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SENATE ARMED SERVICES COMMITTEE REGARDING THE
DEFENSE ACQUISITION SYSTEM

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Senator Hirono, Senator Sullivan, Members of the Subcommittee – thank you for inviting me here today to address the state of the defense acquisition system and the next steps for acquisition reform. The views I express today are my own, and should not be interpreted as reflecting the position of the Institute for Defense Analyses.

Every year, the Department spends several hundred billion dollars to purchase everything from guided missiles to truck tires and from accounting services to nuclear reactors. Tens of thousands of military and civilian acquisition professionals serving in hundreds of DOD organizations in every part of the world make millions of decisions that contribute to the success or failure of these purchases. Because DOD operates with public funds, these decisions must be fair, consistent, and defensible, and are frequently subject to appeal.

Acquiring weapon systems can be particularly difficult, because of the unique military operational requirements. The typical weapon system includes thousands of specially-designed parts, many of which incorporate advanced technology that has never been used in an operational environment, and millions of lines of software code, much of which will not be fully written and tested until the system is about to be fielded (and which will continue to evolve even after fielding). To acquire these systems, the Department must somehow select vendors, negotiate contracts, and budget for products that have not yet been fully designed. It must also incentivize performance through engineering,

development, production, testing, fielding, sustainment, and modernization phases that often take place over the course of decades.

The defense acquisition system provides a framework within which these problems can be addressed in a reasonably predictable, defensible, and transparent manner. The Adaptive Acquisition Framework speaks to a basic truth of defense acquisition: DOD must address a multiplicity of circumstances requiring different tools and different approaches. The process remains flawed and makes mistakes; however, given the number of people involved and the complexity of the problems to be solved, we should perhaps be surprised that the results are not far worse.

The ultimate objective of the acquisition system is the fielding of weapon systems and supporting products and services that enable our military to deter malign conduct and, when called upon, defeat our adversaries on the battlefield. Because we are unlikely to know whether current acquisition efforts will achieve this kind of success until years after key decisions have been made, we tend to substitute other metrics, such as measures of cost, schedule, performance, and successful innovation. Even these can be difficult to measure in real time.

Many years ago, I helped lead the charge for the enactment of the Federal Acquisition Streamlining Act of 1994 and the Federal Acquisition Reform Act of 1995 – both of which sought to add flexibility to the system and make it easier for the Department to take advantage of commercial technology and private sector innovation. Many more rounds of acquisition reform have followed. The most recent round of reforms, beginning in 2015, has included both organizational changes and efforts to promote innovation, speed, and risk-taking by creating or expanding flexible acquisition tools, such as Other Transaction Authority, Middle-Tier Acquisition, the software acquisition pathway, and outreach to the venture capital community.

The trick is to increase innovation, speed and risk-taking without undermining more traditional measures of cost, schedule, and performance. Risk-taking that is designed to solve problems and overcome bureaucratic hurdles should be encouraged, but it would be problematic for acquisition officials to take on excessive levels of technical and performance risk for major acquisition programs. If the Department makes poor decisions that result in failed acquisitions and the loss of billions of dollars (as it has at times in the past), the result will be less innovation, not more.

I have long believed that if we want more flexibility and innovation, we should provide more guidance, not less, to lay out options and business considerations for our acquisition personnel. Otherwise, the likelihood is that most acquisition officials will take the safe path and continue to do what they have been doing all along.

I am not aware of any systematic study of the impact of the most recent round of reforms either in terms of increased speed and innovation or in more traditional terms of price, schedule and performance. Nonetheless, some have expressed disappointment that the reforms did not result in more radical change. I hear all the time that the Department's continued lack of agility and high barriers to entry have led to chronic underinvestment in critical new technologies, lack of follow-through on innovative commercial solutions to defense problems, and failure to field innovative new systems.

There is some truth to that view, but much of the disappointment is based on unrealistic expectations. The new acquisition tools, when properly used, should help the Department access new sources of technology and innovation. I firmly believe that it is vital for the Department to let private sector innovators develop their own solutions to problems, rather than trying to impose government solutions. At the same time, however, we need to avoid magical thinking about what acquisition reform can accomplish.

