

**Advance Policy Questions for Alan Shaffer**  
**Nominee for Deputy Under Secretary of Defense for Acquisition and Sustainment**

**Department of Defense Reforms**

**The National Defense Authorization Acts for Fiscal Years 2016 and 2017 enacted sweeping reforms of the defense acquisition system and organizational structure. These reforms restructured the Office of the Secretary of Defense, particularly with respect to the Under Secretary of Defense for Acquisition, Technology, and Logistics, returned more authority to the military services for program management, and created additional acquisition pathways. If confirmed, you will be part of implementing these reforms.**

**1. What is your understanding of the major reforms you will be responsible for implementing, if confirmed?**

If confirmed, I understand that I will support the Under Secretary of Defense for Acquisition and Sustainment<sup>1</sup> in driving acquisition reform within the Department. I will support her in implementing reforms to drive innovation and agility in delivering capabilities to the warfighter when they need them. I will advise her on making full use of the authorities and management tools Congress has provided to deliver and sustain capability to and for the warfighter faster and more affordably. If confirmed, I look forward to working with USD(A&S) and the staff of the Office of the Under Secretary of Defense for Acquisition & Sustainment on the implementation of these reforms and the identification of additional reforms. Likewise, I look forward to working with Congress to improve delivery of capabilities to the armed forces.

**The Department has been slow to act on many of the reforms from the National Defense Authorization Acts for Fiscal Years 2016 and 2017.**

**2. If confirmed, what steps would you take to ensure that the Department conforms with, and implements, these reforms?**

If confirmed, I would start by working with the staff of the Office of the Under Secretary of Defense for Acquisition and Sustainment, as well as other OSD and DoD components, to obtain a clear picture of the current status of recent acquisition related reforms and reports enacted in the FY 2016, FY 2017, and FY 2018 NDAAs. Where the Department has been slow to respond, I will work with the Under Secretary of Defense for Acquisition and Sustainment, the Assistant Secretaries within the Office of the Under Secretary,<sup>2</sup> and Congress to prioritize the efforts, then ensure that there is a person responsible and accountable identified, and track the progress with the individual.

**3. What changes, if any, would you recommend to these reform-related statutory provisions?**

---

<sup>1</sup> I will frequently shorten this title to USD(A&S)

<sup>2</sup> Throughout these questions, I will use the term Assistant Secretaries to generically include both the Offices of the Assistant Secretaries and the Offices of other Direct Reports to the USD(A&S); if there is a specific Assistant Secretary or Office, I will denote that office specifically

Since I have spent the last three years in Paris running a NATO office so I do not have specific recommendations to offer at this time. If confirmed, I will work with USD(A&S), her staff, and the staffs of the Military Departments, Military Services and the other OSD and DoD components to identify additional acquisition and sustainment system reforms.

## **Duties**

### **4. What is your understanding of the duties and functions of the Deputy Under Secretary of Defense for Acquisition and Sustainment?**

The broad duties and authorities of the duties and functions of the Deputy Under Secretary of Defense for Acquisition and Sustainment are laid out in 10 U.S.C. 137a(b) as follows:

Each Deputy Under Secretary of Defense shall be the first assistant to an Under Secretary of Defense and shall assist such Under Secretary in the performance of the duties of the position of such Under Secretary and shall act for, and exercise the powers of, such Under Secretary when such Under Secretary dies, resigns, or is otherwise unable to perform the functions and duties of the office.

Consequently, I view the responsibilities of the Deputy Under Secretary of Defense for Acquisition and Sustainment as being responsible and accountable for the entire USD(A&S) portfolio, with emphasis on the specific tasks designated by the Under Secretary of Defense for Acquisition and Sustainment. If confirmed, my job would be to work with and support the USD(A&S) and the Assistant Secretaries of Defense in the Office of the Under Secretary of Defense for Acquisition and Sustainment to deliver capability and improve agility and innovation in fielding capabilities.

### **5. What background and experience do you possess that qualify you to perform these duties? What background or experience, if any, do you have in the acquisition of major weapon systems?**

I have been involved in National Security for 42 years; the first 24 years as an Air Force Officer with assignments in weather, operations, intelligence, budget, requirements, and project management. From there I retired to a civilian Senior Executive Service job in the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)), where I spent 15 years in Research and Engineering moving steadily to positions of greater responsibility. For almost five of my last eight years, I served as the senior career civilian when there was no political appointee; either as the “Acting” Assistant Secretary or “Performing the Duties of the Assistant Secretary”<sup>3</sup>. In this role, I was the official performing the duties, in various capacities, of the Assistant Secretary. During my tenure in the Office of the USD(AT&L), I had the opportunity to lead a number of task forces to address high-priority DoD needs, including as the Executive Director, Mine Resistant Ambush Protected Task Force (this was a big ACAT I level program).

---

<sup>3</sup> Through these answers, I will use the term “Acting” for the period I was also filling the responsibilities of the Assistant Secretary of Defense. The only difference in practice was the signature block and what decisions I could make. There was little difference. In practice, I assumed the functions of the politically confirmed ASD, subject to limitations of the appropriate statute.

In addition to the MRAP program, my direct experience with acquisition of major weapons systems occurred when I was the senior civilian official in the Office of the Assistant Secretary of Defense for Research and Engineering (R&E). In this period, I was the senior defense civilian in R&E. In this role, I participated in a very large number (estimated in excess of 100) Defense Acquisition Boards providing a view on technology, systems engineering, and development test for Major Defense Acquisition Program (MDAP) Milestone decisions.

**6. If you are confirmed, what duties and functions do you expect that the Under Secretary of Defense for Acquisition and Sustainment will assign to you?**

If confirmed, I expect the Under Secretary of Defense for Acquisition and Sustainment to assign duties and responsibilities consistent with the duties of Deputy Under Secretary of Defense for Acquisition and Sustainment (DUSD(A&S)) and in support of her responsibilities to enable and reform the Department's acquisition, sustainment, industrial base, nuclear chemical biological functions, and other functions as deemed appropriate.

**Qualifications**

**The newly-created Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)) has been designated as the Chief Acquisition and Sustainment Officer of the Department of Defense. If confirmed, in supporting the USD(A&S), you will be responsible for establishing policy and conducting oversight of an acquisition system through which the Department spends more than \$500 billion each year. What background and experience do you have that qualify you for this position? In particular:**

**7. What background or experience, if any, do you have in executing programs to acquire products and/or services?**

Over my career, most of my experience with *executing* programs came during my tenure in Air Force Weather, where I was Director of Plans and Programs, fielding simultaneously several ACAT acquisition programs for modernizing Air Force Weather. When I moved to Office of the Secretary of Defense (OSD), my role moved to oversight of programs, with the exception of my role with the MRAP program, and in directly acquiring prototype capabilities through OSD programs. For MRAP, I was not the PM or PEO, but I was responsible for coordinating the efforts of the Army and Marine Corps and briefing Secretary Gates on a weekly basis. In addition, I functioned as a "COR" (Contracting Officer Representative) on a number of service contracts within the OSD Staff.

**8. What background or experience, if any, do you have in overseeing the execution of programs to acquire products and/or services?**

I have considerable experience in oversight of acquisition of programs and services. As the official performing the duties, in various capacities, of the Assistant Secretary of Defense for Research and Engineering (ASD(R&E)), I had to certify technology maturity, systems engineering, and developmental test and evaluation for all ACAT I milestone decisions. In addition, I had to sign off on and approve all service contracts for all elements of R&E.

**9. What background or experience, if any, do you have in managing portfolios of programs?**

I have experience in both management and oversight of portfolios of programs. During my tenure in ASD(R&E), I had direct oversight of approximately \$1.5B annual investment in about 20 separate technology programs. I had to align these programs against goals and objectives and integrate them with investment of the Military Departments and Military Services and other DoD components to try to get the best possible outcome for the DoD. For indirect management of portfolios, while I was the senior civilian official in the Office of the ASD(R&E), the Research and Engineering enterprise was rightfully criticized by Congress and others for not having a portfolio approach and for having excessive duplication of effort. I started 17 Communities of Interest (COIs) to integrate the S&T Program across the DoD. I expected the Components to decrease duplication to get greater output from the entire program. This occurred. If confirmed, I would look for similar opportunities to ensure the acquisition programs of the Military Departments and Military Services are sharing insights across Components, where appropriate.

**10. What background or experience, if any, do you have in developing policy and processes for programs to acquire products and/or services, as well as policies and processes for oversight of such programs?**

I believe my 15 years operating at a senior level in the Office of the USD(AT&L) gives me sufficient and experience in developing policy and processes for programs to acquire products and or services, and the follow-on oversight. Specifically, I was deeply involved in the previous development of Better Buying Power (BBP) 1.0, 2.0, and 3.0. This was a pretty massive exercise to review all aspects of the acquisition enterprise. With meetings every couple of weeks for about three years. While not all elements of BBP were in my lane of responsibility, as a senior leader, I was expected to contribute and critique.

**11. What qualifications do you have using modern data approaches, tools, and methods that prepare you to maintain visibility of, analyze, and manage data on the volume, variety, and complexity of the inventory of acquisition initiatives and programs in the Department?**

Throughout my life, I have always been very analytical. My undergraduate degree was in Mathematics with a specialization in statistics and experimental design. As such, I have always looked for different ways to gather and understand data. While in Office of the ASD (R&E), I started an office specifically to conduct technical intelligence analysis and horizon scanning for future investment. I was not happy with the analysis being done by traditional analysts, so we experimented by contracting with data analytics companies. We looked for advanced, innovative companies (such as Quid, 1720 Analytics, and others). I recognized the whole technical area of data analytics and visual analytics is moving very fast, and I sought expertise. While in NATO, My culminating effort was to initiate a major NATO program in "Military Decision Making using the tools of Big Data and Artificial Intelligence." This is all about modern data approaches, tools, and methods.."

**12. What background or experience, if any, do you have in managing contracts for services?**

While in OSD, the contracting of services for all elements of Office of the ASD(R&E) came from my office, with a direct report to me. We typically ran 2-3 service contracts per year, ranging in scope from administrative support to technical advice I either served as the COR and contract manager or approved contracts from subordinate offices. Consequently, I have seen wildly diverse service contracts.

**Relations with Congress**

**13. What are your views on the state of the relationship between the Office of the USD(A&S) and the Senate Armed Services Committee in particular, and with Congress in general?**

Since I have not been in Washington or in the DoD for the past three years, I have no view on the state of relations between the Office of USD(A&S) and the Senate Armed Services Committee and Congress. I do know that maintaining open and transparent relationships with Members of Congress and the Professional Staff is critical. If confirmed, I will seek meetings with the Professional Staff to understand their view of the relationship, and where potential improvements can be made. If confirmed, I vow to do everything possible to maintain a good relationship with the Senate Armed Services Committee and with Congress in general.

**14. If confirmed, what actions would you take to sustain a productive and mutually beneficial relationship between Congress and the Office of the USD(A&S)?**

If confirmed, I would take the same actions I always have while interacting with Congress. I believe very strongly in open, honest communications. I have found Congressional Members and staffers to be professional. This does not mean we will always have the same view on an issue—but in 15 years in the Pentagon, I believe I developed a very strong working relationship with Congress through honesty and integrity. The key to me has been to maintain communications.

