 83) which restricts the purchase of supplies that are not domestically produced end products. This law mandates that a preference be given for procuring “domestic” supplies/products, construction materials, and in some instances services. When applying restrictions of the Buy American statute to procurement actions, it is typically not the firms country of ownership that matters, but rather the country of origin of the materials, components, or product which is considered.

Foreign contractors do not have an advantage, regarding the Federal Acquisition Regulation (FAR) requirements for subcontracting plans and subcontracting limitations. The FAR requirements for subcontracting plans and subcontracting limitations, applies to all contractors, including foreign contractors. Contracts, including all subcontracted work, performed entirely outside of the United States and its outlying areas are exempt from the FAR subcontracting rules.

Secretary GEURTS. No. Foreign-owned firms do not benefit from less stringent contracting requirements. Foreign-owned firms must meet all of the small business requirements that domestic large firms are required to meet. For example, subcontracting plans are required for contracts performed in the U.S. by both foreign-owned and large domestic firms. Foreign-owned firms are treated as large businesses in being excluded from a small business set asides.

The Buy American Act further limits domestic contracting from foreign firms. FAR Part 25 contains the Buy American Act protections. While some exceptions do
exist based on non-availability of certain commodities or items, there would be no
difference in solicitation requirements based on foreign ownership.

Under the SBIR/STTR Program the small businesses as well as the subcontractors must be U.S. owned and operated unless a specific waiver is granted.

120. Senator SHAHEEN. Secretary Lord and Secretary Geurts, what steps are the Department of Defense and the service branches taking to ensure that American-owned small businesses are given every opportunity to participate in Federal procurements?

Secretary LORD. DOD has an excellent track record of providing maximum opportunities for American-owned small businesses to sell to the Department. In fact, DOD procured over $50 billion of products and services annually from small businesses during the past few years. This represents over 22 percent of the Department's procurement actions that small businesses were eligible to fulfill. Virtually all of the small business procurement was with American-owned firms. We will continue our practices of complying with small business procurement laws, striving to meet our small business procurement goals, and leveraging the innovation and cost competitiveness of small businesses. SBA regulations require that a small business be “independently owned and operated” with “a place of business in the US” and that it “operates primarily within the US or makes significant contribution to the US economy through payment of taxes or use of American products, materials or labor.” We will continue to adhere to the laws provided by the Congress that enable American owned small businesses to compete successfully for DOD contracts.

Secretary GEURTS. DON is engaged and deeply committed to ensuring that all types of small businesses are provided a chance to participate in DON contracting opportunities. DON, represented by the Office of Small Business Programs (OSBP), participates in small business networking and matchmaking events, as well as congressional, Federal, state, and local government small business outreach activities, conferences, training events, partnerships, and working groups. DON’s SBIR and STTR Program gives small businesses the opportunity to solve tough naval capability and performance challenges by providing innovative solutions, cost savings, and schedule efficiencies. DON has ten geographically dispersed buying commands, each of which has a Small Business Program Director.

DON participates in two signature outreach events to communicate directly with small businesses across the country; The Navy League Sea Air Space Expo in April and the DON Gold Coast Procurement Event in August. These outreach events are great opportunities for small businesses to network and learn how the DON’s acquisition process works and contracting opportunities within the DON.

121. Senator SHAHEEN. Secretary Lord and Secretary Geurts, are there areas where the Department believes contracting opportunities for domestic manufacturing small businesses can be improved?

Secretary LORD. Small business manufacturers provide DOD with about 15 percent of the annual manufacturing needs of the Department. This equates to over $15 billion in about $100 billion of annual manufacturing procurements. Domestic manufacturing small businesses play an important role in providing parts to sustain DOD weapons systems. These small business manufacturers all meet the three criteria in existing laws: 1) they have a domestic place of business, 2) they primarily use domestic labor and materials and 3) they operate primarily within the US. In some instances, small business manufacturers lack the surge capability or ability to provide the continuous volume of supplies needed by DOD, such as for medical commodities, food or lumber. Nevertheless, we can improve contracting opportunities for domestic manufacturing small businesses through several approaches. First, we could use new or existing authorities to ease the contracting burden placed upon small businesses. Second, we can continue to seed future manufacturing by having a permanent Small Business Innovation Research program that enables domestic firms to mature their technologies and become future manufacturers. And, finally, we can continue to encourage DOD’s large suppliers to use small business manufacturers in their supply chains as subcontractors.

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QUESTIONS SUBMITTED BY SENATOR KIRSTEN GILLIBRAND

STRENGTHENING MANUFACTURING IN THE DEFENSE INDUSTRIAL BASE

122. Senator Gillibrand. Secretary Lord, during your confirmation, you agreed that the Manufacturing USA Network is critical to ensuring the United States remains a global leader in manufacturing. Part of this bipartisan program’s mission is to use these public-private partnerships to develop and commercialize new defense technologies that are critical to our men and women in uniform, like the integrated photonics R&D happening at the DOD institute in Rochester, NY. In response to my questions, you had committed to placing a high priority on investing in the Manufacturing USA institute network. Since you were confirmed, what steps have you taken to evaluate what resources are required to support the institutes and other industrial base investment programs?

Secretary LORD. The Department is committed to supporting the institutes at the agreed upon funding levels. In addition to the institute start-up funding under my direction, other DOD organizations have seen value in the institutes and are funding projects at the Institutes (see chart below).

<table>
<thead>
<tr>
<th>Institute Description</th>
<th>DOD Funding Commitment on Start-up Agreement (in millions)</th>
<th>Committed Industry Cost Share (in millions)</th>
<th>DOD-directed Project Funding To Date (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>America Makes (Additive Manuf.), Est. Aug 2012 (Youngstown, OH); satellite in El Paso, TX</td>
<td>$62</td>
<td>$58</td>
<td>$19.7</td>
</tr>
<tr>
<td>Digital Manufacturing and Design Innovation Institute (DMDII), Est. Feb 2014 (Chicago, IL)</td>
<td>$82</td>
<td>$106</td>
<td>$13.3</td>
</tr>
<tr>
<td>LiFT—Lightweight Innovations For Tomorrow, Est. Feb 2014 (Detroit, MI)</td>
<td>$70</td>
<td>$78</td>
<td>$0.7</td>
</tr>
<tr>
<td>AIM Photonics (photonic integrated circuits), Est. Jul 2015 (Albany and Rochester, NY)</td>
<td>$110</td>
<td>$502</td>
<td>$16</td>
</tr>
<tr>
<td>NextFlex (Flexible hybrid electronics), Est. Aug 2015 (San Jose, CA)</td>
<td>$80</td>
<td>$99</td>
<td>$5.9</td>
</tr>
<tr>
<td>Advanced Functional Fabrics of America (AFFOA), Est. Apr 2016, Cambridge, MA</td>
<td>$75</td>
<td>$272</td>
<td></td>
</tr>
<tr>
<td>BioFabUSA (Advanced tissue biofabrication), Est. Dec 2016, Manchester, NH</td>
<td>$80</td>
<td>$214</td>
<td></td>
</tr>
<tr>
<td>Advanced Robotics for Manufacturing (ARM), Est. Jan 2017 (Pittsburgh, PA)</td>
<td>$80</td>
<td>$174</td>
<td></td>
</tr>
</tbody>
</table>

The ecosystem within each of the technology spaces associated with the institutes consists of stakeholders from Government (local, state, and Federal level), academia, and industry (small, medium and large). To maintain a nationally relevant institute, all stakeholders must remain in a relationship with the institute. DOD is focused on implementing a strategy that will enable a continued partnership between the Department and the eight DOD-led institutes ensuring that they are providing value to the Department. We are planning a study that will assist us in developing a sustainable business model for the Institutes as they begin to transition from their initial start-up funding.

With respect to other industrial base investment activities, the Institutes are part of a portfolio of industrial base investment programs. This portfolio includes the Institutes, OSD and Service Manufacturing Technology programs, the Defense Production Act Title III program, and the Industrial Base Analysis and Sustainment program. As part of on-going efforts in support of a number of Executive Orders, we are developing a deeper understanding of our industrial base challenges and opportunities and evaluating how to better position all of our investment programs for greater impact for the national security. These efforts will inform DOD decision making on our investment programs as we begin to develop our fiscal year 2020 budget later this year.
123. Senator Gillibrand. Secretary Lord, is the Administration working towards establishing new Manufacturing USA Institutes within the network, and will there be an investment in the network in the upcoming budget requests to expand this work?

Secretary Lord. The current DOD budget is focused on the eight existing DOD Institutes and does not contain funding to establish any additional Institutes. The Department works with the Department of Commerce’s National Institute of Standards and Technology (NIST), the Department of Energy, and other Government agencies to support the current Manufacturing USA network. Funding for the Manufacturing USA network is appropriated in the NIST budget request. To that being said, the Department is working to develop contracting scenarios using Other Transaction Authorities and other innovative agreement methods that enable our acquisition program managers and others to better utilize the Institutes for faster innovation and product development.

124. Senator Gillibrand. Secretary Lord, during your confirmation you confirmed your willingness to make greater use of DOD programs like financing available to defense suppliers through the Defense Production Act (DPA), to strengthen the nation’s defense production capacity. In the recently passed NDAA, Sec. 1771 created a pilot program to accomplish this, by directing DOD to use DPA to scale up production of defense technologies by providing incentives like purchasing commitments, issuing loans or loan guarantees, and giving funding to third party entities to support investments in small- and medium-sized manufacturers, including debt and equity investments. Will you commit to working with me to implement this pilot?

Secretary Lord. I will happily work with you and your colleagues to advance the needs of the warfighter, and this pilot program has the potential to increase the Department’s flexibility to incentivize suppliers of all sizes.

While section 1711 does not directly mention the Defense Production Act (DPA), it allows the pilot program to utilize “such other legal authorities as the Secretary considers applicable to carrying out the pilot program.” Title III of the DPA authorizes the use of purchases, purchase commitments, loans, and loan guarantees to address shortfalls facing the defense industrial base, and as such may be an appropriate authority to leverage through this program. I see purchase commitments, loans, and loan guarantees as innovative options for preserving the United States’ technological advantage. Purchase commitments offer an effective, market-based approach to bridge new technology from research and development prototypes to scalable production. Loans and loan guarantees provide a return-on-investment for the U.S. Government while establishing the credit history necessary for new businesses to obtain follow-on loans from the commercial sector. Through these market-based solutions, this pilot’s results have the potential to demonstrate how DOD can proactively preserve technology in the United States, rather than relying on the more reactive intervention of policy tools like Committee on Foreign Investment in the United States reviews.

125. Senator Gillibrand. Secretary Lord, last year’s NDAA created a Manufacturing Engineering Education Program (MEEP) to prepare our workforce with in-demand skills for advanced manufacturing to strengthen the nation’s defense industrial readiness. This program invests in training at universities and other education institutions across the country to help give students the skillsets necessary to succeed in the high-tech manufacturing workforce. This year’s NDAA continued support for MEEP. As MEEP has not yet been fully implemented since last year’s creation of the program, will you commit to working with me to ensure the program is stood up as soon as possible?

Secretary Lord. I am committed to supporting this program and we are already making progress. A Funding Opportunity Announcement (FOA) was released on 12 Jan 2018 in support of MEEP. The DOD, through the Office of Naval Research (ONR), seeks a broad range of consolidated and integrated multidisciplinary programs of education with an emphasis on developing multidisciplinary instruction that encompasses the total manufacturing engineering enterprise, providing opportunities for students to obtain relevant work experience in manufacturing, demonstrating faculty and student engagement with industry that is directly related to, and supportive of, the education of students in manufacturing engineering, and geographical diversity. White Papers for this FOA are due in February 2018 with expectation of awarding grants the end of June.

In addition, we have also awarded three projects at Lightweight Innovations For Tomorrow (LIFT) and America Makes Manufacturing Institutes. The first project is expanding MakerMinded, year-long manufacturing/technology high school competi-
tion series, to reach seven states. The Advanced Curriculum in Additive Design, Engineering and Manufacturing Innovation (ACADEMI) Expansion Initiative will target design engineers, manufacturing engineers, and material scientists to learn skills from an integrated set of additive manufacturing disciplines. The third is the creation of a new scalable and replicable technical manufacturing curriculum, developed by LIFT.