For example, venture capital is not free money. Silicon Valley investors don't put up their money out of charity, they invest because they expect a return on their investment. In the private sector, that can be a bet on profits from millions of future users, but in the defense world, a return on investment is only possible if the Department pays the bills through future contracts. We may not have to pay today, but if we don't pay someday the source of investment will dry up.

Likewise, commercially-developed technology is rarely an easy answer to defense problems. The problem is not the technology, which we very much need – it is the difficulty of adapting the technology for military use. Experience has shown that it often costs more time and money to modify a technology for military use than it does to buy the technology in the first place. Even off-the-shelf business systems cost billions of dollars and take years to configure to meet DOD needs, so it is hardly surprising that commercial technologies have proven difficult to adapt for use in a more challenging battlefield environment.

The biggest obstacle to increased investment in innovative new systems and cutting-edge technologies is not the acquisition system or the acquisition culture. It is funding. New systems and technologies compete for funds against the ongoing requirement to maintain, operate, and recapitalize an extremely expensive world-wide force structure. Some proponents of military innovation would like to scrap our existing force structure and start over, but that isn't likely to happen. And as long as we still have that force structure, we are still going to need traditional acquisition tools to support it.

It might sound like a good idea to extend commercial contracting and other streamlined approaches to major defense acquisition programs run by big defense contractors, but when we tried that starting in the mid-1990s, the experiment resulted in extreme cost growth and the loss of billions of dollars on failed programs. We need DIU and SCO and all of the other innovative acquisition organizations that have been set up in

recent years, but we also need the line organizations in the military departments that do the hard work of buying billion-dollar systems and making sure that they work as intended.

Finally, the constant cycle of acquisition reform imposes its own costs on the system. Each piece of legislation requires a team in the executive branch to implement it, adding to headquarters requirements. Cumulatively, multiple changes can be hard for the workforce to digest, adding to confusion and uncertainty. And a major reform – like the break-up of the Under Secretary of Defense for Acquisition, Technology, and Logistics – can take years to implement, disrupting ongoing work while implementation is under way.

In light of these considerations, I recommend that the Committee consider a handful of carefully-selected reforms to strengthen aspects of the acquisition system. The options that I would suggest include the following:

- (1) extending the definition of commercial items to products that are developed exclusively at private expense;
- (2) reinforcing existing authority to waive statutory requirements in the acquisition of commercial and commercial off-the-shelf items;
- (3) strengthening the software acquisition pathway by authorizing the rapid contracting mechanism recommended in the 2019 report of the Defense Innovation Board;
- (4) requiring an independent study of the impact of the most recent round of acquisition reforms; and
- (5) establishing a robustly-funded new Civilian Workforce Recruitment and Development Fund.

In an appendix to my statement, I have explained the rationale for each of these proposals.

None of the reforms that I suggest will “blow up the system” or dramatically change how we acquire military systems or commercial technologies. However, they are all real, achievable measures that would help fine-tune the existing acquisition system to reduce regulation and achieve better results – including better access to non-traditional contractors and commercial technologies. And unlike some other proposals, they will not put at risk the other cost, schedule, performance, and innovation objectives of the acquisition system.

I look forward to your questions.

APPENDIX: RATIONALE FOR PROPOSED REFORMS

- 1. Encourage commercial innovation and investment by extending the definition of commercial items to products that are developed exclusively at private expense.*

As Bill Greenwalt and I pointed out in a joint article we wrote in 2019, the existing definitions of commercial products and commercial off-the-shelf (COTS) products are based on a buyer's perspective of commerciality. The underlying idea is that if a product has been tested in the commercial marketplace, the government should be able to rely on the product and the price, and can safely use simplified procedures and commercial pricing. This approach provides important access to vendors who want to sell the government existing products.