**Acquisition Organization**

**15. The National Defense Strategy published in January 2018 outlines several lines of effort and Defense objectives that will require the support and leadership of the Acquisition enterprise. If confirmed, which of these would you prioritize and how?**

The National Defense Strategy focuses on three primary lines of effort: building a more lethal force, strengthening alliances, and implementing major reforms. If confirmed, I will support the USD(A&S) and the Assistant Secretaries in enabling these efforts. Among the challenges confronting USD(A&S) will be the development and sustainment of capabilities with the most cutting-edge technologies and bringing them to the field more rapidly. My priorities will be in supporting the services as they develop key capabilities and programs to include those supporting our nuclear deterrent, space and cyber, C4ISR, and missile defense. A key part of that support will be in ensuring the acquisition workforce is properly trained and that program

managers are empowered to execute programs that bring capability to the warfighter quickly confirmed, I will prioritize the efforts in consultation with the USD(A&S).

**16. Do you see the need for any further changes in the relationship between the Office of the Secretary of Defense and senior acquisition officials in the military departments?**

I do not have specific recommendations to offer at this time. If confirmed, one of my first actions will be to meet with Under Secretary of Defense for Acquisition and Sustainment, the Assistant Secretaries in her office, and the staffs of the Military Departments, Military Services and other OSD and DoD components to assess the state of the relationship amongst the acquisition officials across the DoD.

**17. What further steps do you believe are necessary to align authority and accountability in the acquisition system?**

I believe aligning authority and accountability is a continuous process. Viewing the Department from the outside over the last several years, I have become excited about the opportunities for meaningful reform. What I don't know is how the authorities are aligned and how accountability has been built into the system, so I can't make specific recommendations at this time. If confirmed, assessment of the authorities and accountability will be a high priority for me.

**18. What steps do you believe are necessary to promote "delaying" of the bureaucracy, while reducing risk aversion and improving acquisition outcomes?**

I believe senior leadership within OSD and the Military Departments and Military Services must clearly communicate that the new authorities provided by Congress were provided to improve the agility and responsiveness of the acquisition enterprise in meeting warfighter needs while being accountable for dollars and schedule. It is important for the entire workforce to know expectations of them, and that they are empowered to use the new authorities to provide capabilities when and where needed. I believe we must focus on outcomes and success. Rewarding those who take smart risks and who succeed is a key element of this approach.

**19. What authorities are needed to reward program managers who excel, and penalize those who fail, including termination?**

I understand there are both monetary and non-monetary rewards available to reward program managers who excel, although the specific awards limits are different for civilian and military program managers. Likewise, there are ways to penalize and, if need be, replace those who are not performing to expectations. If confirmed, I will review these authorities and, if needed, work with Congress to explore additional authorities to reward top performers. I do believe that any changes to authorities need to be linked to the overall acquisition reforms.

**20. How should the Department of Defense define and manage concepts like risk and failure so that program managers can succeed by trying new technologies and concepts, learn what works and does not work, and thereby more quickly achieve technological advancements?**

I believe program managers must have the authority they need so they can execute their programs and likewise, program managers need to be held accountable for their decisions and performance of their program. I also believe the concepts of risk management are well known through the international acquisition community. One thing that I believe is that advanced technology adds cost, schedule, and performance risk. The bigger the technology advancement, the greater the risk. The crux of this question, I believe is how should Defense senior leaders think about and accept risk to allow greater technological advancement. This would represent a cultural change. However, I believe that more use of prototyping allow greater technology advancement while retiring risk. If confirmed, I will advocate for more prototypes to support both introducing advanced technology into future weapons systems while reducing risk.

**21. Do you see the need for any additional processes or mechanisms to ensure coordination between the budget, acquisition, and requirements systems of the Department of Defense and ensure that appropriate trade-offs are made between cost, schedule, and performance requirements early in the acquisition process?**

If confirmed, I will review and analyze the current processes and mechanisms to ensure that appropriate trade-offs are made between cost, schedule, and performance requirements early in the acquisition process. I will then determine what additional processes or mechanisms can increase effectiveness, and work with the offices involved to improve delivery of capability to the Armed Forces.

**22. What do you believe should be the appropriate role of the service chiefs in the requirements, acquisition, and resource-allocation processes?**

I believe Title 10 defines the roles of the Service Chiefs: in shorthand, the Service Chiefs are responsible assist the Secretaries of Military Departments to organize, train, and equip their force. Service Chiefs must be involved in developing the trades in their budget and programs. What is sometimes overlooked is that Title 10 responsibilities for Service Chiefs starts with “Subject to the authority, direction and control of the Secretaries of the Military Departments” who are subject to the authority of the Secretary of Defense. Within the resources available to the Service Chiefs, the Chiefs are responsible to define requirements, acquire capabilities, and allocate those resources to meet their mission. The role of OSD is, consistent with Title 10 authorities, is to provide oversight and advice to the Secretary of Defense of the appropriate resource and capability balance between the different Components (Military Departments and Military Services and Agencies). If confirmed, I vow to respect the authorities of the Military Departments and Military Services, while working to maximize the capabilities available to the entire Department.

**23. What do you see as the potential advantages and disadvantages to giving the service chiefs authority and responsibility for the management and execution of acquisition programs?**

The primary advantage, I believe, to giving the Service chiefs authority and responsibility for the management and execution of acquisition programs is that the Service chiefs are responsible and accountable in ensuring developed capabilities meet warfighter needs. Another advantage is that aligning acquisition with the Military Departments will reduce some bureaucracy. On the

flipside, the primary disadvantages are that Service Chiefs, in my experience, prioritize Service needs over Joint needs, but the current method of employment is Joint. The other disadvantage, I believe, is that we lose the independent assessment of program viability until the Operational Test and Evaluation office produces their assessment. In short, giving the Service Chiefs acquisition authority shortens the lines from development to use, but reduces the independent assessment early enough to make a significant change in a troubled program.

**24. What do you believe should be the appropriate role of the combatant commanders in the requirements, acquisition, and resource-allocation processes?**

10 USC 164 does not define the appropriate role for Combatant Commanders in the requirements, acquisition, and resource allocation process, but does define the responsibility of the Combatant Commander to inform the Secretary if the resources provided are insufficient to carry out their mission. Combatant commanders are the primary customers of the requirements, acquisition and resource allocation processes. They are active in providing the demand signal and prioritization for capability needs. As of my last tour in the Pentagon, all Combatant Commanders submitted an Integrated Priority List (IPL) to outline unmet required manpower, platforms, or other capabilities. This IPL was a very important driver in the resource allocation process, and every Secretary of Defense I worked for placed very high priority on the IPL, and the IPL drove the budget.

**25. Do you see the need for any changes in the structure or operations of the Joint Requirements Oversight Council?**

No.

**26. What improvements, if any, do you believe are needed in the lines of authority and accountability for the procurement of major weapon systems?**

Since the FY2016 National Defense Authorization Act, there have been a large number of what I consider to be bold changes to the lines of authority and accountability for the procurement of major weapons systems. If confirmed, one of my priorities will be to assess how well these changes are working, and what, if anything else, is needed.

**27. In what types of areas do you believe the Office of the Secretary of Defense should play a greater role in oversight and even execution of acquisition programs?**

I believe the Office of the Secretary of Defense should play a greater role in developing consistent acquisition performance metrics applicable to all Components to allow insight without direct management, and to provide the Secretary of Defense early insight into system performance. Beyond that, from what I have seen, there are sufficient authorities for USD(A&S) to be involved in acquisition programs as deemed appropriate by the Secretary and Deputy Secretary of Defense.

**28. If confirmed, what steps, if any, will you take to empower program managers to execute major defense acquisition programs and hold them accountable for how well their programs perform?**



I believe programs are more likely to be successful if program managers, who are closest to the program, are empowered to execute their programs using all the authorities available to them directly or delegated to them. They must then also be held accountable for their decisions based on the high levels of investment involved in our major defense acquisition programs not to mention the fact that our warfighters are dependent on the capabilities we are expected to deliver. If confirmed, I will review the authorities available to program managers and recommend changes to improve their ability to execute their programs while holding them accountable for program performance.

### **Acquisition Innovation and Requirements Processes**

**This Committee, and the Department of Defense, have attempted to promote innovation within the defense acquisition system but have little to show for those efforts.**

**29. If confirmed, how will you support the work of organizations and activities such as DARPA, the Defense Department laboratories, the Small Business Innovation Research program, Defense Innovation Unit Experimental, and the Strategic Capabilities Office?**

If confirmed, I would expect the entire acquisition enterprise to look to all elements of the Department and Industry for opportunities to accelerate capability availability to the warfighter. While these entities are largely the provenance of Dr. Griffin, the Under Secretary for Research and Engineering, I believe one of the implicit reasons for the splitting apart of the old Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics office into USD(A&S) and USD(R&E) was to elevate the availability of advanced technology for acquisition and fielding. If confirmed, I will continue to work with our partners in USD(R&E) to ensure that the acquisition policy is working to enable these organizations to deliver advanced technology in a way to best support procurement.

**30. Further, how will you take the best practices developed by these organizations and disseminate them more widely, for example, in having different pathways through the standard acquisition process?**

I believe a vital role for Office of the USD(A&S) is to identify, crystallize and disseminate best practices for more agile and responsive acquisition, and to codify these practices into training and guidebooks. Part of these pathways will come from processes identified by R&E-led organizations. If confirmed, I will work to bring these practices into broader acquisition practice

**31. What is your opinion on the need to reform the way the Department and services execute the requirements process? What do you see as downfalls of the current requirements building process?**

In my previous experience in the Pentagon, there were a couple of issues with the overall requirements process: I found it was slow, frequently not as well informed by technical and engineering reality as it should have been, and frequently systems had too many final requirements. Since I have been out of the Pentagon for three years, I can't say if this is still the

case. I firmly believe good requirements are those that allow system trades, and if confirmed, vow to work with the people generating requirements to write fewer requirements to allow systems have trade space to deliver the right capabilities more rapidly

**This Committee, and the Department of Defense, have attempted to promote innovation within the defense acquisition system but have little to show for those efforts. Section 804 of the National Defense Authorization Act for Fiscal Year 2016 created a middle tier of acquisition to provide a new acquisition pathway for prototyping and rapid acquisition. The Department of Defense has promulgated interim guidance and begun to implement this provision of law.**

**32. Do you support these modes of acquisition and, if confirmed, when will you implement the law and what change management methods will you use to ensure the Department makes use of these pathways?**

Yes. The Office of the USD(A&S) has already implemented the Section 804 authorities through the Middle Tier of Acquisition Interim Authority and Guidance, published on April 16, 2018. If confirmed, I will review the regulatory and policy approaches and recommend any necessary changes to ensure the Department is implementing them in line with Congressional intent.

**33. How do you intend to maintain visibility of 804 prototyping and rapid acquisition projects being managed and executed by the military services?**

Maintaining visibility into 804 prototyping and rapid acquisition projects is vital to our ability to ensure the Middle Tier of Acquisition policy is being used sufficiently and appropriately. I understand that USD(A&S) is currently working with the Military Departments and Military Services and other users of the 804 authority to develop a data collection and analytic process that will enable the Department to have insight into how these projects are being managed and executed. The key is to have sufficient data to be able to assess the health of the policy in aggregate rather than overly burdening the Military Departments and Military Services with OSD oversight on a program-specific basis.