126. Senator GILLIBRAND. Secretary Lord, the Manufacturing Extension Partnership (MEP) program within the Department of Commerce supports a national network of centers that help the nation’s small and mid-sized manufacturers better compete by improving their technology, accessing skilled workers, and developing additional markets. Recognizing the well-established services MEP has developed, which have been proven to be successful, I believe that DOD should partner with MEP to strengthen the small and mid-sized manufacturers that are critical to the defense supply chain. Congress recognized the need for such a partnership by directing DOD to utilize MEPs within the Department’s Manufacturing USA institutes as well as to assist with the integration of small and mid-sized manufacturers into DOD’s supply chains. Will you commit to working with Commerce on making better use of MEP within DOD’s Manufacturing USA network and other efforts to strengthen the defense industrial supply chain?

Secretary LORD. In May 2015, the Department signed a Memorandum of Understanding with the Department of Commerce, the National Institute of Standards and Technology, and the Hollings Manufacturing Extension Partnership (MEP). This MOU provides the following:

• DOD will leverage the assets and resources of the national MEP Program to assist the Manufacturing USA Institutes led by the DOD as they strive to broadly and deeply enhance their impact on small and medium sized U.S. manufacturers.
• NIST MEP will expand its ability to positively impact the competitiveness and growth of U.S. manufacturers by developing expertise in the focus areas of the DOD-led institutes.

The Department continues to work and support MEP activities. The most recent effort with the Department and the MEPs is the embedding of MEP personnel in the Manufacturing USA Institutes. The purpose being is to assist in connecting mostly small and medium size companies with the Institutes. The MEPs have become very active in the Manufacturing USA network and they are also participating in the ongoing review of the manufacturing and defense industrial base as directed by Executive Order 13806.

MICROELECTRONICS

127. Senator GILLIBRAND. Secretary Lord, this committee has taken a great interest in ensuring that DOD has access to trusted and reliable microelectronics for use in defense systems. I understand that DOD is faced with the challenge or maintaining world class semiconductor research, design, engineering, and manufacturing capabilities—either in-house or in the private sector—at a time when budgets are constrained and when commercial microelectronics continue to far outstrip military capabilities. How do you plan to ensure that DOD maintains access to trusted and assured sources for the microelectronics it needs?

Secretary LORD. The Department, in coordination with interagency partners, developed the Microelectronic Innovation for National Security and Economic Competitiveness (MINSEC) strategy to address current and future microelectronics needs, the threats to assured access to a robust industrial base, and continued U.S. leadership. This strategy drew from numerous reports, including the Defense Science Board, President’s Council of Advisors on Science and Technology, Defense Innovation Unit Experimental, Semiconductor Industry Association, and National Defense Industrial Association. The MINSEC strategy is also aligned with the requirement in the Fiscal Year 2017 National Defense Authorization Act, section 231, which directed a strategy to address access to assured microelectronics, including investments in science and technology, commercial microelectronics capabilities, and changes in policies, financial management, and public-private partnerships.

As part of the larger whole of government MINSEC strategy, the DOD is investigating a strategy to resource a DOD MINSEC activity that focuses on disruptive research and development, modernization, and DOD unique technologies, e.g., strategic radiation-hardening. The DOD MINSEC activity would build upon the existing Trusted and Assured Microelectronics (T&AM) program, Trusted Access Program Office, the Joint Federated Assurance Center, and other related microelectronics activities.
The Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics (OUSD(AT&L)) initiated the T&AM program in the Fiscal Year 2017 President’s Budget to ensure assured microelectronics are available to meet the DOD’s needs. This program provides protections to ensure military unique chips are protected from malicious exploit (loss of DOD intellectual property), and from malicious tampering during design and manufacturing.

128. Senator GILLIBRAND. Secretary Lord, what role does investment in domestic semiconductors microelectronics design and manufacturing play in that plan?

Secretary LORD. Over the past decade, microelectronics manufacturing has migrated offshore. Although the shift to Asia has occurred, the U.S. is still the preferred investment location for leading edge fabrication, and today retains a supporting infrastructure of research, design, intellectual property rights, and physical plants that make the U.S. a viable investment market for the semiconductor industry. Aggressive investments and licit and illicit actions by peer nations threaten this remaining U.S. leadership. China alone purports investment of $150 billion and a strategy to achieve dominance in this critical technical area.

The domestic semiconductor design and manufacturing industrial base is an important element of the Microelectronics Innovation for National Security and Economic Competitiveness strategy. The Department will seek to maintain U.S. domestic production of advanced state-of-the-art technologies. This includes advanced microelectronics design, fabrication, packaging and prototyping, and manufacturing capabilities, and the ecosystem of expertise, focused to develop innovative capabilities in performance, size, weight, and power for the strategic areas mentioned earlier. Further, DOD will seek opportunities to mature domestic state-of-the-practice foundries to produce more advanced technologies. This will allow more capacity for innovators, startups, research institutions, and other low-volume customers, such as the Aerospace and Defense community. Applications include autonomous and artificial intelligence systems, strategic and tactical high performance computing, sensing and processing platforms, and high performance weapons and electronic warfare capabilities.

129. Senator GILLIBRAND. Secretary Lord, what role do investments in research and innovation play in this effort to ensure access to trusted microelectronics?

Secretary LORD. Research and innovation play a central role in the strategy to ensure access to trusted microelectronics. Similarly, strategic management of the intellectual property resulting from these efforts is critical to ensuring return these investments. The Trusted and Assured Microelectronics program is investing in technology to ensure access to assured microelectronics by increasing the ability of the defense industrial base and commercial industry to more easily secure, assure, protect, and validate the design and manufacture of microelectronics across the domestic supply base for critical DOD and national security needs.

A core element of the DOD Microelectronics Innovation for National Security and Economic Competitiveness is disruptive research and development in partnership with industry that is captured and protected in a robust domestic ecosystem. These investments will allow the DOD and the nation to maintain leadership in the next generation of assured microelectronics.

Long-term, a whole of government strategy is needed that includes a focus on fostering innovation and reducing the barriers to quickly deliver assured microelectronics. Microelectronics is an enabling technology that can deliver overmatch capabilities to the DOD and commercial industry in the areas of autonomy, artificial intelligence, secure communications, financial and big data information processing, as well as nuclear and space modernization.

130. Senator GILLIBRAND. Secretary Lord, what role will DIUx, Service S&T programs, DARPA, ManTech, DMEA, and OSD(MIBP) each play in this effort to ensure access to trusted microelectronics?

Secretary LORD. The DOD Microelectronic Innovation for National Security and Economic Competitiveness (MINSEC) activity is currently led by the Assistant Secretary of Defense for Research and Engineering (ASD(R&E)). This activity and participants in the Trusted & Assured Microelectronics (T&AM) program and the Joint Federated Assurance Center (JFAC) include the Air Force Research Laboratory, the National Security Agency, the Naval Surface Warfare Center Crane, the U.S. Army Aviation and Missile Research, Development, and Engineering Center (AMRDEC), as well as Defense Microelectronics Initiative (DMEA), Defense Advanced Research Projects Agency (DARPA), the Department of Energy (DoE), and the Intelligence Community science and technology (S&T) organizations.
The Deputy Assistant Secretary of Defense (MIBP) is a key partner in DOD MINSEC when facilitating interactions with the industrial base. In accordance with current policy, the DMEA accredits trusted suppliers of application-specific integrated circuit (ASIC) services, which are predominantly State of the Practice (SOTP), for the design and development of custom ASICs for DOD end-use by programs. However the scope of DOD’s current and future needs extend beyond what is currently available through today’s accredited suppliers.

DOD MINSEC investments, through the DARPA Electronics Resurgence Initiative, will also spur the disruptive technology required to ensure that the U.S. leads the next generation of microelectronics technology and that it is assured. Further, the JFAC, T&AM program, DARPA, DMEA, and industry have, and are developing, the methods to protect the design intent and operability of critical designs, which is needed to access State Of The Art (SOTA) foundries in a secure manner. For those needs that have no commercial supplier due to process or protection requirements, DMEA will continue to serve as a foundry of last resort.

131. Senator GILLIBRAND. Secretary Lord, will you use the authorities of the Defense Production Act in this effort to ensure access to trusted microelectronics?

Secretary LORD. We are currently using DPA authorities, most notably Title III, to ensure access to trusted microelectronics.

The Department is already using the authorities, most recently in a June 2017 Presidential Determination which addressed a variety of challenges facing the Space Industrial Base. More specifically, this Presidential Determination selected Radiation Hardened Trusted Field Programmable Gate Arrays as an area of concern, and since then the program has been used to develop a trusted domestic source of this capability to minimize or eliminate the potential insertion of malicious circuitry in U.S. manufactured semiconductors. Planned funding for this project is $14.0 million over the next five years.

In addition, the President just signed a determination that designates trusted advanced photomasks as essential to national defense. The trusted advanced photomasks project will assure a chain of custody throughout all steps of the design and manufacturing process of photomasks from a “trusted” merchant supplier. This is critical for ensuring the integrity and confidentiality of legacy and state-of-the-art integrated circuits used in sensitive U.S. Government systems. This sector is becoming increasingly costly and supply chains are lengthening, threatening U.S. dominance in this space but also reinforcing the essentiality of Government action to mitigate this threat. Planned funding for this project is $7.2 million.

DPA also has authorities that are being utilized to protect the domestic microelectronics industrial base, including Title I (Priority in Contracts and Orders) and Title VII (General provisions including the authority establishing the Committee on Foreign Investment in the United States (CFIUS)). DOD recognizes the significance of ensuring access to trusted microelectronics and we are using numerous DPA titles to advance this essential technology.

COMBAT RESCUE HELICOPTER MISSION

132. Senator GILLIBRAND. Secretary Wilson, the many Air Guard units including the 106th Air Rescue Wing in Gabreski, NY accomplish complex missions flying Combat Rescue Helicopters. When it comes to acquisition of new Combat Rescue Helicopters, though, this is a program in which the Air Force has chosen not to field the aircraft in a concurrent and proportional manner, putting the Air Guard at risk of never receiving the latest helicopters and technology. Our Airmen regularly go out on rescue missions, and they should not be forced to use the oldest helicopters for years to come. Last month, it was rumored that Air Force leadership is considering a shift of the Combat Rescue Helicopter mission from Air Combat Command to Air Force Special Operations Command—a decision that could result in fewer new rescue helicopters reaching the force and disadvantaging Guard units. Has the Air Force reached a decision as to whether the Combat Rescue Helicopter mission will remain under Air Combat Command or shift to Air Force Special Operations Command and if so what is that decision?

Secretary WILSON. The decision to realign Air Force Rescue from Air Combat Command to Air Force Special Operations Command has not been made. Both applicable Major Command Commanders continue analysis and discussion in determining the most appropriate train and equip command.

133. Senator GILLIBRAND. Secretary Wilson, if the Air Force has not yet decided whether to move the Combat Rescue Helicopter mission, what is the timeline for the decision?
Secretary Wilson. While analysis remains ongoing, and discussions amongst Major Command Commanders continue, there is no established timeline in terms of Air Force Rescue Major Command Realignment.

134. Senator Gillibrand. Secretary Wilson, if the Air Force moves the Combat Rescue Helicopter to Air Force Special Operations Command, will you ensure that Air Guard units continue to receive new aircraft concurrently and proportionately with active units?

Secretary Wilson. If Air Force Rescue is moved from Air Combat Command to Air Force Special Operations Command, analysis will continue in order to determine the most capable force needed to meet Combatant Command requirements. It should also be noted in terms of delivery of future and effective rescue capability to the Air National Guard, that ALL Rescue Air National Guard units are scheduled to receive the HH–60G Operational Loss Replacement aircraft FIRST. These aircraft will be the lowest hour and most advanced HH–60G aircraft in the Air Force inventory, and are meant to offset the later delivery of the Combat Rescue Helicopter to the Air National Guard. Force laydown and unit distribution of the new Combat Rescue Helicopter are yet to be determined; however, ANG rescue forces will remain a critical component of the AF’s capability.