An alternative approach would view commerciality from a seller's perspective. The underlying idea is that if a product was developed exclusively at private expense, the seller has earned the right to sell it at market prices without having to accept burdensome government-unique terms and conditions, regardless of whether the product is tested in the commercial marketplace or available to other buyers. If adopted, this seller's perspective would provide its own advantages to the government, encouraging commercial entities to invest their own funds in innovative solutions to DOD problems.

I recommend that the Committee consider revising the definition of commercial products to allow commercial treatment for a product that meets criteria of commerciality, as described above, from either buyer's perspective or the seller's perspective.

- 2. Make it easier to access commercial technologies by taking full advantage of existing authority to waive statutory requirements in the acquisition of commercial and commercial off-the-shelf items.*

The Federal Acquisition Streamlining Act of 1994 and the Federal Acquisition Reform Act of 1996 authorized the U.S. government and the Department of Defense to waive burdensome government-unique contract clauses and legal requirements to make it easier to acquire commercial and commercial off-the-shelf (COTS) products. Unfortunately, this waiver authority has never been fully exercised, leading the total number of government-unique contract clauses applicable to commercial contracts to almost triple, from 57 in 1995 to 165 today.

The situation is particularly egregious with respect to contracts for COTS items. It is my understanding that no comprehensive review has ever been conducted to assess the need for COTS waivers. As a result, Section 12.505 of the Federal Acquisition Regulation waives the applicability of only four statutes with regard to COTS purchases. By contrast, nearly identical language authorizing statutory waivers at the subcontract level has been used to waive 16 statutory provisions.

I recommend that the Committee consider a legislative provision requiring the Department to conduct a comprehensive review of statutes applicable to purchases of COTS items and work with other Executive Branch officials to promulgate an appropriate set of COTS waivers under the existing authority.

3. Strengthen the software acquisition pathway by authorizing the rapid contracting mechanism recommended in the 2019 report of the Defense Innovation Board

The top recommendation of the 2019 report of the Defense Innovation Board task force on Software Acquisition Practices (DIB-SWAP) was the establishment of one or more new acquisition pathways for software that would “prioritize continuous integration and delivery of working software.” Congress acted on this recommendation in Section 800 of the FY 2020 NDAA by authorizing the establishment of a new software acquisition pathway.

However, the legislative provision omitted one of the key acquisition tools included in the DIB-SWAP recommendation: a rapid contracting process that would enable the Department to access the most highly-qualified software talent rather than focusing on hourly rates and other cost considerations.

This recommendation was based on the view that some software architects and engineers are just dramatically more productive than others. This is the industry notion of the “10X software engineer,” the search for elite software designers who are ten times more productive than their counterparts. As the DIB-SWAP report explained, “Software is disproportionately talent-driven. Access to strong engineering talent is one of the most important factors that determine the success or failure of software projects.”

The federal contracting rules make it difficult for the Department to access “10X” talent in the private sector, even in cases where it might be critical to the success or failure of a project. Under the Competition in Contracting Act, price must be a factor in every competitive procurement. In competition for cost-type design and development contracts, the price factor frequently devolves to a consideration of hourly rates. Low hourly rates do not actually reduce costs or solve problems if they result in less qualified talent, lower productivity, and failed programs. Past performance and qualifications are factors as well, but they are rarely a match for price.

Congress recognized this problem 50 years ago, when it enacted the Brooks Act, requiring the selection of architects and engineers on the basis of competency, qualifications, and experience rather than price. Under the Brooks Act, companies submit qualification statements, and the winning bidder is selected on the basis of technical competence and professional qualifications directly related to the services required. The theory behind the Brooks Act is that highly-skilled engineering services

required in the design of critical infrastructure are simply too critical to be awarded to the lowest bidder.

The legislation proposed by the DIB-SWAP report would have extended this principle to software engineering, authorizing the award of software contracts on the basis of statements of qualifications and past performance data submitted by contractors, supplemented by discussions with two or more contractors determined to be the most highly-qualified, without regard to price. The enactment of this legislative proposal would enable the government to access the best software talent available, with the potential for dramatically improved performance.