**34. What programs and circumstances are best suited to the use of Section 804 prototyping and middle tier acquisition authorities?**

As prescribed in Section 804 of the FY2016 National Defense Authorization Act, , the middle tier of acquisition is designed and best suited for programs that can be rapidly prototyped (and demonstrated in an operational environment) or fielded within five years.

**The actions of our adversaries and the pace of technological change demand an acquisition system that can innovate, adapt, and respond to new threats and opportunities.**

**35. If confirmed, what actions will you take to increase the Department's ability to innovate and change at the requisite pace while protecting the interests of taxpayers and the well-being of service members?**

I remain concerned that other nations are learning how to innovate and field advanced systems, stressing our military capability advantage. This erosion of capability overmatch is a national security issue, I believe. If confirmed, I will support the authorities and initiatives to enhance improvements of an already strong technical workforce, state-of-the-art tools and facilities, and knowledge of threat and global technology advancements. This should help the Department exploit new technology opportunities and innovate at the requisite pace while protecting the interests of taxpayers and the well-being of service members by also staying ahead of emerging threats. In addition, I will support the Department's goal to establish appropriate acquisition pathways and procedures for rapidly deploying warfighter capabilities.

**The National Defense Authorization Act for Fiscal Year 2017 required that the Secretary of Defense establish cross-functional teams to address critical objectives of the Department.**

**36. What are your views on the potential focus areas and uses for future cross-functional teams?**

I support the use of cross-functional teams--in conjunction with the OSD, the Joint Staff, the Military Departments and Military Services, and DoD components--to improve our development, test, procurement, fielding, and system sustainment abilities. Since I have been out of the Pentagon, I do not know what focus areas already are using cross-functional teams, so, if confirmed, I will review the existing cross-functional teams, and work with the USD(A&S) to determine the need for future cross-functional teams, and will, as needed, commission teams.

**37. In what areas of internal Defense Department reform do you see the need for cross-functional teams to be developed? What cross-functional teams would you anticipate leading during your tenure, if confirmed?**

While I am fully supportive of Cross Functional Teams, I can't really offer an informed view on what areas of internal Department of Defense reforms need cross-functional teams. What I am comfortable saying is that I am very much in favor of multi-functional teams to solve a problem or improve a capability, and if confirmed, will employ the tool of Cross Functional Teams if appropriate. The teams I would be expected to lead will be at the direction and discretion of the USD(A&S).

**The Department's response to recent congressional reforms has shown its difficulty in changing itself. However, the actions of our adversaries and the pace of their fielding of technological change demand an acquisition system that can innovate, adapt, and respond to new threats and opportunities.**

**38. If confirmed, what actions will you take to increase the Department's ability to innovate and change at the requisite pace?**

We must retain our technological superiority. That means that the acquisition enterprise can innovate, adapt, and respond to new threats and opportunities faster than our adversaries. If confirmed, I will work to streamlining the current acquisition processes such as DoDI 5000.02 and to make full use of the new authorities Congress has granted the Department in recent

NDAAs. I look forward to working with the Military Departments and Military Services, other OSD staff, and the Congress to implement current reforms and look for new opportunities for innovation across the acquisition enterprise.

**The Joint Capabilities and Integration Development System (JCIDS) process was established more than a decade ago with the intention of addressing overlap and duplication in military services' programs.**

**39. What is your assessment of the JCIDS process?**

I can only assess the JCIDS process of three years ago—for the purpose of addressing overlap and duplication in Military Departments and Military Services programs, I think it worked adequately. However, I also felt JCIDS was slow and bureaucratic. For large scale programs, I think a slower and bureaucratic process is ok—as JCIDS allowed the DoD to think through the future capabilities needed. I do know that people I respect have been working on improving JCIDS, but I do not know how successful they have been. I believe requirements definition needs multiple processes, ranging from deliberate (JCIDS) to rapid. While he was the USD(AT&L) Secretary Carter formulated the Warfighter Senior Integration Group to accelerate requirements definition and capability delivery to Iraq and Afghanistan. This was, in my opinion, very successful.

**40. In your view, has the Joint Requirements Oversight Council been effectively drawing and using input from the systems engineering, cost analysis and program planning, and budgeting communities as warranted in its deliberations regarding requirements associated with major systems acquisitions?**

As of three years ago, my answer would be no, the voice of Systems Engineering, CAPE, and Comptroller were not well integrated in the JROC. Things may have changed. Strong partnerships between the acquisition and requirements communities are essential to acquire suitable and effective weapon systems. If confirmed, I will meet with Joint Staff and Military Departments and Military Services representatives to the JROC as well as the R&E to obtain their view on ways to improve the JROC.

**41. What do you believe should be the appropriate role of the combatant commanders in the requirements, acquisition, and resource-allocation processes?**

10 USC 164 does not define the appropriate role for Combatant Commanders in the requirements, acquisition, and resource allocation process, but does define the responsibility of the Combatant Commander to inform the Secretary if the resources provided are insufficient to carry out their mission. Combatant commanders are the primary customers of the requirements, acquisition and resource allocation processes. They are active in providing the demand signal and prioritization for capability needs. As of my last tour in the Pentagon, all Combatant Commanders submitted an Integrated Priority List (IPL) to outline unmet required manpower, platforms, or other capabilities. This IPL was a very important driver in the resource allocation process, and every Secretary of Defense I worked for placed very high priority on the IPL, and the IPL drove the budget.

**42. Do you see the need for any changes in the structure or operations of the Joint Requirements Oversight Council?**

No.

**43. How should early prototyping be used to provide technical and systems information to inform JCIDS and requirements development processes?**

This question is really the responsibility of Dr. Griffin, but from my experience, any prototyping and experimentation the DoD conducted to inform future acquisition and requirements development is a good thing, and prototyping should be informed with strong involvement of the operational community. A strong value of prototyping is that prototypes inform cost and schedule risk, and allow better program estimation early in the acquisition cycle. If confirmed, I will advocate for more prototypes, demonstrations and experimentation.

**Software Activities and Acquisition of Information Technology**

**Warfighting capabilities are increasingly software-reliant, and even software-defined—business operations—financial management, personnel and pay, and travel—run on IT systems that have been predominantly reliant on software for some time. Despite these trends, and despite being given both the authority and direction to do so, the Department has struggled to implement changes to its acquisition processes that specifically support software activity and IT acquisition, for both warfighting and business operations. This has meant at times that the Department invests billions of dollars and 5-10 years on an IT program—for example, the Expeditionary Combat Support System and more recently the modernization of the Air and Space Operations Center (AOC 10.2)—but delivers no useful capability at all.**

**44. Please describe your views on how the Department should treat software—specifically, how it should be developed, acquired, produced, and sustained.**

I believe the Department should continue to advance its efforts in all aspects of the Software Acquisition Management Lifecycle with an eye towards adopting flexible, tailorable, and collaborative processes that improve speed of capability delivery, reduce risk and minimize cost. I fully support recent legislation including sections 873 and 874 of FY 2018 NDAA, as amended by Section 869 of the FY2019 National Defense Authorization Act to implement software development transformation through prototypes and pilots that move both industry and DoD forward.

Likewise, I believe sustainment of imbedded weapon system software is an increasingly critical component of life cycle support and is foundational to the functionality of today's cyber-physical systems. By law (10 USC 2464) the Department must maintain a core logistics capability that is necessary to maintain and repair weapon systems and other military equipment to fulfill strategic and contingency plans prepared by the Chairman of the Joint Chiefs of Staff. Engagement and involvement of our organic software sustainment professionals in the early requirements and

engineering design stages are key to enabling us to produce high quality software more affordably and efficiently across the system life cycle.

If confirmed, I will make do everything within my authorities to support the USD(A&S) in her attempt to reform software acquisition.

**45. In addition, how is/should it be different from hardware? How should the two be aligned for major efforts that contain both?**

I recognize there are significant challenges associated with major programs that are comprised of both hardware and software elements. Software should be rolled out on tighter spirals. When hardware development is the dominant factor, the design and testing of the physical prototypes will likely determine the overall schedule. I believe aligning hardware and software development activity can significantly be improved through an open system architecture to create a modular plug and play environment. This provides for ease of hardware and software integration. It also addresses the increasing diversity and complexity of DoD systems. If confirmed, I would also look to see if there are additional lessons that the department could learn from industry, and look for opportunities to bring them into DoD projects.

**46. What do you understand the role of the USD(A&S) to be with respect to IT acquisition and the software activities of the Department?**

I understand the USD(A&S) establishes procedures and guidance for programs in the defense acquisition system and ensures the Department maintains the best military in the world through the efficient and effective delivery of capability. This includes IT acquisition and software intensive systems.

**47. What do you understand the role of industry to be in this area?**

I believe the competitive nature of the IT industry forces them to address innovation, speed to market, and effective risk mitigation. Certainly, commercial industry's cumulative investment in new technologies far exceeds what the Department can afford to invest toward identifying promising capabilities and processes. As the United States faces near-peer competitors, particularly in the cyber domain, the Department will need industry's help to develop and deploy new capabilities more rapidly, while also mitigating technological risk to legacy programs that are too costly or too critical to replace rapidly.

**48. If confirmed, how do you plan to address systemic and persistent cultural, process, and technical barriers to improving the Department's treatment of software activities and IT acquisition?**

I believe the USD(A&S) has already initiated what appears to be a very solid approach to address IT and software intensive system acquisition, and if confirmed, my intent would be to discuss the current approach with the USD(A&S) and the Special Assistant for software. My understanding is they are trying a much more incremental delivery approach, rather than making big software releases. They are piloting this approach with the F-35, which is appropriate, in my

opinion. This Office of the USD(A&S) approach follows industry best practices and focuses on speed; innovation; execution; and importantly, performance.

**49. In particular, given that, if confirmed, you will be assisting with the continued implementation of congressional reforms establishing an USD(R&E) and an USD(A&S)—how will you allocate responsibility for IT acquisition, especially software activities?**

I understand my responsibility in IT and software intensive system acquisition would be to support the USD(A&S) in her efforts to identify and apply best practices from industry and elsewhere in IT development, and apply these to DoD acquisition programs. The responsibility allocation was largely laid out in the July 2018 Deputy Secretary of Defense memo implementing the functions of USD(A&S) and USD(R&E). If confirmed, I will work with the USD(A&S) to implement the DSD decisions. Additionally, there is a need to work with USD(R&E), since R&E has oversight of the Carnegie-Mellon's Software Engineering Institute (SEI), the Federally Funded Research and Development Center charged with bringing new software engineering capabilities to maturity and use by the DoD.

**50. How will you work with the testing community, and with the military services—including the Chief Information Officers?**

As I understand one of the roles of USD(A&S) is to lead identification of and disseminate software development and acquisition best practices. Since software processes are still an evolving engineering discipline, good ideas come from anywhere—to include Military Departments and Military Services, the testing community, and even industry. There to develop and disseminate best practices.

**51. What role should the depots and logistic centers play in the sustainment and continued production of modern software that supports or is embedded in platforms and weapons systems under long term sustainment?**

If I am confirmed, I expect to work closely with the Military Departments and Military Services on how to best use the depots and logistics centers sustainment to better understand and exploit the future world of digital hardware design and software factories, integrating these concepts with the roles that our depots and logistics centers will play as we continue to rapidly modernize in these areas. Any plans will have to be consistent with statutory requirements for depot and logistics centers; that is consistent with 10 USC 2464 requirement that the Department must maintain organic capabilities necessary to maintain and repair the weapon systems and other military equipment.