135. Senator Gillibrand. Secretary Wilson, how does the Air Force plan to keep the Senate Armed Services Committee apprised of any changes to the Combat Rescue Helicopter mission?

Secretary Wilson. My Office of Legislative Liaison will advise the Senate Armed Service Committee if a decision is made to change the Combat Rescue Helicopter mission.

AIR FORCE RESEARCH LAB ROME

136. Senator Gillibrand. Secretary Wilson, one of the good fortunes we have in New York is our talented workforce, and the Air Force Research Lab in Rome is the perfect example of an installation that has benefited from the state’s ability to attract and concentrate high-skilled workers. Past Air Force leaders have visited Rome and been very impressed by the amazing work happening at the lab and its leadership on cyber in the Air Force and beyond—which you mentioned during this hearing. Will your team work with my staff to schedule a visit for you to join me in Rome, NY and see this critical work firsthand?

Secretary Wilson. I’d be happy to join you for a tour of the AFRL Information Directorate’s (AFRL/RI) facilities. I will ensure my team will work with your office to set up a visit to the Rome, NY facility.

QUESTIONS SUBMITTED BY SENATOR RICHARD BLUMENTHAL

HUEY REPLACEMENT PROGRAM

137. Senator Blumenthal. Secretary Lord, the UH–1N “Huey” average fleet age is over 40 years, and continues to operate under national security waivers because it is incapable of meeting requirements to protect our ICBM fleet and National Capital Region. The Huey Replacement program has been discussed in some form since 2001. What is your involvement with this program? Why are we now spending an additional $400 million in research and development for the Huey Replacement program, when we could be fielding helicopters sooner by capitalizing on existing production lines?

Secretary Lord. The Under Secretary of Defense for Acquisition, Technology, and Logistics designated the UH–1N Replacement program as an Acquisition Category 1C pre-Major Defense Acquisition Program and delegated Milestone Decision Authority to the Secretary of the Air Force on August 16, 2016. The Air Force provided the following information about their acquisition strategy.

The current acquisition strategy capitalizes on existing production lines. Through voluntary information exchanges, all interested vendors identified performance shortfalls that necessitated research and development funding to meet the Air Force’s operational requirements. This funding is necessary to integrate non-developmental items, support test activities, and deliver the initial four helicopters. Executing the current acquisition strategy will result in the quickest fielding of a replacement helicopter that meets the requirements.
The Department has several mechanisms in place to, on a case-by-case basis, perform due diligence on products and services before purchase. DOD Instruction 5200.44, “Protection of Mission Critical Functions to Achieve Trusted Systems and Networks (TSN),” outlines a risk management approach that spans the entire systems’ lifecycle, including criticality analyses to identify critical functions and components; use of all-source intelligence on suppliers of critical components; and use of TSN processes, tools and techniques to manage risk. We use Program Protection Planning (PPP) activities to address the full spectrum of security risks for the critical components contained in our weapons systems to assess supply chain vulnerabilities and implement mitigations to manage risk to system functionality. Using the PPP to inform courses of action, we can apply the vendor-neutral Federal Acquisition Regulation and Defense Federal Acquisition Regulation Supplement (DFARS).

Absent suspension or debarment, or country- or vendor-specific prohibitions, individual vendors are not precluded from providing products or services to the DOD, nor would our cleared defense contractors be precluded from using such products or services. However, when necessary, there are authorities available to the Department to limit or exclude vendors in specific circumstances, and the Department is currently working on a number of activities to review and improved its capabilities to identify and mitigate these supply chain risks.

More specifically, section 806 of the Ike Skelton National Defense Authorization Act (NDAA) for fiscal year 2011, as amended, has been implemented at DFARS Subpart 252.73, “Requirements for Information Relating to Supply Chain Risk.” The rule enables DOD components to exclude a source that fails to meet established qualifications standards or fails to receive an acceptable rating for an evaluation factor regarding supply chain risk for information technology acquisitions, and to withhold consent for a contractor to subcontract with a particular source or to direct a contractor to exclude a particular source.

Section 841 of the NDAA for fiscal year 2015, implemented with Class Deviation 2015–O0016, “Prohibition on Providing Funds to the Enemy and Authorization for Additional Access to Records,” provides the authority for heads of contracting activities to terminate, void, and restrict contracts, grants, and cooperative agreements, with an individual or entity that has been identified by the Commander of U.S. Africa Command, U.S. Central Command, U.S. European Command, U.S. Pacific Command, U.S. Southern Command, or U.S. Transportation Command to have provided funds, supplies, or services directly or indirectly to a person or entity that is actively opposing U.S. or Coalition forces (“the enemy”) involved in a contingency operation, or that failed to exercise due diligence to prevent such activities. Section 842 of the NDAA for fiscal year 2015, implemented with Class Deviation 2015–O0016 and Class Deviation 2018–O0008, “Additional Access to Records in the United States Central Command,” authorizes access to contractor and subcontractor records, to ensure that funds, supplies, or services under a covered contract are not provided directly or indirectly to the enemy.

In the area of space launch, section 50131 of title 51, U.S. Code (U.S.C.), requires, with limited exceptions, the Federal Government “shall acquire space transportation services from United States commercial providers whenever such services are required in the course of its activities.” 51 U.S.C. 50101 defines “United States commercial provider” as “a commercial provider, organized under the laws of the United States or of a State, that is—(A) more than 50 percent owned by United States nationals; or (B) a subsidiary of a foreign company and the Secretary of Transportation . . . makes certain findings.” Additionally, the National Space Transportation Policy (as revised November 21, 2013) requires “United States Government payloads shall be launched on vehicles manufactured in the United States unless an exemption is coordinated . . . through an interagency process.” DOD has processes in place to ensure these requirements are met.

Under circumstances where a foreign company is acquiring a U.S. company, DOD uses its participation in the Committee on Foreign Investment in the United States (CFIUS) to identify and mitigate the national security risks that arise from the transaction. Pursuant to section 4565 of title 50, U.S. Code, CFIUS may negotiate, enter into or impose, and enforce any agreement or condition with any party to a covered transaction to mitigate any threat to the national security of the United
States that arises as a result of the transaction. These mitigation agreements can and do address concerns related to foreign control over DOD products and services resulting from CFIUS-reviewed transactions.

In addition, DOD is able to utilize a number of country- or vendor-specific authorities:

- A country-specific prohibition is found in section 1296 of the NDAA for fiscal year 2017, “Maintenance of Prohibition on Procurement by Department of Defense of People’s Republic of China-Origin Items That Meet the Definitions of Goods and Services Controlled as Munitions Items When Moved to the ’600 Series’ of the Commerce Control List,” amends section 1211 of the NDAA for fiscal year 2006, and specifically prohibits Communist Chinese military companies from providing any tier supplies or services covered by the United States Munitions List or the 600 Series of the control list of the Export Administration Regulations, contained in Supplement No. 1 to part 774 of subtitle B of title 15 of the Code of Federal Regulations to DOD.

- In the area of commercial satellites, 10 U.S.C. 2279 requires, with a limited exception, that the Secretary of Defense may not contract for satellite services with a foreign entity if the Secretary reasonably believes a “covered foreign country” has an ownership interest that may affect satellite operations; or the foreign entity plans to or is expected to provide a launch or other satellite services under the contract from a covered foreign country. The term “covered foreign country” includes the People’s Republic of China, North Korea, and any country that is a state sponsor of terrorism. This prohibition can be overcome if the Secretary of Defense determines there a national security need to enter into such a contract, and not later than seven days before entering into the contract, in consultation with the Director of National Intelligence (DNI), submits to the congressional defense committees a national security assessment with various findings.

- A vendor-specific authority is provided at section 1634(a) of the Fiscal Year 2018 NDAA, “Prohibition on the Use of Products and Services Developed or Provided by Kaspersky Lab,” prohibits any Department, agency, organization or other element of the Federal Government from using, whether directly or indirectly or through work with or on behalf of another Department, agency or organization or element of the Federal Government, any hardware, software, or services developed, provided in whole or in part, by Kaspersky Lab (or any successor entity, by an entity that controls, or is controlled by, or is under common control of Kaspersky Lab; or any entity of which Kaspersky Lab has a majority ownership. This prohibition takes effect on October 1, 2018.

Finally, the Department is currently working to review and improved its capabilities to identify and mitigate these supply chain risks. Moving forward, under the direction of section 807 of the NDAA for fiscal year 2018, “Process for Enhanced Supply Chain Scrutiny,” we are working to enhance our processes to perform national security due diligence on products and services before DOD decides to purchase.

In addition, pursuant to section 1634(b) of the NDAA for fiscal year 2018, the Secretary of Defense is required to conduct a review of the procedures for removing suspect products or services from the information technology networks of the Federal Government in consultation with the Secretary of Energy, the Secretary of Homeland Security, the Attorney General, the Administrator of the General Services Administration, and the DNI. The Secretary of Defense will report the results of this review to the appropriate congressional committees.

139. Senator BLUMENTHAL. Secretary Lord, as the global supply chain expands, what are the specific considerations for foreign goods? Is this sufficient?

Secretary LORD. DOD’s support and sustainment challenge lies in continually leveraging evolving global supply chains. This pursuit provides both opportunities and challenges. We support warfighters within the boundaries of applicable laws, such as the Berry Amendment and Buy American Act. Existing authorities rightly bound the DOD supply chain to focus on procurement and sustainment activities within our own borders, but we also consider allied support and contractor activities in these processes. A mature and varied global market affords the Department greater access to key technologies, products, and services. The traditional risk framework considers the quality and reliability of the goods and components we use.

A new element of risk now lies in ensuring all goods and components are cyber secure. To meet this demand, the Department examines and validates the integrity and reliability of all critical components, to include foreign items, both individually and as part of the higher assembly or subsystem. DOD uses a range of policies and guidance to protect our supply chain against malicious, defective, and counterfeit
parts, whether domestic or foreign. These include FAR Part 25, Evaluating Foreign Offers in Supply Contracts, DFARS 252.246–7007, Contractor Counterfeit Electronic Part Detection and Avoidance System, and DODI 5200.44, Protection of Mission Critical Functions to Achieve Trusted System Networks. These processes and procedures identify critical program information and components that can be expanded to accommodate and sufficiently address the expanded use of a global supply chain. In addition, we partner with the intelligence community, the CIO, and others to ensure both awareness of new and evolving threats and that we are adapting to meet those threats to ensure secure acquisition and support processes and products, while continuing to leverage available opportunities.

140. Senator BLUMENTHAL. Secretary Lord, what are you doing to ensure our acquisition system has the necessary protective measures in place to prevent national security vulnerabilities for DOD acquired technology?

Secretary LORD. The Department engages in a comprehensive approach to protect DOD acquired technology by providing explicit policy to the acquisition community, employing defense acquisition regulations, and providing operational protection. Examples of each of these approaches is provided below.

In 2017, the Department amended the DODI 5000.2, Operation of the Defense Acquisition System to add Enclosure 14, Cybersecurity in the Defense Acquisition System which identifies the responsibility for program managers to identify and mitigate vulnerabilities across the scope of their program. This scope includes program information, organizations, supply chain, the system being managed, as well as networks, and enabling systems. In addition to policy guidance, DOD requires the inclusion of the Defense Federal Acquisition Regulations Supplement (DFARS) clause 252.204–7012, “Safeguarding Covered Defense Information and Cyber Incident Reporting,” in all DOD contracts for other than commercial items. The 252.204–7012 clause requires contractors/subcontractors to:

• Safeguard covered defense information that resides on or is transiting through a contractor’s internal information system or network;
• Report cyber incidents that affect a covered contractor information system or the information residing therein, or that affect the contractor’s ability to perform requirements designated as operationally critical support;
• Submit malicious software discovered and isolated in connection with a reported cyber incident to the DOD Cyber Crime Center (DC3);
• If requested, submit media and additional information to support damage assessment; and
• Flow down the clause in subcontracts for operationally critical support, or for which subcontract performance will involve covered defense information.

