

RECORD VERSION

STATEMENT BY

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Introduction

Chairman Thornberry, Ranking Member Smith, and distinguished Members of the Committee on Armed Services, thank you for the opportunity to discuss the Army's continued progress in our mutual, long-term efforts at reforming the defense acquisition system in order to deploy capabilities faster to our Warfighters, control cost growth, and incentivize innovation in industry and government. It is my privilege to represent the United States Army and to offer perspectives on specific areas of interest to this Committee, including modularity and open systems architecture, rapid prototyping, and the risks associated in beginning production with immature technologies.

The objectives of acquisition reform are well-known: tackling cost and schedule growth in our acquisition programs; addressing unrealistic program requirements; streamlining a process that is bureaucratic, ponderous and slow; and addressing the need for a skilled and professional acquisition workforce. Our ultimate goal is to field a technologically superior force using a more effective, more affordable, and more responsive acquisition system.

Since its inception in 2010, the Better Buying Power initiative has been the guidebook for continuous process improvement that has resulted in significant accomplishments. It has also proved timely, as these efforts to achieve efficiency in our programs and embrace best-value business practices have helped to prepare us for the budget challenges we face now and into the foreseeable future. The success of the Better Buying Power initiative is attributable to both its comprehensiveness – looking at cost control, competition, affordability, analysis – and its timeliness.

The current iteration, Better Buying Power 3.0 (BBP 3.0), emphasizes achieving dominant capabilities through innovation and technical excellence. It addresses the growing concern that our technological superiority over potential adversaries is not assured and, in fact, is being challenged effectively.

To address this great concern, we believe that progress in our acquisition reform efforts must be balanced by the need to maintain our technological advantage. In this regard, the Army depends upon our Science and Technology (S&T) program to help us prepare for the future and maintain our decisive advantage. It is through S&T that we focus on maturing technology, reducing program risk, developing prototypes that can be used to better define requirements, and conducting experimentation with Soldiers to refine new operational concepts. The Army's S&T program is an enabler in achieving a more robust and efficient acquisition system.

Stable and Predictable Funding

Despite our efforts to improve acquisition, budgeting decisions outside of the acquisition process can greatly disrupt the development of technology priorities. Stable funding and continuity of effort take on increased importance in the S&T world. Starting and stopping programs prevents momentum in research and lengthens the timelines for discovery and innovation. Fortunately, by holding our S&T funding steady in recent years, the leadership within the Army and the Department of Defense continue to recognize the importance of ongoing S&T efforts in maintaining the military technological superiority of the United States. We are grateful to the Members of this Committee for their continued support in this area.

The Army is exploring the activation of a rapid capabilities office to address the immediate and near-term capability needs of our Warfighters through rapid Programs of Record (PoRs). While we envision a short chain of command, most likely an oversight board, with prominent Warfighter involvement from the start, our plans are in the initial stages. We expect that funding will, inevitably, be a major concern.

Prototyping and Requirement Maturation Processes for Production Starts

BBP 3.0 reinvigorates the use of prototyping and experimentation for the purpose of rapid fielding of technologically advanced weapon systems without a substantial

commitment of resources. The use of prototyping and technology maturation for the purpose of rapid fielding of technologically advanced capabilities to our Warfighters is vitally important to the Army's acquisition reform efforts. In this area, we rely heavily on our laboratories and Research, Development and Engineering Centers, comprised of a world-class cadre of roughly 12,000 civilian scientists and engineers, to target technology maturation and increase emphasis on prototyping. Both of these activities help to better inform requirements for new systems, as well as drive down the risk of integrating new technologies by demonstrating mature solutions that are technically achievable and affordable. By conducting maturation and prototyping earlier in the acquisition lifecycle, we are able to identify and address areas of risk before the Army commits more significant levels of funding to a PoR. Ultimately, it is much more cost-effective to prove out innovative concepts and capabilities in S&T rather than under formal program acquisition.

The Army has used competitive prototyping as a strategy to reduce risk, improve access to innovative technologies, and refine requirements on two key aviation programs: the Improved Turbine Engine Program (ITEP) and Future Vertical Lift (FVL). In addition, the Joint Light Tactical Vehicle (JLTV) program capitalized on the benefits of competitive prototyping during the Technology Development phase, where the efforts to multiple vendors substantially improved the fidelity of the designs and increased confidence in operational performance. The results were then used to refine the requirements through the use of cost-informed trades in close partnership with the Army and U.S. Marine Corps user communities, which yielded a set of achievable, affordable requirements.

In another area, the Army's Technology Maturation Initiative (TMI), initiated in fiscal year 2012, aligns S&T with acquisition partners in Program Executive Offices (PEOs) as well as the requirements community. These coordinated efforts prove out emerging, but needed technology components and facilitate their transition to PoRs while, at the same time, driving down acquisition costs and risks, thereby increasing success in expediting capabilities to the Warfighter. We have identified TMI priority efforts, including Assured Position, Navigation and Timing to enable Soldiers to operate in conditions that impede

or deny access to the Global Positioning System and Combat Vehicle Prototyping to ensure future acquisition program requirements are technically feasible and affordable in providing leap-ahead mobility, survivability, and lethality capabilities with reduced risk.