**Performance of the Defense Acquisition System**

**The policy, processes, and procedures for tracking and managing the Department of Defense's vast inventory of acquisitions of products and services are not producing the insight and foresight necessary for the Department to effectively oversee the acquisition function, nor is it producing the information necessary for Congress to conduct its oversight responsibilities. The Department's policy, processes, and procedures have not**

kept pace with tools and methods for using and analyzing data in support of a risk-based approach for managing certain portfolios, categories, and types of programs.

**52. Do you agree that a fundamental reexamination of reporting to Congress on the performance of the overall system is necessary to implement the past few years of reforms?**

Yes.

**53. What steps will you take, if confirmed, to understand the nature of this problem and develop solutions?**

I am aware that there are a number of efforts underway to improve the development of meaningful metrics for assessing the health of the acquisition process. If confirmed, I will work with those offices in the Pentagon engaged in reforming data analytics. If confirmed, I will seek to leverage on-going data analytics and reporting reform efforts to ensure data is incorporated into acquisition-related learning and decisions making. Making informed acquisition decisions using data in a risk-based approach has always been the goal of the Department. If confirmed, I would try to identify a few key best practices of the Department and industry to see which could improve the acquisition of systems.

**54. How should the Department define and manage concepts like risk and failure so that program managers can succeed by trying new technologies and concepts, learn what works and does not work, and thereby more quickly achieve technological advancements?**

First and foremost, I believe program managers must have the authority they need so they can execute their programs and likewise, program managers need to be held accountable for their decisions and performance of their program. I also believe the concepts of risk management are well known through the international acquisition community. It is clear that advanced technology adds cost, schedule, and performance risk. The crux of this question, I believe is how should Defense senior leaders think about and accept risk to allow greater technological advancement. If confirmed, I will advocate for more prototypes to support both introducing advanced technology into future weapons systems while reducing risk because the technology will have been demonstrated.

**If confirmed as the DUSD(A&S), the information systems such as DAMIR (Defense Acquisition Management Information Retrieval) that provide enterprise-wide visibility into major defense acquisition programs' cost, schedule, and performance data would fall under your purview.**

**55. Based on your experience in Army acquisition leadership roles, how satisfied were you with the quality and timeliness of the information available on acquisition program performance?**

Based on my experience in the Air Force, I was usually satisfied with the quality of most of the information available on program performance through DAMIR. However, it generally took a



significant amount of time and a lot of effort to gather the necessary information to make decisions and expand beyond program management to portfolio management. I believe the time is right for examining modern data collection and analysis to see how improved data collection can be used to improve the overall acquisition program performance.

**56. In what ways could the Defense Department improve its use of data analytics to help identify programs earlier that might need a greater level of oversight from the DUSD(A&S) office?**

I have been away from the Department for three years, so I have no specific recommendations for ways the Department could improve its use of data analytics. However, I can state that if confirmed, I think use of data is one of the most important things the Department of Defense can do to improve performance in the macro scale. I am aware that there are data collection and analysis initiatives on-going. I would start by looking at these and compare them to industry benchmarks to see what the Department can do. If confirmed, I will work with the Military Departments and Military Services and other OSD staff to improve collaboration and transparency in data analytics so that we can better inform decision making and program outcomes.

**57. What specific steps will you take, if confirmed, to establish authoritative data, model risk, and use appropriate indicators of program and portfolio health?**

If confirmed, I will support and champion ongoing efforts to establish authoritative data throughout the Department. A main part of this effort would be to identify industry and academic leading-edge techniques in data collection, management, visual analytics and decision making, and to determine how the leading edge could be applied to DoD. These leading-edge techniques should be coupled to robust risk modeling techniques. I will also continue to work with the Military Departments and Military Services and other OSD and DoD components to develop better metrics and leverage our data to use appropriate indicators of program and portfolio health.

**58. Do you see the need for any additional processes or mechanisms to ensure coordination between the budget, acquisition, and requirements systems of the Department and ensure that appropriate trade-offs are made between cost, schedule, and performance requirements early and throughout the acquisition process?**

Based on my experience in the Pentagon and elsewhere, I believe there is always a need to more closely couple cost, benefit, and performance trades in a meaningful way. I am aware that people have been working on this within the Pentagon—and it is a priority in the National Defense Strategy. If confirmed, I will do everything possible to provide effective methods to effectively trade cost, schedule and performance. Before I can make any specific recommendations, I would need to review the current state of data use in the Department, and work with other offices in the Department to improve use of data to make better informed decisions within the acquisition enterprise.

**59. What would be the operational impact of a decision by the Department to reduce purchases of major systems because of affordability issues?**

I believe the operational impact would vary depending on the program in question and what capability gap that program addresses. While affordability of our acquisition programs is certainly a critical priority, the Department needs to continue to balance our affordability concerns against the operational impact of fielding future capabilities.

**60. If confirmed, what steps, if any, would you take to address the out-of-control cost growth on the Department's major warfighting and IT-intensive programs?**

If confirmed, I intend to spend a significant amount of time reviewing the Department's Major Defense Acquisition Programs, to include initial cost and schedule estimates and the actual cost at IOC. Cost growth can be driven by any number of factors, so I would seek to discover the root cost of growth in programs. I would seek to see if there is an industrial analogue for similar types of programs. If any industrial sector is doing better than the DoD, I would seek to understand why, and if those approaches could be applied by the DoD. I believe it is important to focus on the early phases of program and technology development to retire risk early, as it has been my experience that risk that is not retired early ends up driving big program costs later. Total program costs are largely set by decisions early in the program life. If true, the Department and acquisition enterprise needs to understand the drivers and address them.

**One of the primary duties of the DUSD(A&S) is to support the USD(A&S)'s oversight responsibility for joint major defense acquisition programs.**

**61. What lessons did you learn from your experiences on joint programs, such as MRAP and JLTV, during your time with the Army?**

I'll address joint programs more generally based on my Air Force and OSD experience. My biggest lesson learned from MRAP was that the program manager, PEO, and I had a great deal of latitude to make system and cost trades since there was only one page of requirements. One page of requirements is probably too few for most major acquisition programs, but from my experience, many programs are "over prescribed" on paper in the requirements space. Fewer requirements give greater trade space. This approach of a smaller set of requirements worked in the MRAP case because the operators were connected through the development process, and technical and cost trades were worked between the PEO/PM and me for technical issues, the Comptroller and me for money, and the Marine Corps and Army "8" (requirements) in real time. We had empowered people to make decisions and reduced the cycle time. We also had a small team of independent consultants to get outside advice. For JLTV, my biggest lesson learned was that imposing cost caps on per unit item can work. But setting the objective cost cap, the PM/PEO was able to make trades with the operational community to deliver a system that met needs at lower cost. In both cases, senior level people worked together to make trades.

**62. What factors made those particular programs successful?**

In my opinion, these successful programs worked because there was a solid system engineering team who were empowered to make trades early in the process to balance cost, schedule, and

performance. Second, in each case, there was open and frequent communication between the Military Departments and Military Services, OSD, and Congress. Finally, each of the programs that I was involved with had the top level of people, and solid technical teams. These lessons have shaped my approach to acquisition oversight, or in developing acquisition policy.

**63. How will your experiences on those programs shape how you will oversee other joint major defense acquisition programs, such as the F-35 Joint Strike Fighter?**

If confirmed, I would support the USD(A&S) and the Assistant Secretaries to focus on the MDAPs that they oversee, using my experiences of open communications and having the best possible technical talent.

**The current investment budget for the Department's systems will be insufficient to afford all of the major systems we need to buy, and the continuing costs of ongoing contingency operations will not help. Existing law and acquisition regulation provide significant flexibility to the Department for tailoring in its acquisition directives and instructions. The latest version of the instruction for operating the Defense Acquisition System notes that, "Milestone Decision Authorities, with program manager input, have full latitude to tailor programs to be effective and efficient, unless constrained by statute." However, the organizational culture and tradition of acquiring capabilities using a hardware-dominant approach persists and impede effective tailoring to incorporate agile and incremental development methods, especially into major enterprise-wide IT and software-intensive warfighting systems.**

**65. What steps, if any, do you believe that the Department should consider taking in the case of major defense acquisition programs that exceed the cost growth thresholds established under the "Nunn-McCurdy" provision associated with section 2433 of title 10, United States Code, and section 206 of the Weapon Systems Acquisition Reform Act of 2009 (WSARA)?**

Obviously, the Department and acquisition community should do everything possible to manage to cost to avoid Nunn-McCurdy breaches. Since Nunn-McCurdy breaches are set in place starting at 15 percent cost growth from the current cost estimate, I believe it is appropriate for programs at 10 percent cost growth should develop a "cure" plan. In some cases, the Nunn-McCurdy breach occurs for factors outside of the PM's control; if the PM shows a solid understanding of the program and has a good plan to "get well", I believe no further action is required, or a formal program restructure should be initiated. If the PM does not have a handle on the root cause of the growth, or does not have a solid cure plan, I believe the USD (A&S) and the Service Acquisition Executive should consider removal of the PM. Beyond that, it has been my experience that the Nunn-McCurdy process actually is reasonable to bringing additional focus on a troubled program.

**65. Do you see the need for any changes to the Nunn-McCurdy provision, as revised by section 206?**

No. I believe the basic tenets of the Nunn-McCurdy provisions are logical.

**66. Do you believe the 25% cost overrun threshold for Congressional notification under Nunn-McCurdy is the appropriate measure for a critical breach of the program baseline?**

Yes.

**67. Do you believe the 50% cost overrun threshold for termination or certification by the Secretary of Defense is the appropriate measure for a serious breach of the program baseline? If not, do you believe it is too high or too low, and how would you adjust the threshold?**

Yes, I believe 50% is the appropriate measure, provided the certification by the Secretary of Defense option remains in place. Any program can have problems, but could subsequently be fixed. I believe that any program that has a 50% cost overrun absolutely needs to present a solid, technically feasible plan to keep moving forward.

**68. What principles will guide your thinking on whether to recommend terminating a program that has experienced critical or serious cost growth under Nunn-McCurdy?**

If confirmed, I would follow the principals laid out in the Nunn-McCurdy statutes, but I would also apply my core principles of data analytics to inform the recommendation. I believe any recommendation for terminating a program should not be made on the principle of “sunk-cost”. Rather, decisions have to be informed based on balancing the need for the capability, realistic cost to completion, and overall risk of further failure to deliver. This is a complex assessment, and I believe that any program that has endured cost and schedule problems has to demonstrate a credible plan to meet future technical and cost goals.

**The Major Automated Information System (MAIS) designation was established a decade ago with the intention to enable innovations in IT capabilities by establishing shorter acquisition cycle time. Modeled after the major defense acquisition program, the designation included annual reporting and threshold breaches known as “significant” and “critical” change that trigger Nunn-McCurdy-like enhanced oversight and action. The MAIS designation was repealed this past year after evidence that the approach did not measurably improve acquisition outcomes for IT initiatives.**

**69. What experience do you have with MAIS programs and/or IT-intensive systems?**

I have had some experience with the MAIS programs through my “ownership” of the DoD High-Performance Computing Modernization Program (HPCMP) prior to R&E devolving this program to the Army in about 2013 (rough time estimate). I was responsible for HPCMP, which, although a science and technology funded program, tripped the program life investment value to become a MAIS ACAT I program, requiring annual review. Beyond that, my experience with MAIS programs is mostly through systems engineering management plans for MAIS programs. If confirmed, I would seek the requisite expert from the Assistant Secretary for Acquisition to bring me more up to speed.