In addition to policy and regulatory approaches, DOD provides several avenues of operational protection. Some examples of these capabilities include:

- The Joint Acquisition Protection and Exploitation Cell (JAPEC), established to integrate intelligence community (IC), law enforcement (LE), counterintelligence (CI) and acquisition community data, analysis, processes, and tools in order to mitigate losses of unclassified controlled technical information (CTI), and address compromises. The JAPEC is co-led with USD(I), and prioritizes critical acquisition programs and technologies to focus efforts.
- The Joint Federated Assurance Center (JFAC), established to federate DOD tools and expertise to better support program needs for software and hardware assurance evaluations and guidance.
- The Committee on Foreign Investment in the United States (CFIUS), employed by the Department to support foreign investment, consistent with the protection of national security. As one measure, CFIUS can apply risk mitigation tools if a mitigation agreement is required to support a proposed transaction. DOD supports the modernization of CFIUS by supporting the Foreign Investment Risk Review Modernization Act of 2017 (FIRRMA).
- Other risk mitigation tools are available through the National Industrial Security Program, administered by the Defense Security Service (DSS). DSS employs Foreign Ownership, Control, or Influence (FOCI) mitigation techniques to allow foreign investment consistent with the national security interest of the United States.

Finally, USD(AT&L) is leading a cross functional team to provide a comprehensive approach to maintain DOD’s technology advantage. This team is developing and implementing a strategic framework and lines of effort to counter adversaries licit and illicit technology exploitation strategies. This comprehensive approach will leverage the above initiatives, and many other DOD activities and stakeholders.
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141. Senator BLUMENTHAL. Secretary Lord, what other authorities do you need to execute secure purchases?

Secretary LORD. The DOD currently has available several authorities to ensure secure purchases for the Department. These authorities relate to supply chain risk management considerations based upon foreign ownership control and influence. Section 806 of the Fiscal Year 2011 NDAA provides DOD with authority to exclude a source on the basis it presents significant supply chain risk to a National Security System. In accordance with section 807 of the Fiscal Year 2018 NDAA, the Department is moving to ensure utilization of this authority, and other processes that focus on secure purchases.

As part of this effort, the Department is collaborating with the related activities underway in the Office of Management and Budget, Office of the Director of National Intelligence, the Department of Homeland Security, and the General Services Administration to inform processes and determine additional authorities that may be needed. One area of consideration is how to provide streamline authorities in place for National Security Systems. Another area of consideration is the expansion of 806 authority to cover than national security systems.

FAIR PAY: RESPONSIBLE CONTRACTORS

142. Senator BLUMENTHAL. Secretaries Lord, Esper, Geurts, and Wilson, what processes do you have in place to ensure contracts are awarded to responsible companies who play by the rules, treat workers fairly, & uphold existing labor laws?

Secretary LORD. In general, the Department of Defense coordinates with the Department of Labor (DOL) to administer and enforce contractors’ compliance with most labor laws, as DOL has oversight and responsibility for remedying labor violations under these laws. This coordination helps to ensure contracts are awarded to responsible companies who play by the rules and treat workers fairly. Before awarding a contract, contracting officers review information regarding the responsibility of prospective contractors, including the offeror’s ability to perform the prospective contract successfully and has a record of integrity and business ethics. The source selection evaluation process reviews offerors proposals and considers past performance information of the offerors. Contracts are only awarded to responsive and responsible offerors. Contracting officers must make an affirmative responsibility determination before award, and it could affect the Government’s determination of the prospective contractor’s responsibility. After contract award, a wage violation for a specific contract action is frequently referred to the contracting officer, who in turn would generally coordinate with DOL to pursue corrective actions through administrative, litigation, and/or criminal prosecution as appropriate.

Secretary ESPER. For all acquisitions, Army acquisition officials ensure a responsibility determination occurs to validate contractor fitness or exclusion for doing business with the government. This validation signifies that the Government has judged the contractor to have the means and ability to perform the contract. We assess areas such as contractor financial resources, past performance record, operational controls and the eligibility of the contractor to receive an award under applicable laws and regulations.

Secretary GEURTS. FAR Part 9 sets forth the policies, standards and procedures for agencies to determine whether prospective contractors and subcontractors are responsible entities eligible for contract award. A responsibility determination includes factors such as whether such entities have a satisfactory record of integrity and business ethics and a satisfactory performance record, and takes into account labor law compliance as set forth below. In determining responsibility, DON contracting officers review information in the Federal Awardee Performance and Integrity Information System (FAPIIS), and consider any other past performance information about the offeror. This assessment includes a review of information in the System for Award Management to ensure that agencies do not solicit offers from or award contracts to entities that have been suspended or debarred from receiving government contracts.

As part of determining responsibility, DON officials also access FAPIIS to review and consider contract performance assessments entered by contracting officers in CPARS. These assessments might explain how a violation of labor laws negatively affected contract work performance, product or service quality, and/or employee safety. Pursuant to FAR Part 15, source selection officials may also use such past performance information in evaluating offeror bids and proposals. Department of Labor (DOL) regulations and the FAR provide contracting agencies like DON with other remedies and enforcement tools to address labor law compliance under the federal prevailing wage laws. DON enforces the Construction Wage Rate Requirements statute by performing regular compliance checks and investigations. The
DOD FAR Supplement and specific DON guidance on these construction requirements assist efforts to ensure compliance with prevailing wage laws and provide DoN contracting officers with information to be used in determining a contractor’s responsibility.

Secretary WILSON. The Air Force follows the Federal Acquisition Regulation (FAR) Part 9 and Defense Acquisition Regulations Supplement (DFARS) Part 209 which address contractor responsibility, suspension and debarment. In addition, the Air Force uses the procedures established in FAR—Part 22 and DFARS—Part 222 for Application of Labor Laws to Government Acquisitions.

COMBAT RESCUE HELICOPTER

143. Senator BLUMENTHAL. Secretary Wilson, in October, I led a bipartisan letter to you and General Goldfein expressing concern about any change in the current acquisition plan, as has been rumored. My letter requested an update on the CRH program, as well as your commitment to keeping us informed of any potential changes. I appreciated your interim response last month that noted you would look into it. Please provide an update on maintaining the program of record and lead of the mission.

Secretary WILSON. The Air Force is fully committed to the program of record of 112 aircraft. We will keep you informed of any changes.

144. Senator BLUMENTHAL. Secretary Wilson: Following the Air Force posture hearing earlier this year, you sent me a letter noting that you “fully support CRH as it moves towards Initial Operational Capability in fiscal year 2021.” Do you continue to uphold this commitment?

Secretary WILSON. Yes, the Air Force fully supports the Combat Rescue Helicopter program as it moves toward Initial Operational Capability.

FUTURE VERTICAL LIFT

145. Senator BLUMENTHAL. Secretary Esper, please provide an update on how the Army is progressing in its development of future vertical lift platforms. How are you partnering with the other services?

Secretary ESPER. Future Vertical Lift (FVL) is a strategic advance in vertical lift capability and remains a high priority for the Department of the Army. The FVL program is currently preceded by the Joint Multi-Role (JMR) Science and Technology initiative. This initiative focuses on an Air Vehicle Demonstrators (AVD) and a Mission Systems Architecture Demonstration (MSAD). The AVD will produce two Air Vehicle Demonstrators which will inform and influence the FVL program. Flight demonstrations are scheduled to take place during fiscal year 2018 through fiscal year 2019 and the Mission Systems Architecture Capstone Demonstration is scheduled to take place during fiscal year 2018. Both are expected to show significantly improved performance capabilities over current rotorcraft. The Future Vertical Lift program will provide a family of vertical lift platforms that deliver next generation capabilities at the tactical, operational, and strategic levels.

Future Vertical Lift Capability Set 3 (CS3) is an Army led program with Joint participation and continues to be the primary joint interest for the initial FVL acquisition effort. The U.S. Army, in conjunction with the United States Marine Corps, Special Operations Command, the Office of the Secretary of Defense, Acquisition and Sustainment, and the Joint Staff have chartered five Integrated Product Teams (IPT). The five IPTs are the Acquisition IPT (AIPT), Requirements IPT (RIPT), and International Engagement IPT (IE IPT), Science and Technology IPT (S&T IPT), and the Common Systems IPT (CSIPT) and members from the aforementioned agencies are represented at each IPT. The U.S. Army, the United States Marine Corps, and SOCOM currently have an Analysis of Alternatives (AoA) in progress and the results are expected 1QFY19. The outcome of the AoA is a major decision point for all services involved and will provide options that inform our senior leaders. Additionally, the IPTs have initiated draft language for Concepts of Operation, Acquisition Strategy, and early development of individual service and joint requirements.

JOINT STRIKE FIGHTER PROGRAM (JSF)

146. Senator BLUMENTHAL. Secretary Lord and Secretary Wilson, the Future Years Defense Program attached to the fiscal year 2018 budget shows another delay for the 60 F–35As per year procurement plan. Two years ago it was to begin in fiscal year 2018, last year it was pushed to fiscal year 2021, and now it has been delayed to an undetermined date beyond FYDP projections. At a time when we are
focused on cost savings, such delay in robust procurement only hampers such savings. How are we going to achieve more savings with continued delay to ramping up to 60 F–35As per year? Do you agree that production level increases will contribute to cost savings?

Secretary LORD. The Department is committed to ramping F–35 production to as high a procurement rate as is affordable in order to maximize cost savings, but the F–35 procurement must be balanced against other competing Department priorities as well as the Services ability to support and sustain their fleets. While I agree that an increased procurement ramp will help reduce production costs, we must also consider the costs of retrofit to the Block 4 hardware configuration we need to counter advancing adversaries. In addition to those added costs, retrofits also task valuable depot resources and remove aircraft from operations for an extended period. In light of these considerations I believe the Department’s procurement profile is appropriate for this budget period.

Secretary WILSON. The Air Force is committed to ramping F–35 production to as high a procurement rate as is affordable in light of other F–35 costs. The procurement of the F–35As must be balanced against other competing priorities, as well as the Air Force’s ability to support and sustain its fleet. While I agree that an increased procurement ramp will help reduce production costs, we must also consider the current and future costs to retrofit current production as well as the existing fleet to counter advancing adversaries and technology advances. In addition to those added costs, retrofits also task valuable depot resources and remove aircraft from operations for an extended period. In light of these considerations, I believe the Air Force’s procurement profile is appropriate for this budget period.

147. Senator BLUMENTHAL. Secretary Lord and Secretary Wilson, please explain the process and progress you have made on the JSF cost deep dive review that was mentioned during the hearing. How do these efforts build on past initiatives? How do they differ? What success have you had? What engagement and focus have you had on the jet’s engine?

Secretary LORD. The Joint Strike Fighter (JSF) Deep Dive Cost Reduction Initiative is part of a broader F–35 Affordability Strategy that focuses on true cost reduction across all three lines of effort—Development, Production, and Sustainment. In performing the Deep Dive, the cost structures of Lockheed Martin (LM), Northrop Grumman (NG), BAE Systems, and Rolls Royce (RR), as well as each of their significant subcontractors, will be examined. There are four main objectives of the Deep Dive:

1) Enable the Government to understand what JSF costs, why it costs what it costs, and define every cost reduction opportunity that can be realistically implemented;
2) Establish a data driven baseline for use in all future production negotiations;
3) Provide a firm foundation of information and knowledge to inform the broader F–35 Affordability Strategy;
4) Train a cadre of approximately 25 Government engineers and cost analysts who will form an enduring cost analysis capability for JSF.

The Deep Dive will take advantage of the recently completed aircraft hardware qualification testing, the final aircraft Functional/Physical Configuration Audits efforts, and leverage the production cost experience over the first 10 production buys.