4. *Require an systematic review of the impact of the most recent round of acquisition reforms, including the reduction in OSD authority and the new acquisition flexibilities.*

Beginning in 2015, Congress and the Department have undertaken a major round of acquisition reform, delegating Milestone Decision Authority to the military departments, splitting the office of the Under Secretary of Defense for Acquisition, Technology, and Logistics in two, establishing middle-tier acquisition authority, expanding other transaction authority, replacing the “one-size-fits-all” approach of DOD Directive 5000 with new acquisition pathways, including a software acquisition pathway, and emphasizing risk-taking and “the need for speed” over traditional cost, schedule and performance objectives.

Most acquisition professionals appear to be strongly supportive of the new acquisition flexibilities, but less convinced of the merits of changes to the acquisition organization. However, I am not aware of any systematic review of the impact of any of these changes. As a result, we do not know whether the reforms have brought about more speed, more innovation, or better access to commercial technology. We do not know whether the acquisition system is really doing things differently, or is just doing the same things with a different label. We don’t know whether we are buying different things or employing new

sources at any greater rate than we did in the past. And we don't know what impact, if any, the changes have had on the cost, schedule, and performance of acquisition programs.

Answers to these questions are needed to determine whether the reforms are on track, or adjustments are needed. It is often difficult to assess the impact of a specific acquisition change, both because the acquisition system takes so long to produce results and because acquisition trends can be impacted by so many other factors. In this case, however, multiple changes took effect in a relative short period of time and the seven or eight years that have passed since then should be sufficient to start seeing their impact. For this reason, I recommend that the Committee consider requiring a systematic review of the impact of the last round of acquisition reform.

5. Help prepare the DOD workforce for new acquisition challenges by establishing a new Civilian Workforce Recruitment and Development Fund.

Last month, the Senate Armed Services Committee held a hearing on challenges for defense acquisition and the defense industrial base. In kicking off that hearing, Chairman Reed noted that:

“[T]here is nothing more important for our defense acquisition strategy than our workforce, the men and women of the Defense Acquisition Corps, and the personnel in the defense industrial base whom they help to guide and oversee. We cannot solve our acquisition problems without an adequate supply of skilled and trained workers.”

Ranking Member Wicker built on this theme, stating that the Department needs “a civilian workforce that is capable, innovative, and dedicated,” and that “the status quo is unacceptable, and the evidence is everywhere we look.”

If we want to attract and retain needed civilian talent, we will have to actively engage in recruiting by establishing an ongoing presence on college campuses and creating a new brand identity for the civilian workforce; make civilian careers more attractive by developing training and rotation programs, career tracks, career planning, and career advocacy; and where necessary, pay recruiting and hiring bonuses.

Fifteen years ago, this Committee was instrumental in addressing a similar set of problems by establishing the Defense Acquisition Workforce Development Fund (DAWDF) to provide the Department a dedicated source of funding to rebuild the capacity and improve the equality of its acquisition workforce. Over the decade that followed, the DAWDF provided roughly \$400 million a year for recruiting, retention, training and development of the acquisition workforce. The results of this effort were evident. When I was in the Department near the end of this period, for example, the acquisition professionals who worked for me tended to be younger, more creative, more tech-savvy, and more energetic than other components of the workforce.

Now, however, the DAWDF (renamed the Defense Acquisition Workforce Development Account (DAWDA)) appears to have run its course, with the President's budget request dropping to around \$50 million per year – an important resource, but far short of what is needed to reenergize the workforce. Congress has added some funding, but only for relatively narrow initiatives. The Defense Civilian Training Corps, for example, may prove to be a worthwhile program, but it is a high-cost approach that is unlikely ever to meet more than a small fraction of the Department's civilian workforce needs.

I recommend that the Committee consider replacing the DAWDA with a new, more energetic, more robustly-funded Civilian Workforce Recruitment and Development Fund to provide a reliable source of needed investment in building needed civilian talent.