Additionally, to address the challenges faced in transitioning from research into a PoR, the Army has created long-term investment roadmaps across our investment portfolios. Long-range Investment Requirements Analysis (LIRA) has created an environment where the communities that invest in all phases of the materiel lifecycle work together to maximize the Army's capabilities over time and further strengthen the ties between the S&T community, their PEOs, and requirements partners.

Affordability

The Army has worked to ensure that system requirements are affordable and do not add excessive technical risk to our acquisition programs. We've instituted processes known as "Knowledge Points" to identify necessary requirements trade-offs at key decision points. This process is mandatory across all major programs and is a critical factor in achieving success. Knowledge Points allow the Army Chief of Staff and his team to formally review system requirements throughout the development phase of our programs to ensure that we make informed decisions to ensure that programs remain affordable and within acceptable ranges of technical risk.

An example is the JLTV program. During the development phase, we reviewed the system requirements and eliminated the need to airlift the vehicles in extreme conditions. This allowed us to increase the weight of the vehicle and, in turn, use less expensive material, saving roughly \$35,000 per vehicle. Also, we modified the vehicle's power generation requirement to avert the need for a new starter-generator that added technical risk and cost to the program.

Consistent with the BBP initiative, the Army has instituted affordability caps on programs when they start, to ensure that we can sustainably afford the development and production costs of a major modernization program after inception. For example,

before starting the program last year, we made sure that we could afford the Armored Multi-purpose Vehicle, at the same time we were producing the Paladin Improvement Management howitzer and JLTV.

Modular Open Systems Architecture (MOSA)

Another important aspect of acquisition reform is the Modular Open Systems Architecture (MOSA). The Army supports BBP 3.0 by emphasizing open systems architecture and modularity, with its focus on providing technical enablers and tools that can be used by the acquisition workforce and industry to enhance technology insertion, particularly where commercial technology is leading – software, sensors, microelectronics. Open architecture allows us to upgrade efficiently when technology becomes available and/or when we have a new threat to counter without starting over with an entire system. Compliance with MOSA requires software and hardware components to be effectively partitioned in their design and functioning so they can be isolated if there are problems, or swapped out with minimal effort and cost if new components become available. Benefits to our Warfighters include reducing operator learning curves by using systems that have similar functions and are operated in similar ways thereby reducing costs; increasing interchangeability; and reducing sustainment costs. The engineering trade analyses conducted prior to Milestone B help determine which system elements of program architecture can be adapted to MOSA in order to reduce program cost and development timelines.

For example, the Army is planning to develop a fleet-based approach for VICTORY, Vehicular Integration for Command, Control, Communications and Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) and Electronic Warfare (EW), integration into both emerging and legacy vehicle platforms in the near future to more easily share information, reduce weight, and save power. Testing at the Network Integration Evaluation (NIE) 15.2 last spring at Fort Bliss, Texas, demonstrated how VICTORY, using standard tools, could increase situational awareness within vehicles and across unit formations by standardizing and simplifying communication and information sharing. Getting the common electronic interfaces between vehicles and

C4ISR/EW is the thrust of VICTORY. With the common standards and interfaces provided by VICTORY, vendors will be able to build a sub-system that can “plug into” vehicles with every system presenting information to the Warfighter in the same way.

Our NIEs allow the Army to evaluate and integrate emerging technologies in a combat-relevant environment prior to deployment. Going forward, the Army will hold one NIE each year, focused on testing and evaluation of network PoRs to continue to meet testing requirements and validate yearly capability sets for delivery. To complement the NIEs, the U.S. Army Training and Doctrine Command will conduct annual Army Warfighter Assessments (AWA) at Fort Bliss to provide a more experimental environment to help shape requirements, with an emphasis on Joint and multi-national interoperability. While the NIEs have strict testing and evaluation procedures, the AWAs will be more flexible and will allow the assessment of additional capabilities to help shape requirements concepts. Both are critical parts of the Army’s ongoing efforts to reform acquisition.

People and Talent Management

The acquisition community must have the ability to attract, train, and retain a qualified workforce, both uniformed and civilian. Originally recommended by the Packard Commission and inaugurated by Congress via the Defense Acquisition Workforce Improvement Act, a professionalized acquisition workforce is perhaps the largest factor within the process that contributes to success. Such a workforce is necessary to balance the technical demands of developing sophisticated weapons systems while exercising the business judgment needed to ensure value received for taxpayer resources. The Army requires access to an experienced and energetic workforce of systems engineers, logisticians, contracting personnel, and many other critical skill sets essential to ensuring successful acquisition execution.

Talent management is an Army enterprise-level effort to identify, grow, and develop our future military and civilian acquisition leaders to recognize opportunity, embrace

new ideas, manage risk, and realize their true potential. It is also about recruiting and retaining top-notch acquisition professionals to sustain the workforce through time.

Conclusion

I thank the Members of this Committee for their efforts to improve the acquisition process to better serve our Army and ultimately our Soldiers. We know that the security challenges of tomorrow will be met with the equipment we develop, modernize, and procure today. We cannot allow our own process to hinder the agility we so desperately need to maintain our technological superiority and deliver affordable capabilities to our Warfighters faster. With your help, we will continue to field the best equipment to the best Army the world has ever known in the most expeditious and cost-effective way.

Mr. Chairman, Members of the Committee, thank you for your steadfast and strong support of the outstanding men and women of the United States Army, Army Civilians, and their Families. I look forward to your questions.