The Deep Dive is being led by the Director of Defense Pricing, in coordination with the Deputy Director for Cost Analysis in the office of Cost Analysis and Program Evaluation (CAPE). The Government team will work with engineers from A.T. Kearney, who have significant experience in cost analysis, commercial manufacturing, and cost reduction initiatives.

A.T. Kearney previously collected similar cost data from the F135 engine prime contractor, Pratt and Whitney (P&W) as part of a prior cost assessment. The previously collected data from P&W will be included in this cost baseline. This initiative will collect data from RR, which is a sub-contractor to P&W for the F–35B propulsion system.

The work will be performed in three phases. We have commenced work on Phase One of this effort, which will focus on direct labor and manufacturing support at LM, NG, and RR, and have made good progress to define the scope and depth of the review. We are also working issues related to obtaining access to the necessary cost data at the prime contractor and each of the major subcontractors. The review will also leverage the cost data submitted to CAPE on each of the first 10 production buys.

Phase Two of the Deep Dive will focus on continued efforts at LM, NG, and RR. In addition, direct labor and manufacturing support at BAE will be examined. Deep
analyses of a number of key subcontractors will take place. Phase Three will primarily focus on the supply chain structure, to include a review of the remainder of the key suppliers. In addition, indirect labor and overhead structure reviews at LM, NG, RR, and BAE will occur. In total, the three phases are expected to take approximately a year to complete.

As cost savings opportunities are identified, they will be prioritized and tracked through a detailed Target Assurance Program (TAP). The TAP will include a detailed action plan to make each potential savings opportunity a reality.

Secretary WILSON. The Joint Strike Fighter (JSF) Deep Dive Cost Reduction Initiative is part of a broader F–35 Affordability Strategy that focuses on true cost reduction across all three lines of effort—Development, Production, and Sustainment. In performing the Deep Dive, the cost structures of Lockheed Martin, Northrop Grumman, BAE, and Rolls Royce (F–35B), as well as each of their significant subcontractors, will be examined. There are four main objectives of the Deep Dive:

1) Enable the Government to understand what the JSF costs and define every cost reduction opportunity that can be realistically implemented;
2) Establish a data driven baseline for use in all future production negotiations;
3) Provide a firm foundation of information and knowledge to inform the broader F–35 Affordability Strategy; and
4) Train a cadre of approximately 25 government engineers and cost analysts who will form an enduring cost analysis capability for JSF.

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The work will be performed in three phases. We have commenced work on Phase One of this effort, which will focus on direct labor and manufacturing support at Lockheed Martin, Northrop Grumman, and Rolls Royce, and have made good progress to define the scope and depth of the review. We are also working issues related to obtaining access to the necessary cost data at the prime contractor and each of the major subcontractors. The review will also leverage the cost data submitted to CAPE on each of the first 10 production buys. Phase Two of the Deep Dive will focus on continued efforts at Lockheed Martin, Northrop Grumman, and Rolls Royce. In addition, direct labor and manufacturing support at BAE will be examined. Deep analyses of a number of key subcontractors will take place. Phase Three will primarily focus on the supply chain structure, to include a review of the remainder of the key suppliers. In addition, indirect labor and overhead structure reviews at Lockheed Martin, Northrop Grumman, Rolls Royce and BAE will occur. In total, the three phases are expected to take approximately a year to complete.

As cost savings opportunities are identified, they will be prioritized and tracked through a detailed Target Assurance Program. The Target Assurance Program will include a detailed action plan to make each potential savings opportunity a reality.

Questions Submitted by Senator Mazie Hirono

Small Business R&D and the Acquisition Process

148. Senator HIRONO. Secretary Lord, the DOD runs a $1 billion annual small business innovation research (SBIR) program that has successfully invested in high tech businesses and developed advanced technologies that are being used by operational forces today. I understand that one challenge facing these small businesses is their difficulty crossing what is called “the valley of death”—the stage after the small business has done some good R&D work—but before they can really sell a product to the Pentagon. What steps are taking to address this issue?

Secretary LORD. Technology transition from developmental programs into acquisition programs remains a challenge. Past technology transition successes were, in many cases, a result of personalities and relationships rather than robust process.
Program Managers who knew and trusted the technology developer were often willing to take the risk of insertion of new technology. We must ensure technology transition is a critical focus area as the Department pursues new capability.

The Department is focused on reducing the risk of the “valley of death” for small businesses using existing resources and authorities including the Commercialization Readiness Program and the Rapid Innovation Fund to support the transition of technologies, products, and services developed under SBIR and STTR programs. We appreciate the support of Congress in granting authority for a pilot program to use multiple award contracts in support of more efficient transition of SBIR and STTR developed technologies.

The skills necessary to successfully operate a business and transition or commercialize technologies are different from those required to develop new technologies, and the Mentor Protege program provides a unique opportunity for small businesses to learn these skills from more experienced companies serving as mentors. The Mentor Protege program provides small businesses an opportunity to learn skills such as design for manufacture, business development, and business management; skills necessary to successfully grow a business and create viable technology transition strategies.

Passing legislation to make the SBIR, STTR and Mentor Protege programs permanent would assist the Department’s efforts to support innovation and enable consistent funding for small businesses to navigate the complex process of transitioning technology to the Department for our use. Reauthorization of the Pilot Admin Authority is another key enabler to improving the ability to transition or commercialize SBIR technologies by providing funding for education and outreach for both government program personnel and small businesses. I remain committed to identifying further opportunities to work with the committee to improve our ability to maximize the contributions of small businesses.

TEST RANGES

149. Senator HIRONO. Secretaries Lord, Esper, Geurts, and Wilson, the Pacific Missile Range Facility, located on the island of Kauai, is a crown jewel amongst our defense facilities. It is an undersea range used by our submarines and an above ground range where many of our missile defense tests are conducted. It would also be a great place to test Directed Energy projects. What role do test ranges play in developing systems that will make servicemembers effective in combat? Are you concerned about the health of our ranges and their ability to meet operational needs? What initiatives are you undertaking to strengthen the ranges?

Secretary LORD. I believe that the Department’s test capabilities play a critical role in modernizing our defense systems. Major Range and Test Facility Base (MRTFB) ranges, such as the Pacific Missile Range Facility (PMRF), provide a suite of test infrastructurally realistic environments (e.g., realistic threats) through the use of modeling and simulation capabilities, hardware-in-the-loop facilities, installed system test facilities and open air ranges. This capability to conduct realistic testing is critical to any modernization of our defense systems.

We work together with the Services to address issues to ensure the DOD has the space, infrastructure and capabilities to support the development of our current weapons system programs as well as modernization and sustainment of older systems. There are some military construction projects currently underway and planned for the near future that will allay the concerns of some of these issues, and we are also continuing to resource projects that will modernize or replace existing aging capabilities.

Secretary ESPER. The Army’s Test Centers and Ranges plan and execute developmental testing, support independent operational testing, and provide technical and safety assessments that are instrumental to determine equipment effectiveness, suitability, and survivability. The information derived from analysis of T&E data is critical to inform senior leader decision-makers and improve materiel solutions while helping commanders mitigate risk and improve operational readiness.

I believe the Army Test Centers and Ranges are doing an outstanding job meeting the needs of the warfighter; however, I am concerned with their overall health and readiness to test future Army equipment. The Army is currently undertaking a study to determine efficiencies within the Army Test and Evaluation Enterprise to free up funds that can be applied to address current readiness issues. We are also working to identify investment requirements to ensure the Test Centers and Ranges are prepared to test future Army systems.

Several initiatives are underway in order to both strengthen the Army Test Centers and Ranges and to prepare for the future. The RAND Corporation is conducting a study to determine the optimum way to fund the Army’s Test Centers. The Army
is conducting a separate but related study to examine the appropriate physical, intellectual, and regulatory composition and disposition of the test enterprise, as well as methods to adequately manage test infrastructure. Under the authorities granted in section 233 of NDAA 2017, several Army ranges are executing a pilot program that waives certain regulatory restrictions that impact the ability to operate in an optimal manner and may initiate a proposal for statutory changes. In fiscal year 2018, the Army began to include a major military construction project annually to address critical facility readiness issues at Army Test Centers. Additionally, the Test and Evaluation Executive is in the process of developing a life-cycle sustainment strategy for all instrumentation and facilities to better forecast the sustainment requirements for existing assets and the investment requirements to ensure the Test Centers and Ranges are prepared to test future Army acquisition programs.

Secretary GEURTS. Test ranges support the development and testing of almost all warfighting systems that are eventually deployed into combat, and play a critical role by providing the sea, air and land space required to test systems in operationally realistic environments. Over the last four years, there have been significant investments to modernize the Navy’s Test ranges to address aging infrastructure and develop new capabilities to address emerging threats, and ensure they are sufficiently healthy to support our operational needs. The Navy has a number of operating initiatives to strengthen the health of our ranges to include expansion of Fallon training range, refurbishment of Barking Sands Tactical Underwater Training Range (BARSTUR), and procurement of advanced threat emitters. In addition, the Navy continues to explore opportunities to integrate our open air range capabilities into a Live Virtual Constructive training concept.

Secretary WILSON. Test ranges are critical to providing operationally relevant environments in which to develop weapon systems and conduct developmental testing, operational testing, tactics development and force development evaluation. I am concerned about the advancing threat and the need to continuously improve all methods of developing combat capability to include test and evaluation ranges and workforce. I am also concerned about the condition of facilities on our test ranges as I am about Air Force facilities in general. For this reason, we made significant investments in the fiscal year (FY) 2017 President’s Budget (PB) to sustain, repair, and modernize test facilities. We have made significant investments in air and cyber range capabilities in the fiscal year 2017 and fiscal year 2018 PBs, including investments in propulsion, hypersonics, sensor threat and cyber testing. We are reviewing options for further investing in space test range infrastructure.

Corrosion

150. Senator HIRANO. Secretaries Esper, Geurts, and Wilson, corrosion costs DOD $20 billion/yr. According to Defense Science Board estimates, approximately 30 percent of current DOD corrosion costs could be avoided through investment in sustainment, design, manufacture and other preventative measures. How do each of your services intend to address the corrosion issue and work with the DOD Corrosion Policy Office to take a life-cycle view to include addressing the problem early in acquisition programs?

Secretary ESPER. The $20 billion being addressed here is as reported by the DOD Corrosion Policy Office, using Military Department information systems, takes into consideration field and sustainment maintenance activities funded via the Operations and Maintenance (O&M) appropriation accounts. There is a portion of these funds that are simply the cost of operation (e.g., cleaning, lubrication, etc.) for which the operational and training tempo determines.

The Army has emphasized the importance of corrosion prevention and control in the command maintenance and supply discipline programs. We have conducted corrosion prevention and control survey teams to identify corrosion issues. We have completed a number of tests or demonstrations on equipment covers, conducted a Business Case Analysis, and published policy on the use of equipment covers in high corrosion severity zones. We are modifying the policy to use best business practices for using double galvanizing of select steel substrates and transitioning to the use of improved metal rich primers to enhance corrosion resistance. We are publishing a corrosion and acquisition policy guide that is intended to remind members of the acquisition workforce to take a life-cycle approach to corrosion prevention and control.

The Army has designated the Deputy Assistant Secretary of the Army for Acquisition Policy and Logistics as the Army’s Corrosion Control and Prevention Executive (CCPE) in accordance with section 903 of the Fiscal Year 2009 National Defense Authorization Act. The CCPE has developed and maintains an Army Corrosion Preven-
tion and Control Strategic Plan, which is linked to the DOD Corrosion Policy Office strategic plan, to govern the Army's corrosion prevention and control program. We participate on the DOD Corrosion Prevention and Control Integrated Product Team and its associated Working-level Integrated Product Teams. Based on the DOD Corrosion Policy Office Impacts of Corrosion Reports, the trend for Army equipment and facilities expenditure of O&M funding is downward.