**70. Recognizing that IT-intensive systems have certain risks, how should the Department conduct program and portfolio management processes?**

I believe the Section 809 Advisory Panel on Streamlining and Codifying Acquisition Regulations had some very good recommendations during the Panel review of portfolio management. If confirmed, I would make use of the 809 panel in shaping my approach. In short, the 809 Panel posited that the Department's current processes are geared towards making decisions on individual programs rather than assessing investments at a portfolio level. If confirmed, I will support implementation of those Section 809 Advisory Panel recommendations enacted in NDAA's.

**71. What about oversight approaches, including triggers or thresholds for additional oversight?**

I have not thought much about oversight approaches, triggers or thresholds for additional oversight of IT systems, but if confirmed, I know this would be included in my responsibilities. If confirmed, I would seek advice from personnel in USD(A&S), the Services and the Section 809 Panel to formulate a path forward.

**Recent changes to section 2222 of title 10, United States Code, resulted in a new DODI 5000.75 and business capability acquisition cycle (BCAC) for Defense Business Systems in 2017, which has begun implementation across business capability portfolios and systems. Unlike the DODI 5000.02 for major defense acquisition programs, the new BCAC expects the functional/requirements community and the acquisition community to work much more closely together to define and execute programs.**

**72. What experience do you have with acquiring or developing defense business systems?**

I probably do not have as much direct experience with acquiring or developing business systems as I would like. On several occasions, I looked into whether or not companies like "SAP Analytics" could help the Research and Engineering enterprise improve business processes. My review included business intelligence tools. Frankly, I did not find anything that I could afford that I thought would help our office. Fortunately, I am aware that we have people on the USD(A&S) staff who do have experience with acquiring business systems, so if required and if I am confirmed, I would have the staff bring in candidate systems, and help with / act as program manager for USD(A&S) systems.

**73. Recognizing that business systems are nearly entirely IT and software-intensive and thus have certain risks, how should the Department conduct oversight, including triggers or thresholds for implementing additional oversight?**

Although software is integral part of all Department capabilities, and software development and acquisition carries a significant degrees of risk, I have not thought as much about oversight approaches, triggers or thresholds for additional oversight of IT systems, but if confirmed, I know this would be included in my responsibilities. If confirmed, I would seek advice from

personnel in USD(A&S), the Military Departments and Military Services, and the CMO/CIO about their thoughts of oversight approaches.

**About 40% of Defense Department research and development and procurement funding is for major defense acquisition programs or ACAT I programs. ACAT II and III programs, which are managed by the military departments, are less costly at the individual program level, but may have annual funding needs that are just as significant. In 2015, GAO reported that the Department could not provide sufficiently reliable data for it to determine the number, total cost, or performance of the Department's ACAT II and III programs. Specifically, GAO found that the accuracy, completeness, and consistency of the Department's data on these programs were undermined by widespread data entry issues, missing data, and inconsistent identification of current ACAT II and III programs.**

**74. What role, if any, do you believe the DUSD(A&S) should play in providing oversight of these smaller acquisition programs?**

I believe the DUSD(A&S) should support the Military Departments and Military Services in their management of smaller acquisition programs by supporting the development of acquisition enablers by the Assistant Secretary for Acquisition. In addition, as advanced data analytics are developed, the DUSD(A&S) should also provide a capability to include ACAT II/III in the metrics so the Components can better manage their portfolio. I do not think the DUSD (A&S) or OUSD(A&S) should be involved in providing oversight to specific programs—only to the portfolios in the Components. If confirmed, I will review Department data management and analytics to ensure Office of the USD(A&S) has visibility into program performance.

**75. What actions would you take to improve the available data on these programs and their cost and schedule performance?**

If confirmed, I would review the GAO report stating DoD data for ACAT II/III programs is not complete enough to support management of the Department programs. I would determine if the recommendations could be addressed, and if so, continue to collaborate with and provide clear guidance for the Components and OSD to clearly understand what data is needed to effectively manage their acquisition portfolios. While I support the pushing of program responsibility to the Military Departments and Military Services, I also think the corporate level (the Office of the USD(A&S)) has the right to have sufficient data to understand the performance of the enterprise.

**Cost and Schedule Improvements**

**Acquisition data and analysis from both the Department of Defense and GAO indicate that major program cost and schedule outcomes have improved since the passage of WSARA.**

**76. To what do you attribute this improvement in acquisition outcomes?**

Section 201 of WSARA generated improvement in acquisition outcomes by promoting early consideration of trade-offs among cost, schedule, and performance objectives in major defense acquisition programs. This has effectively tempered the production of unrealistic performance

expectations and overly optimistic cost and schedule estimates. If confirmed, I will work with Congress at the earliest onset of programs to ensure that they are cost-effective, technically achievable and affordable.

**77. How will you work to reinforce and expand the beneficial practices and policies implemented by WSARA and the Better Buying Power Initiatives?**

WSARA, Better Buying Power (BBP) and recent National Defense Authorization Reforms have put a lot of acquisition reform initiatives in motion. If confirmed, I will work with the Office of the USD(A&S) staff to determine which of these concepts are paying dividends, and which have not had much impact on the Department's performance. For those initiatives that are paying dividends, I believe in advertising positive results, either online or in things like the Defense Acquisition Journal. In short, I will reinforce and expand the beneficial practices and policies implemented by WSARA and BBP to drive efficiency, productivity and affordability and incentivizes innovation.

**Technological Maturity**

**Section 2366b of title 10, United States Code, requires the Milestone Decision Authority for a major defense acquisition program to certify that critical technologies have reached an appropriate level of maturity before Milestone B approval.**

**78. If confirmed, what steps, if any, will you take to make sure that the Department of Defense complies with the requirements of section 2366b?**

The milestone decision authority for any program is responsible to certify compliance with statutory requirements; Section 2366b certification requires about 10 separate elements be completed, to include cost and schedule estimates, a solid preliminary design review, a JROC certified requirements validations and a certification of technology maturity. While the USD(A&S) is responsible for providing guidance, enablers and a metric strategy, OSD is not the milestone decision authority for most major defense acquisition programs. I believe we have to trust all senior leaders to follow statute.

**79. Are you satisfied that technology readiness assessments adequately address systems integration and engineering issues that are the cause of many cost overruns and schedule delays in acquisition programs?**

Technology readiness assessments are the purview of the Under Secretary for Research and Engineering, but to answer the question, my personal belief is that technology readiness assessments are inadequate to understand technical risk. I do believe that an assessment of technology risk is very important before a Milestone-B decision, but I think a technology risk assessment needs to be more than a technology readiness level certification of level 7. If confirmed, I would work to validate the provisions of the certification are producing results.

**80. Beyond addressing technological maturity issues in acquisition programs, what other steps should the Department take to increase accountability and discipline in the acquisition process?**

I believe the tools to have accountability and discipline in the Defense acquisitions process are already in place. Between the provisions of the Nunn-McCurdy Act, section 2366 of the 2009 National Defense Authorization Act (WSARA), and the Acquisition reforms in the FY2016 to FY2019 Authorization Acts provide a number of tools to manage the acquisition process.

**Role of Concurrency**

**Some of the Department of Defense's largest and most troubled acquisition programs appear to have suffered significantly from excessive concurrency – the effort to produce a weapon system, even as it is still being designed. Meanwhile, best practices for developing software-intensive systems call for a greater degree of concurrency in design and development.**

**81. What impact does such excessive concurrency have on our efforts to produce major weapon systems on schedule and on budget?**

As highlighted by the preamble to this series of questions, excessive concurrency has been identified as a root cause of failure for some of the Department's most troubled programs. The pressure to field systems quickly has led to some of these problems. I believe senior leaders need to address the balance between having a structured engineering approach to reduce risk with need to have agility through some level of concurrency. In general, I think the acquisition system needs to minimize concurrency. For those cases where some concurrency is needed to field systems quickly, the program needs very strong technical and operational leadership. The MRAP program, which I was intimately involved with, had a great deal of concurrency. We also had a very tight leadership team and a Secretary and Congress who accepted that concurrency was necessary to field a system quickly, and that this would lead to downstream inefficiencies in sustainment.

**82. What consideration should be given to concurrency in the context of software-intensive systems?**

If some concurrency is needed for software intensive systems, I believe the system development plan needs to address scheduled releases, the test plan (more rigorous testing is needed for rapid software development), the system interfaces, and the experimentation plan. In my opinion, the most important element is to have a structured risk management / risk mitigation plan. Industry has been moving forward very fast in risk management and if confirmed, I would review what risk management construct the Department uses for software development risk management, and if improvement is needed, work with the USD(A&S) and USD(R&E) staff, the Component Acquisition Executives, and the DoD CMO and DoD CIO to move toward a common structure.

**83. If confirmed, what steps will you take to balance these two factors, and to appropriately incorporate "risk" of concurrency among the risks assessed in programs?**



If confirmed, I would work closely with the Service Acquisition Executives to first understand the details of the current status of the major defense acquisition programs they manage. Then based on the detailed program assessments, I will work to advise them on ways to address risk and acquisition challenges in their programs and across the enterprise. I believe to be successful in executing programs needs a common understanding of the challenges and work them in a collaborative way.

### **Contracting Methods**

**This Committee and the Department have acted to ensure greater use of Firm Fixed Price (FFP) and Fixed Price Incentive Fee (FPIF) contracts for major acquisitions.**

**84. What are your views on the use of FFP contracts versus incentive contracts for appropriately balancing risk and incentives in defense contracting?**

I am aware the concept of Firm Fixed Price has gained some advocates, but in my experience, the type of contract needs to be tailored to the type of program. If there is little development or integration risk, FFP contracts have little risk. If there is development risk, use of FFPs can lead to lower performance. In general, different types of programs are best served by different contracts—Fixed Price for commodities not requiring much development; incentive contracts for development.

**The Committee has acted to allow for greater use of Other Transaction Authorities, particularly early in the acquisition cycle and for innovative acquisitions. However, the Committee has in the past been critical of the perceived misuse of Other Transactions Authority for major programs, such as the Army's Future Combat Systems.**

**85. If confirmed, how will you drive greater use of these flexible authorities while also ensuring they are not abused?**

If confirmed, I will personally drive for more use of flexible authorities such as Other Transactions to develop prototypes to retire technology and integration risk. It is my understanding the Office of the USD(A&S) staff is preparing a guidebook to help program managers and contracting officers to use Other Transaction Authorities (OTAs). I believe this is a good first step, but a guidebook in and of itself is likely not sufficient. I also understand that USD(A&S) is examining how to augment or revise training opportunities at Defense Acquisition University with short course modules. Application of OTAs would, I believe, make a good module, either as an in-person course or a distance learning course.

**86. Under what circumstances do you believe the use of these flexible instruments is inappropriate?**

First and foremost, there are statutory boundaries for use of OTAs and other flexible authorities. Clearly, any use of OTAs and other flexible approaches has to be well within legal boundaries.