Secretary GEURTS. DON maintains an established, Department-wide corrosion Cross Functional Team to address corrosion concerns. This program comprises the DON Systems Commands working together to address both common and platform specific corrosion issues. The program works on reducing corrosion through research and development efforts, adding corrosion-resistant product designs, training and educating the fleet on preventative and corrective corrosion maintenance, and developing technically sound and operationally viable maintenance procedures for the system life cycle.

The DON also collaborates with the DOD Corrosion Policy Office (CPO) and the other Service Corrosion Control and Prevention Executives to coordinate policy and share best practices that lead to cross-Service, force multiplier initiatives. The DOD CPO supports these initiatives and DON efforts by funding research and development of corrosion control products and processes.

Secretary WILSON. The Air Force is collaborating with the DOD Corrosion Policy and Oversight office to increase acquisition program emphasis on corrosion prevention across the life cycle. In particular, new changes in Air Force Service Acquisition Executive guidance require program managers to obtain early Air Force Corrosion Control and Preventative Executive involvement in their life cycle corrosion planning efforts.

151. Senator HIRONO. Secretary Lord, any of the materials and processes which determine subsequent corrosion performance are specified very early in the design stages. How does AT&L assure that programs have effectively addressed corrosion from the very beginning and involved corrosion subject matter experts throughout the life of that program?

Secretary LORD. Through a comprehensive program, the DOD Corrosion Policy Office has invested in identifying and having more corrosion Subject Matter Experts available to Program Managers, along with improved and updated standards and specifications for materials and processing impacting corrosion. In the past, the DOD Corrosion Policy Office has been involved in Defense Acquisition Board reviews but with an emphasis on acquisition streamlining; the responsibility for implementing the best corrosion practices has been relegated to program managers who have been given improved resources in the form of Subject Matter Experts, instructions, and various guidebooks such as the Program Managers Handbook, the Corrosion Best Practices Handbook, and the Corrosion Prevention and Control Planning Guidebook. In addition, the detailed annual cost of corrosion study conducted by the DOD Corrosion Prevention Office provides visibility as to the impacts of corrosion to help ensure that corrosion is considered throughout all stages of a program.

DEFENSE ACQUISITION

152. Senator HIRONO. Since the establishment of the Department of Defense in 1947, the procurement process has been studied, enhanced and improved over the many decades. Often times there is a pendulum effect that moves from tighter controls to looser controls allowing more flexibility in the system depending on what was going on at the time politically and in industry itself. This includes making the defense process more like what is in the "commercial sector" and allowing more flexibility or less to the acquisition professionals who do this work on behalf of the U.S. Government. However, despite all of the reviews and reforms which have been instituted over the decades we are still in a place where we experience bad results from the acquisition system in terms of delivering the needed systems to the warfighter in an efficient manner that is on time and within reasonable costs. Some of the programs the Chairman mentions regularly which are spread across the services come to mind. In your opinion, what are the impediments to achieving an acquisition system that delivers on schedule and within cost parameters and what must be done to achieve this goal?

Secretary LORD. As you stated, the procurement process has been studied, enhanced and improved over decades. The Department has also tried innovative approaches to acquisition as well, some of which have worked well and others have not (e.g., Total Package Procurement). I would expect that Congress and the Department will need to continue to work together and assess acquisition reforms to iden-
tify ways to improve the process. We owe that to the taxpayers and the warfighters. I believe that the on-going acquisition reform efforts, including the section 809 panel review, the Regulatory Reform Task Force, our Acquisition Statute Review, and an initiative I have on-going to reduce the time to get on contract will all contribute to reducing impediments. If there is one area I would ask for help in, it’s for stable funding for our programs. Repeated Continuing Resolutions and the threat of Budget Control Act induced sequestration require continual adjustments to our acquisition programs which work against our ability to deliver systems on time and within cost. We will continue to focus on attracting, retaining and developing a high performance acquisition work force while upgrading our educational programs at the Defense Acquisition University to focus on simpler, faster tailored processes. The use of case studies and the incorporation of current practitioners will be critical to rapidly improving our acquisition capability.

Secretary Esper. The Army needs an acquisition system that is inherently fast, responsive to current and emerging needs, and visionary in meeting long-term threats, leading ahead of capabilities of major adversaries. This requires hard choices on which programs and initiatives to fund or forego. Programs must establish well-defined and realistic requirements to keep programs on schedule and on budget.

Predictable and stable funding are key to maintaining and delivering needed systems to warfighters. We must also ensure our programs are structured around mature technology, use open systems architecture to allow continuous system improvement, and have the mechanisms in place that allow flexibility of resources, both people and dollars, that can quickly adjust to program changes and opportunities. Additionally, we must delegate and empower our Program Managers to quickly identify opportunities and resolve issues that arise throughout the acquisition process.

Secretary Gehrke. Instability in funding and requirements are the main impediments to an effective and efficient acquisition system. Instability includes uncertainty in budgets and funding or unrealistic or changing requirements. Within the DON, stability in acquisition programs is accomplished by establishing firm and realistic requirements (including close coordination with the Service Chiefs, via the DON Gate Review process), stabilizing system designs, and incrementally developing technology in order to reduce technical risks before defense acquisition programs incorporate new technologies. DOD and the DON must maximize competition at all tiers to reduce costs and enhance technical innovation. In addition, the appropriate use of multiyear procurements, block buys, economic ordering quantities, and cross-program procurements of common equipment are important tools for reducing costs and increasing the efficiency of the acquisition system.

Also, an overly prescriptive, burdensome, statutory and regulatory environment encumbers Program Managers with additional laws, policies, and rules that limit flexibility, increase oversight and slow the acquisition system. We will continue to work with Congress to identify those laws and policies that should be eliminated or revised to improve acquisition outcomes.

Secretary Wilson. There are several challenges we have within the Air Force to deliver capability on time and within budget. These challenges include maintaining stable requirements and stable, timely budgets. We are taking deliberate actions to ensure we constantly monitor and ensure that new requirements or changes to existing validated requirements are not the driving factor in the costs or schedule growth of programs. To better inform us on the capabilities and technical requirements that can be achieved in a warfighters needed timeframe, we are focusing more on prototyping and experimentation.

We also need stability in funding programs to ensure we give program managers resources when they are needed to successfully execute the plans they put in place. This will require leadership to ensure we pursue the right programs at the right time to provide programs the resources needed. Establishing and adhering to executable schedules will also improve performance.

QUESTIONS SUBMITTED BY SENATOR MARTIN HEINRICH

PLUTONIUM CAPABILITIES

153. Senator Heinrich. Secretary Lord, I was particularly concerned recently to learn that the NNSA’s required Analysis of Alternatives for plutonium pit production resulted in only two preferred alternatives, including a “big box” facility at Los Alamos National Laboratory. Such an impractical and costly facility, the ONMP-NP, had previously been rejected, and in 2014, the Nuclear Weapons Council explicitly directed NNSA to instead pursue a “modular” building strategy at LANL as defined
in sec. 3114 of the National Defense Authorization Act for fiscal year 2013. In your role as Chairman of the Nuclear Weapons Council, have you received and been briefed on the NNSA’s report on the recommended alternative endorsed by the Administrator for recapitalization of plutonium science and production capabilities of the nuclear security enterprise?

Secretary LORD. Yes. It is my understanding that the Administrator of the National Nuclear Security Administration (NNSA) will respond to the reporting requirements of subsection (a) of section 3114 of the National Defense Authorization Act for fiscal year 2013 by providing Congress the October 2017 Final Report of the Plutonium Pit Production Analysis of Alternatives (AoA). The NNSA provided copies of the Plutonium Pit Production AoA to the Department of Defense in late November 2017 and briefed the Nuclear Weapons Council on the AoA on December 20, 2017. The AoA identifies two recommended alternatives, and it is my understanding that the NNSA is now conducting an Engineering Analysis (EA) of the two alternatives, including a “modular” strategy, to inform selection of a single alternative and support conceptual design of the needed plutonium pit production capabilities. The NWC looks forward to being briefed on the results of the EA no later than April 2018.

154. Senator HEINRICH. Secretary Lord, have you also been briefed on NNSA’s independent Office of Cost Estimating and Program Evaluation’s review of the report?

Secretary LORD. Yes. At the same time that the National Nuclear Security Administration (NNSA) provided copies of the final Plutonium Pit Production Analysis of Alternatives (AoA) to the Department of Defense, it also provided copies of the Office of Cost Estimating and Program Evaluation’s (CEPE) review of the analysis in the AoA. The CEPE recommended additional analysis be completed prior to selection of a single alternative. It is my understanding that the CEPE recommendations are being taken into consideration during the NNSA’s current Engineering Analysis of the two alternatives identified by the AoA. I look forward to reviewing the results by April 2018.

155. Senator HEINRICH. Secretary Lord, do you agree the “modular” building strategy at LANL, as defined in section 3114 of the National Defense Authorization Act for fiscal year 2013, should be fully analyzed by NNSA as the NWC directed in 2014?

Secretary LORD. Yes. I fully support analysis of reasonable alternatives that will lead to a long-term, reliable, and flexible pit production capability that enables the nuclear enterprise to meet the Nation’s military requirements and policy goals. The longer we delay reestablishing a robust pit production capability for the Nation, the greater the risk, complexity, and cost we will take on. It is my understanding that the National Nuclear Security Administration’s (NNSA) Office of Cost Estimating and Program Evaluation’s (CEPE) review of the Plutonium Pit Production Analysis of Alternatives suggests further study of both modular and greenfield facilities at Los Alamos National Laboratory (LANL). As the NNSA works toward identifying the most desirable pit production alternative, I expect the NNSA to brief the Nuclear Weapons Council and Congress on the analysis conducted, including the option of a modular building strategy at LANL.

156. Senator HEINRICH. Secretary Lord, is it your expectation that you will be able to respond to the certification required by subsection (b) of sec. 3141 of the National Defense Authorization Act for fiscal year 2018 regarding whether the recommended alternative proposed by the Administrator meets each of the criteria in paragraphs (1) and (2) of that subsection?

Secretary LORD. Yes. The Nuclear Weapons Council (NWC) will provide the certification requested by Congress within the timeline identified in subsection (b) of section 3141 of the National Defense Authorization Act (NDAA) for fiscal year (FY) 2018 if the National Nuclear Security Administration (NNSA) identifies a single alternative in its Engineering Analysis (EA) that meets all military requirements for pit production. It is my understanding that the Administrator of the NNSA will respond to the report requirements of subsection (a) of the NDAA for fiscal year 2018 by providing Congress the October 2017 Final Report for the Plutonium Pit Production Analysis of Alternatives (AoA). That report identifies two preferred alternatives, not a single recommended alternative. In December 2017, the Nuclear Weapons Council (NWC) was briefed on the AoA and the associated plan for the EA. The NWC is keenly interested in the NNSA’s plans to resume pit production and looks forward to receiving the results of the single alternative identified by the EA.
DIRECTED ENERGY—NEW PROGRAM

157. Senator HEINRICH. Secretary Lord, Secretary Esper, Secretary Geurts, and Secretary Wilson, section 215 of this year’s NDAA Conference Agreement establishes a new Department-wide program to accelerate the transition of Directed Energy weapon systems within each of the military services. Specifically, section 215 authorizes additional funding to be used by military services and Department agencies specifically for the purposes of prototyping and demonstrating high-energy-laser and high-power-microwave weapons systems that are beyond the beginning stages of basic and applied research. The NDAA also assigns the newly created position of Under Secretary of Defense for Research and Engineering to lead and coordinate Directed Energy efforts across the Pentagon. Can I get a commitment from each of you to utilize this section 215 program next year to help advance and field this technology?

Secretary LORD. I am committed to using section 215 to advance and field directed energy capabilities. As directed by the NDAA, the USD(R&E) will lead and coordinate Directed Energy efforts across the Department. As the USD(A&S), I will ensure the acquisition and sustainment communities support the transition and fielding of these capabilities.

Secretary ESPER. We are closely tracking the language in the Fiscal Year 2018 NDAA authorizing $100 million to be used specifically for the purposes of prototyping and conducting demonstrations of high energy laser (HEL) and high power microwave weapons systems that are beyond the beginning stages of basic and applied research. The Assistant Secretary of Defense (ASD) for Research & Engineering (R&E), and the position that will become the Under Secretary of Defense (USD) for R&E, has been designated as the Senior Official responsible for oversight of Directed Energy investments across the Department of Defense. We work very closely with ASD R&E, and will continue to do so with USD R&E, to leverage these prototyping resources to integrate and demonstrate HEL technologies that have matured in Science &Technology in order to accelerate the technologies’ transition to the Programs of Record.

Secretary GEURTS. Yes. The DON is committed to working with OSD in using section 215 to advance this technology. The DON has established new accelerated acquisition processes that are intended to take advantage of a number of recent acquisition reforms aimed at rapid prototyping, rapid fielding, and acquisition agility. These Navy processes are implemented under the direction of an AABoD that I co-chaired with CNO and CMC. The AABoD has already recognized the importance of accelerating Directed Energy (DE) capabilities to the fleet by designating the Navy Laser Family of Systems in 2017 as one of the first accelerated acquisition effort under the new Navy process.

Secretary WILSON. Yes. The Air Force is committed to the development and transition of Directed Energy technology and will use the authorities provided.

AIR FORCE RESEARCH LABORATORY: CONTRACTING DELAYS

158. Senator HEINRICH. Secretary Lord, Secretary Esper, Secretary Geurts, and Secretary Wilson, in my role as Ranking Member of the新兴威胁和能力全委会, we held a hearing with some of your former lab directors this year and they pointed to the slow pace of acquisition and contracting process as a key impediment to their ability to work with innovative companies. What steps are you taking to help our labs and contracting offices speed up the contracting process and what help do you need from us to do this?

Secretary LORD. While challenges in the acquisitions and contracting process continue to exist, the DOD is taking steps to streamline both. The DOD has established an advisory panel of current and former DOD executives to identify opportunities to streamline the acquisition process. There are also a number of provisions in the Fiscal Year 2018 NDAA that aim to incentivize innovation and to augment DOD’s collaborations with research groups outside the Department. We are in the early stages of implementing these provisions. Much of the necessary authorities are in place. The challenge for the Department is to balance the need for speed and adaptability in order to innovate for the future battlefield and maintain technological dominance while also providing adequate oversight and ensuring transparency, best value for the Department, and preventing mismanagement. Additionally, we will fundamentally change the Defense Acquisition University (DAU) to teach through case studies that will highlight real examples of how a variety of contract vehicles are appropriately utilized to simplify and speed up acquisition. We have goals of reducing acquisition time by 50 percent with pilot programs currently being executed. We are not only focused on domestic procurement, but Foreign Military Sales (FMS) as well.
Secretary ESPER. In September and November 2017, the Acting Secretary of the Army issued eight key Acquisition Reform Initiatives, to include streamlining the contracting process. In support of these initiatives, the Army is focused on talent management and streamlining burdensome policies and oversight.

The Army has increased its use of Other Transaction Authority (OTA) agreements, which are not governed by the Federal Acquisition Regulation (FAR). Recent National Defense Authorization Acts (NDAs) have given the Government greater flexibility in using OTAs for a wide range of needs and with a broader group of industry partners.

The Army has achieved success using OTAs for prototyping and limited fielding of defensive cyberspace operations (DCO) capabilities, and scientific research and developmental activities. OTAs are a mechanism that can be used to execute science and technology efforts that we are aligning to the Army’s Modernization Priorities which include Long Range Precision Fires, Next Generation Combat Vehicle, Future Vertical Lift, C3I/Networks, Air and Missile Defense and Soldier Lethality. In fiscal year 2017, the Army has spent $1.5 billion on OTAs. Programs that the Army has or is planning to use OTAs include, but not limited to, Long Range Precision Fires, the Expedited Active Protection System effort for Bradley and Stryker, the Lower Tier Air and Missile Defense System, and the Next Generation Squad Weapon System. The Army will continue to leverage OTAs and other authorities to keep pace with the rate of technological change.

Secretary GEURTS. Section 233 of the Fiscal Year 2017 NDAA required DOD to initiate a pilot program to “demonstrate methods for the more effective development of technologies and management of functions” at science and technology reinvention laboratories. Accordingly, the DON’s laboratories will continue to identify regulations, restrictions, and other policy and guidance that if waived would streamline their contracting processes. In the DON’s implementation of section 233, the DON labs have several pilot areas waived. In addition, the Naval Research and Development Establishment created a Rapid Contracting Team tasked to identify best practices to support rapid prototyping, provide practical feedback and lessons learned, and make advisory recommendations to the DON acquisition leadership. We expect to implement additional improvements based on this effort. To the extent that Federal regulations cannot be waived under DOD authority, we may request additional Congressional assistance.

Secretary WILSON. We are looking across the entire Air Force contracting enterprise, including the Air Force Research Laboratory, to evaluate ways to improve our contracting processes and timelines. The contracting career field faces the challenge of a relatively inexperienced workforce as a whole because contracting expertise is highly valued by other employers. We greatly appreciate the additional hiring and personnel authorities Congress has granted the Department. We will continue to use those authorities in an effort to improve contracting agility and reduce delays.

159. Senator HEINRICH. Secretary Wilson, I have heard specific concerns about the speed of contracting by Air Force Research Lab, especially in New Mexico. Could you have your staff look into this and get back to us on the situation and how you plan to improve and speed up the processes?

Secretary WILSON. Yes.

OTHER TRANSACTION AUTHORITIES (OTA)

160. Senator HEINRICH. Secretary Lord, OTAs provide a powerful vehicle for encouraging innovation and speeding up the contracting process for small businesses. This year’s NDAA directs the Secretary of Defense to establish a preference for using OTAs in the execution of science and technology and prototyping programs. Can you please give some examples where OTAs have been used in a way you would like to see replicated?

Secretary LORD. A current example of a streamlined program solicitation that resulted in the award of an Other Transaction Authority (OTA) for prototype is Defense Advanced Research Projects Agency’s (DARPA’s) Robotic Servicing of Geosynchronous Satellites (RSGS) public-private partnership program. From an earlier perspective, an example of a highly streamlined acquisition resulted in the high-altitude, high-endurance, unmanned aerial vehicle utilized by the Air Force is Global Hawk. Defense Innovation Unit Experimental (DIUX) and Army Contracting Command—New Jersey (ACC–NJ) have demonstrated that the pilot program for the Commercial Solutions Opening (CSO) process can be used to attract non-traditional vendors who bring critical technology into the Department. The CSO process could serve as an example that can be expanded to the other appropriate defense agencies and activities to efficiently and effectively procure innovative products and services
that meet the rapidly evolving needs of the Warfighter. We intend to develop a module, based on case studies, at the Defense Acquisition University (DAU) in the near future to help educate our acquisition workforce.

SPACE RAPID CAPABILITIES OFFICE (SPACE RCO)

161. Senator HEINRICH. Secretary Wilson, I believe we need a greater sense of urgency in space. One of the big changes in the NDAA this year was making Space Command the sole authority for organizing, training, and equipping all space forces within the Air Force. What impact will the centralization of space authority have on building a more resilient space architecture—both in terms of acquisition and the use of non-traditional launch services?

Secretary WILSON. I share the committee's sense of urgency with regard to space and am taking action to address a variety of issues. I will direct a comprehensive review of Air Force acquisition organization and authorities, including those of Space and Missile Systems Center, in order to increase the speed of acquisition of space capabilities. This review will be consistent with the statutory authorities and obligations of the President and the Secretary of the Air Force.

If additional legislative changes are necessary, we will work with the appropriate elements of the Department, OMB, and the Congress to address them. Potential impacts that arise from changing authorities are uncertain at this time with regard to both resilient space architectures, acquisition, and the use of non-traditional launch services, but we will remain focused on increasing lethality and better supporting the warfighter as space becomes an increasingly contested and congested environment.

162. Senator HEINRICH. Secretary Wilson, we also re-designated the Operationally Responsive Space office as the Space Rapid Capabilities Office, which will now report directly to General Raymond at Space Command instead of SMC. What role does the Air Force see for the Space Rapid Capabilities Office in terms of acquisition, and how should we resource that mission?

Secretary WILSON. The Air Force is currently evaluating how best to use the Space Rapid Capabilities Office to improve enterprise agility and respond to changing threats. The Space Rapid Capabilities Office is one tool, but the entire space enterprise must shift to a rapid-acquisition mindset to stay ahead of the threats. The fiscal year 2019 PB will begin that shift both within the Space RCO and throughout the space acquisition enterprise.

QUESTIONS SUBMITTED BY SENATOR GARY PETERS

ARMY ACQUISITION CULTURE

163. Senator PETERS. Secretary Esper, last month I asked Dr. Jette, the nominee to be Assistant Secretary of the Army for Acquisition, Logistics, and Technology, about the impact of what I feel is an unhealthy conflict between key communities within the Army acquisition process. I'm concerned that too often we wind up with a process that creates over-burdensome requirements that are not tailored to soldiers' needs, which fosters a testing culture that is too risk-adverse, which results in a conservative acquisition process that does not provide the equipment soldiers need on time or on budget. What steps have you already taken and what action do you plan to take to improve the Army's acquisition culture?

Secretary ESPER. The Army must better integrate the efforts of its various acquisition communities to ensure that those developing requirements have insightful advice on technologies essential to operational concepts, and science and technology efforts must inform the development of capabilities and fully enable the transition of technology. To achieve this end the Army established eight cross functional teams (CFTs) to better integrate the requirements, budget, science and technology, test and evaluation, and acquisition communities, among others.

The Army is also implementing eight policy directives to change the acquisition culture and the way we do business. These initiatives will increase the Army's ability to more quickly provide capabilities to Soldiers, while being fiscally responsible with the taxpayer resources Congress allocates. The core policy changes the Army will implement focus on (1) streamlining the development and approval of capability requirements; (2) improving talent management; (3) improving the governance, strategy, and synchronization of science and technology; (4) streamlining test and evaluation and minimizing redundant testing; (5) aligning sustainment policy to foster cost efficiency and improved readiness; (6) streamlining the contracting process; (7) streamlining and synchronizing acquisition planning and processes; (8) improv-
ing cost estimation and resourcing; and (9) establishing metrics to track performance and outcomes.

ACQUISITION OF ADVANCED TECHNOLOGY

164. Senator Peters. Secretaries Lord, Esper, Geurts, and Wilson, I’m concerned that when it comes to cutting-edge technology such as artificial intelligence, autonomy, and robotics—the capabilities that will drive the future of warfare—we are still figuring out how to get acquisition right. I know there are attempts at utilizing unique authorities Congress has provided, as well as outreach to industry through channels like D–I–U–X in key locations across the country. But this doesn’t mean that harvesting from industry is the only answer. There is very important work happening in Department of Defense labs and the science and technology community across the Department of Defense. I’m concerned that we do not leverage the significant S&T investments made by the Department and each of the services, and we do not see the results that we could if we made better use of the innovation that is already occurring within the S&T community. Please explain how we can improve the acquisition of advanced technology such as artificial intelligence, autonomy, and robotics working with industry and Department of Defense labs.

Secretary Lord. I firmly believe that the Department should pursue opportunities wherever we find them. We must build relationships, leverage cutting-edge technologies being developed within our labs, academia, industry or allies, and ensure that we develop acquisition processes that support our ability to deliver the capabilities we need at the costs we can afford. Our acquisition processes must be flexible and rapid enough to meet the pace of development for technologies such as Artificial Intelligence and autonomy which are driven by commercial development/investment as well as deliberate enough to ensure affordable/effective long-term major acquisitions such as the next generation aircraft carrier.

I agree with you. The DOD laboratories and engineering/warfighting centers are absolutely a major driver for innovation within the Department of Defense. They serve as sources of innovation aligned to solving military problems and often kick-start industry into moving in a direction that benefits the US military. By doing the early risky research, we set the stage for industry to take the best ideas from our labs and make it into products that meet the Warfighter’s needs.