For instance, OTAs have a value cap. Further, I believe OTAs should not be used for commodity type procurements. Based on my experience, OTAs are designed to rapidly capture innovative, leading-edge technologies where traditional FAR based procurement methods may hinder such objectives. I believe it would be inappropriate to use OTA to avoid competition or when the same objectives can be achieved using standard processes and terms and conditions and the use of OTAs would either limit competition or increase the time or cost for the effort.

**87. Under what circumstances, if any, do you believe that Lowest Price Technically Acceptable contracts are appropriate?**

Except for a limited number of acquisition approaches, I am not a supporter of Lowest Priced Technically Acceptable (LPTA) contracts. I do acknowledge that LPTAs have a clear, but limited place in the source selection "best value" continuum. LPTA is an appropriate source selection evaluation approach to acquire products and services for which the Department does not obtain additional value from performance that exceeds prescribed minimum requirements. I appreciate recent legislation that established a policy to avoid LPTA for specified products and services (especially knowledge-based services).

**Unrealistic Cost, Schedule, and Performance Expectations**

**Many acquisition experts attribute the failure of Defense Department acquisition programs to a cultural bias that routinely produces overly optimistic cost and schedule estimates and unrealistic performance expectations. Section 201 of WSARA seeks to address this problem by promoting early consideration of trade-offs among cost, schedule, and performance objectives in major defense acquisition programs.**

**88. Do you believe that early communication between the acquisition, budget, and requirements communities in the Department of Defense can help ensure more realistic cost, schedule, and performance expectations?**

Yes and no. I believe strongly that early communication between the acquisition, budget, and requirements community is essential. I do not believe, however, that early communications will *ensure* more realistic cost, schedule and performance expectations. Good communication has to be supported with good cost and schedule estimate models, and a solid preliminary design that has been realistic costed.

**89. How will you work to ensure that sustainment costs are accurately estimated early on in programs?**

Improvement in sustainment cost estimates has been problematic for most of my career, and I believe it likely still is. If confirmed, I will work with the Assistant Secretary for Sustainment to understand the current state of the practice within the DoD, and what needs to be done, if anything, then figure out how to best communicate the recommendations to practice.

**90. If so, what steps, if any, would you take, if confirmed, to ensure such communication?**

If confirmed, and if improvement is needed, I would actively engage in any Department forum where the identification of program cost, schedule and performance objectives are balanced. I would facilitate acquisition community participation in JROC meetings when program cost, schedule and performance objectives are discussed. I would also have the staff seek and understand best practices from industry, with an eye toward implementing the techniques that could help us.

**91. How will you work with the military services and the requirements community to ensure that requirements are technically feasible and can be achieved within reasonable costs?**

Under the 13 July 2018 memo implementing the standup of the offices of USD(R&E) and USD(A&S), the R&E has the lead responsibility for assessing technical risk. That does not mean that the Office of the USD(A&S) does not have a responsibility. The Office of the USD(A&S) is responsible for the overall DoD acquisition process, to include policy and guidance and assessment. The JROC provides the initial review of the program feasibility, and USD(A&S) is a key member of the JROCs. If confirmed, I would use the JROC, and JROC participants (which includes military services) to assess the current ability to balance technological feasibility and costs. Based on that assessment, I would recommend a way forward to the USD(A&S), if a change is needed.

**The Department of Defense has increasingly turned first to incremental acquisition and spiral development approaches and more recently to agile methods in an effort to make cost, schedule, and performance expectations more realistic and achievable.**

**92. Do you believe that these methods can help improve the performance of the Department's major acquisition programs?**

Yes. The concept of incremental, spiral and agile acquisition are based on using prototypes and experimentation to reduce cost, schedule and performance risk early in system development

**93. What risks do you see in the Department's use of these methods?**

I believe the risks in incremental acquisition and other flexible approaches is in aligning expectations and incentives both within the Department and with industry. In today's environment, acquisition programs are expected to be low on risk and high on documentation and reporting. If we are expecting to use more flexible and agile acquisition approaches, the Department needs to find equally flexible, agile mechanisms for oversight and reporting. There will also need to be agreement on risk tolerance and how that is communicated to stakeholders. Finally, the Department needs to find creative ways to ensure that Industry has an equal stake in the success of the program.

**94. In your view, has the Department's approach to these methods been successful? Why or why not?**

I think it is too early in the use of incremental and agile processes to understand if the methods are successful. I believe that incremental approaches provide a promise for much greater performance enhancements, and are well worth trying. I don't think we will ultimately know if the approaches work well until we have used approaches like section 804 authorities, and measure what works.

**95. What steps, if any, do you believe are needed to ensure that the requirements process, budget process, and testing regime can accommodate these methods?**

While I believe incremental, spiral and agile hold great promise to be effective mechanisms for achieving more realistic and achievable program outcomes, I believe the Department needs to understand how they would impact the requirements, budget, and testing regimes. I know that the USD(A&S) staff is working on a series of guidebooks for acquisition reform, and if confirmed, I will support development of these guidebooks and development of any additional process changes that could facilitate agile acquisition employment.

**96. How should the Department ensure that programs incorporating these methods have appropriate baselines against which to measure performance?**

I believe all acquisition programs should have a defined program baseline. This is true for traditional 5200 acquisition processes, as well as section 804 "middle tier of acquisition" acquisitions and other agile acquisition processes. It is the job of the USD(A&S) staff, working with the Military Departments and Military Services, to develop realistic program baselines for the different types of acquisition. If confirmed, and as the Department develops and employs alternative acquisition approaches, I will emphasize the use of baselines against which to measure performance, and will support more complete data analysis of system performance to improve the overall acquisition enterprise performance.

**Funding and Requirements Stability**

**The poor performance of major defense acquisition programs has also been attributed to instability in funding and requirements. In the past, the Department of Defense has attempted to provide greater funding stability through the use of multi-year contracts. More recently, the Department has sought greater requirements stability by instituting Configuration Steering Boards to exercise control over any changes to requirements that would increase program costs.**

**97. Do you support the use of Configuration Steering Boards to increase requirements stability on major defense acquisition programs?**

Absolutely. I first saw the power of configuration control/steering boards when I ran the software development process at the Air Force Weather Agency in the late 1990's. I became a zealot and remain one today.

**98. What other steps, if any, would you recommend taking to increase the funding stability and requirements stability of major defense acquisition programs?**

I believe most tools needed to provide funding and requirements stability are in place already. I also believe that well defined and achievable requirements in conjunction with stable funding are important to the success of acquisition programs. I believe this is largely a leadership issue; develop a program baseline, then if a change is needed, do so with all principal participants. Communications between the operational, cost, and technical / acquisition community is essential. If confirmed, I would work with key participants in all legs of the requirement, cost, and schedule communities to make the acquisition of DoD systems the best possible.

### **Better Buying Power Initiative**

**The Department of Defense's "Better Buying Power" initiative provides acquisition professionals with guidance on how to achieve greater efficiency, enhanced productivity, and affordability in how the Department procures goods and services.**

**99. If confirmed, what steps, if any, will you take to follow through on this guidance and ensure that it is implemented as intended?**

During all three phases of Better Buying Power (BBP), I was either the Principal Deputy Assistant Secretary or the served as the senior official in the Office of the Assistant Secretary of Defense for Research and Engineering—so I was in the senior group formulating and developing BBP. BBP was an enormous effort from start to end—but I believe it was effective in bringing the various elements of the acquisition community together. In total, the BBP's created 110 recommendations, although some of the recommendations carried through two or more of the BBPs. If confirmed, I would review the specific recommendations and determine which recommendations are still in the USD (A&S) portfolio. I would then work with the USD(A&S) staff to determine which recommendations have been addressed, and which have not. For those that have not, I would work with the staff to determine if the recommendation was still valid, and worth pursuing.

**100. What is the appropriate percentage of a major defense acquisition program that should be set aside for the government to manage a program?**

I am not aware of any guidance or standard for the appropriate percentage of a major defense acquisition that should be set aside for the government to manage a program. Further, each acquisition program is unique in its complexity, degree of innovation, technology readiness, and where it is in the program life cycle. I believe the percentage of funding needed to manage the program will vary accordingly. If confirmed, I will examine how the Services fund their management of major defense acquisition programs and will make recommendations accordingly.

**101. Which, if any, elements of the Better Buying Power initiative would you intend to modify materially or discontinue?**

I support the intent of BBP—improving the overall acquisition process. Since I have been gone from the Pentagon for three years, I don't have insight into where the Department is with regard

to implementation of specific BBP recommendations, so I can't answer which initiatives I would intend to modify or discontinue.

**102. Which, if any, elements of the Better Buying Power initiative would you intend to expand and continue due to their positive effects on acquisition outcomes?**

Since I have been gone from the Pentagon, I don't have insight into where the Department is with regard to specific BBP recommendations, so I can't answer which recommendations I would expand or continue.

**Successful Acquisition Programs**

**103. In your experience, what specific acquisition programs did you think were exemplary or successful?**

Among the most successful programs I supported were MRAP and JLTV. They had clear requirements, sufficient and stable funding, timely decisions, a clear understanding of risks and leadership advocates. On the MRAP and JLTV programs the Marine Corp managed the requirements and they did a great job keeping requirements stable and giving trade space up front to make the right cost-effective trades to deliver the needed capability. JLTV was interesting, because between the original concept phase and decision to award a production contract, the importance of MRAP like protection became a driver. The PM was able to deal with a change in requirements. The collaboration of the Services, OSD, and Congress was also critical across two Services and with OSD and Congress. I will cite one other program that I was impressed with—Next Generation Jammer (NGJ). While my experience with this program is three years old, what impressed me was how strongly the Program Manager “Owned the Technical Baseline”. Owning the technical baseline was a phrase from Bill LaPlante when Bill was the Senior Acquisition Executive of the Air Force. What it means is that the Program Office is responsible for understanding the technical and engineering intricacies of the program. As of three years ago, NGJ was a hard program with little weight margin—what made it successful is that the PM understood the risk completely, and had a plan, with options to mitigate the risk. I don't know how the NGJ has ultimately turned out, but as of three years ago was exemplary.

**104. What lessons do you draw from the example of those programs?**

My primary lesson from these programs is the value of top technical talent, and empowered leadership. These strengthen my resolve to work on the professional development path of members of the acquisition community. All three of these programs were successful because they had a strong, empowered manager. The USD(A&S) has indicated that, if confirmed, I will help her with developing the workforce

**105. How do you intend to apply these lessons more broadly across the Department of Defense?**

If confirmed I will look to use the case studies of MRAP, JLTV, NGJ, and other successful programs to shape professional development education for the acquisition career field. I really

believe that training to be adaptable with solid engineering plans will improve the Acquisition performance across the Department.

### **Contracting for Services**

**In fiscal year 2016, the acquisition of services portfolio accounted for more than \$150 billion or just over half of the Defense Department's total contract spending. If confirmed as DUSD(A&S), you would be responsible for policy and procedures and oversight of the acquisition of services across the Department.**

**106. What experience or background do you have in managing or overseeing the service acquisition portfolio of a large organization?**

When I served as the Director for Plans and Programs in Office of the ASD(R&E), I was responsible for the oversight of the Department's Science and Technology portfolio totaling over \$10.5 billion. Embedded in this portfolio were a number of service contracts. If confirmed, I expect to leverage my experiences and meet with experts in the Office of the USD(A&S) staff to support DoD's efforts to enable more consistent management and oversight of the acquisition of services, use data analysis, and provide for stewardship of services contracts.

**107. What is your understanding of how the Department of Defense determines whether to use civilians or contractors for services needed by the Department of Defense?**

I understand there are statutory and regulatory policies for determining the when and where government civilians or contractors are needed for the Department of Defense service contracts. After the statutory and regulatory guidance, I believe the Department should use the workforce mix that provides the greatest flexibility for cost. If confirmed, I will work with the Office of the USD(A&S) staff to get a better understanding of current guidance, and if required, work with DoD / government agencies and Congress to get the best "bang for the buck".

**108. What is your view on using staff augmentation contracts at headquarters level offices?**

In general, my view on using staff augmentation contracts at headquarters is that they these contracts should only be used to allow the completion of the mission for less cost. In no cases should service contracts be used for inherently government functions, and I believe the government should not contract critical thinking. Further, the Department must follow any legislative or executive cost caps. I recognize for some routine functions, contract personnel can provide a necessary function for lower cost, but headquarters staffs should be sized to be lean and effective, in my opinion.

**109. What is your assessment of the Department's ability to perform oversight on the use of service contracts, including understanding the number and cost of these**

**contracts and the potential duplication of provided services? What steps would you take to improve accountability and oversight in service contracting?**

The Department manages tens of thousands of services contracts and obligates more than \$150B for services every year. The Department's January 2016 services acquisition instruction (DoD Instruction 5000.74) established new and improved oversight tailored for services. Since the instruction has been in place for two years, I believe it is important to review and update this guidance, after assessing the impact it has had. If confirmed, I will work with Office of the USD(A&S) staff to understand the impact of this new instruction, and recommend changes, as required. In any case, management and transparency must be a priority in services acquisition. If confirmed, I will work to support this transparency.

**110. How would you improve stewardship of services contracts?**

If confirmed, I will work with my Department counterparts to build upon recent Department-wide efforts to assess if the DoD is improving, and then reflect needed changes in policy, assigned responsibilities, and direction for the acquisition of services. I believe we must ensure that the management and stewardship of services contracts is being appropriately executed and is taking advantage of the best practices in the commercial realm which could be leveraged within the Department of Defense, and consistent with DoDI 5000.74.

**111. Do you feel that the Department has the data, including reporting and analysis systems, to understand spending on service contracts?**

I have been told that the Department has the requisite data and tools available to analyze services contracts, but I have not seen it or evaluated the data. If confirmed, I will look at the analytics surrounding services contracts, because even only a 5% improvement would equate to \$7.5B available for other Department capabilities.

**112. What is your view on the use of OMB Circular No. A-76 to increase public-private competition for determining whether commercial activities should be performed under contract with commercial sources or in-house using government facilities and personnel?**

In my experience, I have not seen evidence that A-76 produces greater performance for cost for commercial activities. I would welcome any analysis that demonstrated value, as I believe decision makers should have maximum flexibility to shape their workforces to meet the mission in the most appropriate, effective, and efficient means. I think A-76 actions could potentially be one of these tools. If confirmed, I will work with my counterparts across the Department to ensure that decision makers have the necessary tools and flexibilities to deploy best industry and commercial practices

**113. What do you believe is the most important factor for determining whether a services role should be performed by government or contractor personnel: cost, flexibility, efficiency, ability to meet mission, or some combination thereof?**



My belief is that the most important factor for determination of whether or not a service role should be performed by government or contractor will vary depending upon the application. First and foremost, if the work is inherently governmental, the work should not be competed as a service contract. Beyond the need to only use government personnel for inherently government functions, I believe the decision needs to start with a very clear definition of specific tasks. From there, the program manager needs to determine the short and long-term costs of using the different types of personnel. If confirmed, I would support a guidebook that lays out the dimensions and considerations and trade space for the of the type of personnel to use, subject to the prioritization of other tasks and products.

**114. What steps will you take to improve the quality of data collected and the analysis performed on that data so as to better understand and control spending on service contracts, and improve management of these activities?**

I believe that the Department is now beginning to leverage the power of data analysis (data analytics) to provide insights that will enable it to control spending and maximize efficiency. If confirmed, I will ensure that the robust use of data analysis, bolstered by the necessary tools, is employed at every level of the Department to inform contracting service decisions. This would include not only validating the data that is currently being collected to see if the data are sufficient and accurate, but also taking the necessary steps in implementing policies and processes to ensure data-driven decision-making in the management of services acquisitions.

**Operational Contract Support**

**Over the past decade, the Department has significantly improved the planning, execution, and oversight of contracts supporting deployed forces in Iraq, Afghanistan, and other areas, to include logistics, maintenance, base life support, and static and movement security. These improvements were enabled in part by coordination with interagency partners that took place frequently, and at a high level.**

**115. Given that the Department is increasing its presence in certain areas, if confirmed, how do you intend to sustain the gains made in the oversight and management of operational contract support activities currently executed by the Office of the Deputy Assistant Secretary of Defense (Program Support) during the reorganization of the Office of the Under Secretary of Defense for Acquisition and Sustainment?**

If I am confirmed, supporting the Secretary's goals of ensuring that the joint force is ready to compete, deter, and win in an increasingly complex global security environment will be priority. To the extent that operational contract support is part of this, I will make this a priority. Properly executed, I believe contracted support can deliver responsive capabilities to joint commanders to meet mission objectives. I will ensure that the Department maintains and builds upon advancements in planning, executing, and overseeing contracted support institutionalizing key tenets and lessons learned of Operational Contract Support in the Department's guidance, policies, and processes. Strong interagency relationships are essential to our success and I will champion forums that provide this opportunity.

**Technical Data Rights**

**116. Do you think that the Department of Defense has appropriate access to technical data packages for weapons systems and software in development and sustainment?**

I don't know, right now, if the Department has appropriate access to technical data packages, but if confirmed, will work with the Assistant Secretaries and the Services to address data rights. I think the data rights needs should be addressed in the initial acquisition strategy, and should be developed by the Program Manager and the sustainment community. The amount of data rights that are needed will vary depending upon the long-term logistics strategy. This is one area that I believe more training is needed, and the Department needs to develop more policy guidance, and if confirmed, will work with the Office of the USD(A&S) staff to address data rights

**117. Is it worth spending more money in programs earlier in order to obtain technical data packages?**

I believe in many cases, it is worth spending more money to obtain technical data packages. The answer to whether or not it is worth spending more money on technical data rights depends upon the life cycle acquisition strategy, and what the government will do with the data. If the government is going to conduct organic maintenance, purchase of data rights is essential, and it is worth spending more money. There are variations on data rights that should be considered—complete data rights and interface specifications are both a form of data rights, but will drive different costs. In general, I think data rights will help control life cycle costs. Also, if the modernization strategy is built on use of open systems, the government also needs to either own the technical data or have strong data rights. I also understand that the Government – Industry Advisory Panel established by Section 813 of the FY2016 NDAA addressed this issue, and I look forward to reviewing their report.

**118. How will the use of open systems architectures and acquisition strategies improve the Department's ability to modernize and sustain its systems?**

I strongly support the use of open system architectures. Simply, open systems open the developer pool for follow on improvements. Open systems enable competition which reduces the cost of modernization and sustainment. Industry standard interfaces may help us better meet emerging warfighter requirements including the ability to leverage innovative commercial solutions from traditional and non-traditional defense contractors.

**119. Does the Department need a different approach to access to technical data when dealing with primarily commercial companies?**

Yes. In the modern information-based world, data and information are the commodity. If this is of value to the Department, the Department must pay for the data. If confirmed, I will review the result of recent advisory panels and the current guidance to the Department's acquisition enterprise, and determine if changes are needed.

**Technology Transition**

**The Department of Defense continues to struggle with the transition of new technologies into existing programs of record and major weapons systems and platforms. Further, the Department also has struggled with moving technologies from Defense programs or other sources rapidly into the hands of operational users. The Research and Engineering enterprise will have primary responsibility for development, but the Acquisition and Sustainment enterprise must do its part to address transition of technology development programs into acquisition programs.**

**120. What impediments to technology transition do you see within the Department?**

It has been my experience that a lot of people within the Government and industry talk about the “Valley of Death” going from 6.3 to 6.4 and acquisition programs as a fait accompli. I think there are some institutional barriers to technology transition—two of which frequently cited are the rigidity of acquisition programs and alignment of funding when a program is ready to transition. The authorities of Section 804 middle tier of acquisition address the barrier of acquisition rigidity. For budget, the problem is more complex. Because of the way the Defense budget is developed, it is very hard to fund an unproven technology as an acquisition program. If there were a flexible prototype and early development fund available to the Services, I believe that technology that were matured and proven would move more easily into production.

**121. If confirmed, what steps, if any, will you take to enhance the effectiveness of technology transition efforts?**

If confirmed, I would emphasize the need for modular open system architectures and champion agile acquisition initiatives that use prototyping and experimentation to demonstrate operational utility before committing to a Program of Record. Further, I would support a review within the Department and with Congress that would allow seed money to keep successful technology programs alive while aligning the complete budget. This latter recommendation is more complex, and would have to be worked closely with Congress.

**122. What can be done from a budget, policy, and organizational standpoint to facilitate the transition of technologies from science and technology programs and other sources, including small businesses, venture capital funded companies, and other non-traditional defense contractors, into acquisition programs?**

This is really a question for the Under Secretary for Research and Engineering, but simply, more flexible transition funds in the year of execution, subject to senior leader oversight.

**123. Do you believe that the Department’s science and technology organizations have the ability and the resources to carry technologies to higher levels of maturity before handing them off to acquisition programs?**

Yes, I think the Department’s S&T organizations have the ability and resources to carry technologies to higher levels of maturity, but again, this is a policy issue for the Under Secretary (Research and Engineering). I think the real question is whether or not the Department has the

resources (people) necessary to conduct both applied research and technology development to higher levels of maturity.

**124. What steps, if any, do you believe the Department should take to ensure that research programs are sufficiently funded to reduce technical risk in programs so that technological maturity can be demonstrated at the appropriate time?**

I believe all necessary tools exist in the process for budget development to allow research programs be sufficiently funded to reduce technical risk. The Secretary of Defense sets the broad guidance for budget allocation, and the USD(R&E) and the Components have the authority to allocate budget. I don't believe any additional steps are required.

**125. What role do you believe Technology Readiness Levels and Manufacturing Readiness Levels should play in the Department's efforts to enhance effective technology transition and reduce cost and risk in acquisition programs?**

From my time in the Pentagon, I thought technology readiness levels and manufacturing readiness levels were a good forcing function to have program managers and senior leaders pay attention to technology maturity and manufacturing maturity. I did not believe they were sufficient to reduce cost and risk in acquisition program, because in neither assessment was a systematic assessment of what steps would be required to retire the risk. If confirmed, I would be very comfortable in supporting a Cross Functional Team to address best practices to address technical and manufacturing risk, and I would also include system engineering risk assessment.

**Organic Industrial Base**

**126. What is your assessment of the status of the facilities and workforce in our depots, logistics centers, arsenals, and other elements of the organic industrial base?**

My assessment of the status of our organic industrial base capabilities, both facilities and workforce, is that they need deliberate review and may need reinvestment after over a decade and a half of conflict. On July 21, 2017, President Donald J. Trump signed Executive Order (EO) 13806 on Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States. The EO directs the Secretary of Defense to conduct a whole-of-government effort to assess risk, identify impacts, and propose recommendations in support of a healthy manufacturing and defense industrial base – a critical aspect of economic and national security. Through this effort, the Department will identify the most prescient challenges facing our organic industrial base. This 13806 review will provide a basis upon which to take further action, to include potential investment.