For those technologies that fall into a rapidly developing tech space, such as AI and Machine Learning, the DOD should heavily leverage the considerable commercial investments to simultaneously increase capability and affordability across a wide variety of Department missions. Commercial technology will not meet the military’s needs, however, in all mission areas. In select missions requiring high levels of trust, some technology development will remain inherently governmental but still be informed by demonstrated commercial capability. Our acquisition policy and processes should support this dual path approach. In the specific areas of AI and autonomy, we are in the process of developing an overarching strategy for the Department by identifying target application areas in which emerging technologies can enhance or transform warfighting capabilities and business processes. We are doing this in close cooperation with the Services/Agencies and the Joint Staff. Additionally, this strategy will recommend S&T and transition initiatives that build on current activities within the DOD S&T community to assure and extend the nation’s competitive advantage in these areas. Through efforts such as this, we are improving the engagement between the operational and DOD S&T communities, and taking steps to ensure that we attract and retain the talent necessary both to generate and utilize these emerging technologies.

Secretary Esper. I believe that advancements and innovation in science and engineering are empowered by collaboration among Army and other Department of Defense or Federal laboratories, academia and the private sector. I support using rapid acquisition authorities to expand our outreach efforts to the entrepreneurial community and I believe the Army has the tools needed to address this challenge. The Army is invested in curating mechanisms that foster collaboration among small businesses, universities, and our laboratories, and encourage domestic investment in critical technology areas. One example is the Small Business Innovation Research (SBIR) program, a network of Army laboratory scientists and engineers who provide technical assistance to small businesses in a wide range of technology areas. Another example is the Army Research Laboratory’s new business model, Open Campus, which pursues leading-edge basic and applied research in a truly collaborative fashion by enabling the continuous flow of people and ideas between Army Science and Technology laboratories, academia, and the private sector. The Army Open Campus model, along with SBIR and DIUx, provides mechanisms to transform and enhance the level of technical collaboration among these entities to improve rapid
acquisition of advanced technologies in rapidly evolving fields such as autonomy, robotics, and artificial intelligence.

Secretary GEURTS. The DON has been investing in cutting edge science and technology such as artificial intelligence, autonomy, and robotics since the 1940s. These investments include basic research (6.1), applied research (6.2), and advanced technology development (6.3). Discoveries and inventions resulting from these investments have had significant impact on military and commercial cutting edge technology. The DON takes full advantage of the unique authorities provided by Congress such as OTAs. Combined with grants and other traditional contracting vehicles, the DON has the tools required to invest in cutting edge technology across industry and academia. The DON heavily participates in the DOD’s Science and Technology Communities of Interest, which are inter-Service, separate teams, each focused on different technology areas to collaborate and harness ideas across the Services. The DON also participates in National Defense Industry Association events facilitated or sponsored by OSD. These provide an excellent venue for sharing R&D efforts and needs across the DOD and our industry partners. The DON routinely leverages DOD Laboratories, the DOD Research Enterprise, National Laboratories, and Federally Funded Research and Development Centers in the development of cutting edge technology.

Secretary WILSON. I agree that we need to innovate across our acquisition lifecycle, and our science and technology (S&T) investments. I have directed the development of an S&T 2030 Strategy to investigate on what basic and applied research areas we should focus and how we might adjust our processes and structure to improve how we conduct scientific research and technology development. The effort will engage academia, industry, small business, investors and others to provide ideas across the technology spectrum including the important areas of artificial intelligence, autonomy, and robotics. We have also pursued an increased focus on obtaining patents and other intellectual property resulting from work performed at the Air Force Research Laboratory in an effort to leverage these assets to further support advanced technology development. The expertise contained in our Air Force Research Laboratory is highly valued and we must continue to strengthen and reinforce an integrated, collaborative approach across the Services, academia, and industry, while bringing on-board non-traditional partners.

PROGRAM MANAGER WORKFORCE

165. Senator PETERS. Secretary Esper, Secretary Geurts, and Secretary Wilson, the Fiscal Year 2017 NDAA requires the Secretary of Defense to establish and implement a program to develop the civilian program manager workforce. Recruiting and retaining a knowledgeable, stable program manager workforce could have a significant positive effect on ensuring the continuity of best practices and improving long-term oversight of major defense acquisition programs. What positive effects do you think greater continuity in the program manager workforce will have on acquisition?

Secretary ESPER. In the Army Acquisition Workforce, there is a significant talent management initiative that has been in place for the last several years focused on identifying civilian talent and cultivating that talent with the right functional and leader development activities up front and early. This initiative is based on the understanding that to grow an Acquisition Program Manager of the future, we need to ensure the right training, development, education and experiences are afforded to our acquisition talent so that when we centrally select our Program Managers, we have the best and brightest impacting the acquisition process. We are already seeing the benefits of these efforts for our civilian professionals. We must continue to invest in developing and retaining critical acquisition skillsets that grow key program management professionals. Continuity is important and so is continuing to develop the next group of acquisition professionals to ensure a critical pipeline of talent is readily available. These efforts will have the lasting benefit of nurturing a community with the necessary competencies for today and into the future as professionals go through their career cycles.

Secretary GEURTS. Greater continuity in the program manager (PM) workforce will improve acquisition outcomes. Military or civilian, effective PMs have the right balance of competencies, experience, and expertise. Key to growing and sustaining an effective PM workforce is professional and technical education and training. The DON uses the Defense Acquisition Workforce Development Fund (DAWDF) to address specific hiring, training, and retention needs. This fund is critical to the Department’s efforts to recruit and retain a knowledgeable acquisition workforce.

Individual Systems Commands utilize tuition assistance and student loan repayment to retain the best and brightest of the workforce. For PMs and Deputy Pro-
gram Managers, we have a formal slating panel process to evaluate candidates for leadership positions. This allows us to track and attract talent for our critical jobs at each Systems Command. A part of the slating process is providing feedback to each candidate so they can understand areas where they need to focus in order to be considered for future opportunities. The DON also has a robust SES Talent management process which includes slating for key acquisition positions.

Secretary Wilson. The Air Force ensures that the program manager workforce has the collective skills and knowledge needed to create economic value for the individuals, their employers, and their community. Greater continuity within the program manager workforce will contribute to the Air Force’s efforts to produce leaders who understand the requirements, environmental factors, organizations, activities, constraints, and motivations impacting a program.

166. Senator Peters. Secretary Esper, Secretary Geurts, and Secretary Wilson, what do you think is an effective tenure requirement for program managers?

Secretary Esper. An effective tenure requirement for Project Managers (PMs) would be in concert with the Milestones established for their programs. I would aim to ensure Deputy Project Managers (DPMs) are also in place for the tenure duration and beyond to ensure accountability and transparency. Alignment of PM tenure with milestones will help enhance oversight of cost, schedule and performance metrics. Additionally, determining an appropriate tenure length by taking into account specific program milestones allows the opportunity to understand these performance measures of effectiveness and ensures a clean transition at appropriate critical points.

Secretary Geurts. While program managers (PMs) have a prescribed tenure, and sign tenure agreements based on their program’s ACAT level, Navy Leadership monitors the phase of the program and determines the proper time to rotate personnel on a case by case basis. In general, a PM should remain in their position for approximately four years to effectively guide their program, but the DON does consider program events and milestones when establishing a PM’s tenure.

Secretary Wilson. Program managers assigned to key leadership positions are required to remain in the respective position for the tenure period as specified by the Service Acquisition Executive. As each individual case is unique and the needs of the Air Force or personal situations may change, we have an established process to approve movement of program managers before their tenure period is complete. We also review and consider extending program managers based on programmatic milestones.

COMMERCIAL ITEM PROCUREMENT

167. Senator Peters. Secretary Lord, the Fiscal Year 2017 NDAA addresses commercial item procurement by establishing a way for the Department to purchase commercial items through online e-commerce platforms. The hope is that this will result in cost savings and faster acquisition of commercial off-the-shelf items. In your view, do you think this provision has the potential to realize cost savings?

Secretary Lord. An e-commerce marketplace promotes competition, which drives down costs. I believe that with the abundant competition for commercial off-the-shelf (COTS) items in combination with the e-commerce site there is a potential for the Department to attain cost savings.

The Department is supporting the Federal implementation of section 846 “Procurement Through Commercial E-Commerce Portals” which is led by the Office of Management and Budget (OMB) and General Services Administration (GSA). On January 9, 2018, OMB and GSA hosted the first public meeting to initiate ongoing dialogue with industry and interested parties in Government throughout the program’s implementation. The Defense Procurement and Acquisition Policy organization representatives attended and will continue to participate in the future.

168. Senator Peters. Secretary Lord, in implementing this provision, how important do you believe it is for GSA and OMB to ensure transparency in how prices are generated and displayed on these e-commerce platforms, especially as certain items may be subject to dynamic or variable pricing that could impact commercial item expenditures?

Secretary Lord. Transparency promotes accountability; therefore, I believe it is extremely important for the Department and the taxpayers to know how commercial off-the-shelf (COTS) items are priced. This would include General Services Administration’s (GSA’s) ability to adjust to dynamic or variable pricing to ensure the Department gets the best pricing available on every item, every time. Transparency
also promotes trust and we need the taxpayers to trust we are being good stewards of their money. An e-commerce portal will address both objectives.

SERVICES CONTRACTING

169. Senator Peters. Secretary Esper, Secretary Geurts, and Secretary Wilson, in order to ensure better oversight of services contracts and avoid waste of taxpayer funds, the Fiscal Year 2018 NDAA requires each military Department to make services contract data available to the Secretary of Defense so that the Department can analyze past spending patterns and anticipate future needs. Does your Department have the technical capability to fully provide and analyze data about services contracts to comply with this requirement, and if not, what will you do to ensure that becomes the case?

Secretary Esper. Yes, the Army has the ability to analyze services contract data and provide the results of that analysis to the Secretary of Defense. I fully appreciate the importance of examining and understanding past spending activities for services to identify trends and buying behaviors, and to allow for efficient planning for future services requirements. In fact, the Army is currently conducting spend analysis as we migrate our service focus to implementation of category management initiatives.

Secretary Geurts. Yes, DON utilizes the Federal Procurement Data System-Next Generation (FPDS-NG), the official reporting system for the Federal Government, to collect and report data on Contractual Services obligations. We also conduct Service Requirements Review Boards for every services acquisition requirement valued in excess of $150,000 to provide oversight and to validate services acquisition requirements. These reviews are chaired by Flag Officers or Senior Executives and involve leadership reviews by the requirement owner(s) as well as the acquisition and financial communities.

Secretary Wilson. As part of our acquisition leadership, the Department of the Air Force has designated a Program Executive Officer for the acquisition of services contracts greater than 100 million dollars. This individual also serves as the Senior Services Manager, providing strategic governance all for services contracts Air Force wide.

Additionally, the Air Force conducts an annual Services Governance Health Assessment to review mission owner requirements and ensure organizations are efficient in their buying practices while meeting their mission needs.

The Air Force makes great use of the Federal Procurement Data System—Next Generation data tool to help gather contract trend data for various services portfolios outlined by DOD. We also supplement the data with internal authoritative systems to be able to address specific areas. This information is used to make resourcing adjustments, where appropriate, to leverage our buying power and identify strategic sourcing opportunities for future procurements.

170. Senator Peters. Secretary Esper, Secretary Geurts, and Secretary Wilson, will the data you provide to the Secretary include information about the use of bridge contracts in your Department?

Secretary Esper. Yes, the services contract data the Army provides to the Secretary of Defense will include information on the usage of bridge contracts. The Army developed the capability to monitor the use of bridge contracts through the Virtual Contracting Enterprise system in fiscal year 2017.

Secretary Geurts. Yes, the DON has the capability to obtain information about the DON’s use of bridge contracts and can make this data available to the Secretary of Defense.

Secretary Wilson. Through the use of the Federal Procurement Data System—Next Generation tool, we can identify the majority of the bridge contracts each year. There is a need to supplement this data and we will work with the Office of the Secretary of Defense to determine the appropriate level of fidelity and dollar thresholds required.