**127. What role does the organic industrial base play in modernization efforts and in the sustainment of warfighting capabilities?**

The organic industrial base is an essential component to each of the Services' modernization efforts and should be fully leveraged to the maximum extent possible. The creation of boutique sustainment solutions that bypass our established capabilities is both duplicative and costly. Improving the health of the organic industrial base is of paramount importance to improving

warfighting readiness, lethality, and reducing total life cycle costs. Inconsistent resourcing, annual Continuing Resolutions, and Budget Control Act level budgets have challenged the Department's ability to achieve balanced capability and capacity between both the private and public sectors. If confirmed, I will work with the USD(A&S) staff to reverse this trend by better leveraging opportunities to partner with industry to adopt best practices, preclude unnecessary duplication of capabilities, while fully leveraging our organic industrial base. The goal is to ensure core capabilities are sustained, balanced with private sector industrial base requirements, and available to surge to meet future wartime and other emergency operations.

**128. What types of initiatives and investments should be made to increase the capabilities of the organic industrial base to meet future defense sustainment requirements, especially in emerging areas like software sustainment?**

The investments in our organic industrial base should ensure we are postured to meet future sustainment requirements in the most effective and efficient manner. This is above the investment to establish new capability and investment to modernize, improve and preserve existing infrastructure are separate and distinct requirements. If confirmed, I would examine, with the Office of the USD(A&S) staff, investments at our depots, shipyards or arsenals, while being cognizant of the fundamental differences between hardware capabilities, and software capabilities. For software, I would support investment to ensure ownership of the technical baseline critical to the timely, affordable, and effective software sustainment.

**Operational Energy**

**In his responses to the advance policy questions from this Committee, Secretary Mattis talked about his time in Iraq, and how he called upon the Department of Defense to “unleash us from the tether of fuel.” He stated that “units would be faced with unacceptable limitations because of their dependence on fuel” and resupply efforts “made us vulnerable in ways that were exploited by the enemy.”**

**129. Do you believe this issue remains a challenge for the Department?**

Yes.

**130. If confirmed, what specific steps will you take to unleash the Department from the tether of fuel?**

When I headed the Energy Security Task Force of the Department, we looked at the issues with fuel and operational efficiency. As I reviewed the 2018 National Defense Strategy, I did note that there is framework to continue to address these issues. When I ran the operational energy task force, the real issues revolved around fuel consumption rates and weight. The Department wanted longer “legs” for the available fuel, and no increase in weight. Operational commanders did not want to sacrifice operational performance for fuel efficiency, and as a former commander, I fully appreciated this. Therefore, any consideration of operational energy initiatives needs to start with input from the Operational Commanders, but in reality, the overall problem is cross-functional, with technology, engineering, system development, and cost aspects. I am aware the Department continues to invest in energy programs, and if confirmed, I

would review these for sufficiency. If more work is needed, and if confirmed, I would push for a cross functional team to develop options for the Department leadership.

**131. If confirmed, what priorities would you make for investments in and deployment of operational energy technologies to increase the combat capabilities of warfighters, reduce logistical burdens, and enhance mission assurance on our installations?**

If confirmed, I would consult with operational commanders and Office of the USD(A&S) staff to determine if the current initiatives in the Department are sufficient. If not, I would encourage additional initiatives be developed, under the oversight of the proposed cross functional team mentioned in the previous answer. Any initiative would have to be supported with cost-benefit analysis and wargaming, then would have to compete in the budget development process.

**132. If confirmed, how will you consider operational forces' energy needs and vulnerabilities during training exercises, operational plans, and war games?**

As I understand it, the Military Services already account for energy risks in many Title 10 wargames. The National Defense Strategy, the emerging threat environment, and supporting operating concepts each have implications for how we move, store, and deliver energy around the battlespace. If confirmed, I will seek lessons learned from the Combatant Commands, Military Departments and Military Services, the Joint Staff, and Defense Agencies to understand how wargames and exercises can be used to evaluate energy related investment, and apply quantitative analytics and data, as called for in the National Defense Strategy, to demonstrate how different investments might improve Joint force lethality.

**Energy and Acquisition**

**133. How can our acquisition systems better incorporate the use of energy in military platforms, and how, if at all, are assessments of future requirements taking into account energy needs as a key performance parameter?**

In general, the earlier we consider energy – or any other attribute – in the requirements and development process, the more effectively we can affect the design and capability of the component or system. As a former senior official with responsibility for operational energy for about 18 months, I believe energy consumption, use, and fragility of the fuel supply chain should be addressed in the acquisition strategy. I have mixed feelings about energy as a key performance parameter (KPP). The implementation of energy KPPs was exceptionally difficult, because KPPs are a binary yes-no answer to whether or not a program proceeds. Energy use is not a binary factor, and depends on a vast number of ancillary factors. Consequently, the question of energy factors in acquisition is very complex. If confirmed, I would look at how the Department currently addresses operational energy concerns in acquisition, then work with the appropriate staff in USD(A&S) and the Military Department and Military Services to determine if the current approach is satisfactory.

**Environment**

**134. If confirmed, will you comply with environmental regulations, laws, and guidance from the Environmental Protection Agency?**

Yes. I will observe all legal requirements including those related to the environment.

**135. If confirmed, will you make the same level of investment for the Department of Defense's Environmental Research Programs?**

If confirmed, I will review the Department's Environmental R&D programs, and the investment in them, to ensure they are meeting their objectives while supporting Administration priorities. The Department of Defense's research and development programs objective is to support the Department's mission by improving environmental performance and reducing associated costs.

**136. If confirmed, will you work with the Department of Interior and the U.S. Fish & Wildlife Service to find cooperative ways to ensure military readiness and protect the environment on and around U.S. military installations?**

Yes.

**Acquisition Workforce**

**137. What tools do you believe are needed to further shape the acquisition workforce?**

If confirmed, the Human Capital Initiative (HCI), which is responsible for training and strengthening the professional acquisition workforce development would be one of the specific offices reporting to me. I know the HCI Office has been working quite hard at strengthening the workforce, and I have seen indication that the metrics are going in the right direction. If confirmed, I will review existing tools and authorities and make sure we are maximizing use to bring in, train and develop, and retain top talent. If additional tools are needed I will ask for support from Congress.

**138. Do you believe that more flexibility in compensation is needed to attract, recruit, and retain acquisition professionals to work for the Department of Defense?**

Yes. There is a theme that I hope is coming out in these answers. I believe the most important resource in the acquisition of capabilities for the Department is top quality people. The Department of Defense has one true advantage to attract top talent compared to industry—our people get to work on ~~cool~~/exciting projects. When there is only a small gap in compensation between industry and government, my experience showed these ~~exciting~~~~cool~~ projects allow the DoD to compete for talent. Unfortunately, many recent studies show the difference in entry level compensation in many engineering and technical areas is growing, and it is getting harder to compete for talent. Compensation reform must, therefore, be considered.

**140. Do you believe that federal ethics laws are a barrier to acquisition professionals moving in and out of government?**

Yes and no. I do believe Federal ethics laws concerning post-government employment, organizational and personnel conflicts of interest, and other sensitive areas are necessary to guarantee faithful stewardship of public resources. However, I also believe the Department should investigate ways to permit acquisition professionals to cross more easily from the public to the private sectors and vice versa, while meeting the requirements of good stewardship. Also, we need to look at expanding exchanges between DoD and the private sector, including industry, non-profits, and universities. These types of initiatives should provide opportunities for the department to gain access to the most highly-skilled acquisition professionals. This is the bedrock of effective acquisition, in my opinion.

**141. Do you foresee a need for longer assignments and career flexibility related to the Defense Officer Personnel Management Act relative to active duty acquisition professionals in order to keep them in place longer throughout the life of Major Defense Acquisition Programs on which they are working?**

As with the previous question, the balance of length of assignment and officer career progression is very complex, and is being struggled with in many career fields, beyond acquisition. I do believe, and I think there is analytic evidence that acquisition program performance improves with leadership stability. However, as a retired military officer, I recognize the need to grow General Officers who have breadth and depth. In acquisition, staying in one technical program for a very long period is good for the program, but does not really prepare the officer for the breadth needed for senior positions. I think the acquisition community needs to examine different career models, and work with the Services and the Under Secretary for Personnel and Readiness to develop options to balance the need for great program management with development of senior leaders, and if confirmed, this is something I would like to achieve.

**141. Do you believe that military personnel in the acquisition workforce should get Joint Professional Military Education credit for acquisition courses offered by the private sector or academia in lieu of those offered by the Department of Defense and the Defense Acquisition University?**

Yes, and if confirmed, I would support working with the Joint Staff, National Defense University and Defense Acquisition University on this effort.

**142. How do you believe the appropriate workforce mix should be determined between contractors, civilians, and military personnel within the acquisition workforce?**

As with many areas, the appropriate mix of workforce depends on the requirements and anticipated workload, and the ability to be flexible to meet future needs.

**143. What role can research activities at the Defense Acquisition University and in other organizations play to develop modern acquisition practices and tools,**



**including data analytics and system analysis tools, to support acquisition professionals?**

I believe the Defense Acquisition University should be the source of understanding the efficiency and effectiveness of training and professional development methods both inside and outside of government, and is critical to equipping the acquisition professional with increased understanding of the complex acquisition environment. Such research should include different training modalities (immersive training, advanced data and visual analytics, and so forth).

**144. What role should the Department play in ensuring that there is an adequate supply of technical talent available for the Department and industry partners to meet the technical challenges of the future?**

I believe the most important resource of any organization is people and their talent. For acquisition and sustainment, this talent is not exclusively, but largely a STEM (science, technology, engineering and mathematical) workforce. There is a lot of rhetoric around the nation about the need to enhance US STEM talent. It is not clear to me that this discussion has produced much in terms of results. I believe this is a national security issue, and as such, the Department and industrial partners should both play a role, and try new approaches to incentivize a continuing supply of talent for all national security needs, including the Department of Defense.

### **Test and Evaluation**

**In order to develop and deploy next generation weapons systems, the Department of Defense must have robust test and evaluation capability—including modern testing facilities and a well-trained technical workforce.**

**145. Will you make it a priority to ensure that the Department of Defense as a whole and each of the military services specifically, maintain their testing organizations, infrastructure, and budgets at levels adequate to address both our current and future needs?**

Yes, I believe test is a critical part of system development and sustainment, and if confirmed, to the maximum extent possible, I will support test infrastructure modernization consistent with other Department priorities. The maintenance of the most critical infrastructure for rapid acquisition efforts is captured in the Major Range and Test Facility Base (MRTFB) and should be a priority. If confirmed, I will work with staffs of the USD(A&S) offices, the USD(R&E) and the Director, Operational Test and Evaluation to maintain adequate test facilities, balanced against other Department priorities.

**146. Would you ensure that all testing organizations, including in the Office of the Secretary of Defense, have adequate resources to accomplish their missions?**

Yes, I believe testing is a critical part of system development, and if confirmed, will work with other agencies reliant on test resources, such as the USD (R&E), the Service Acquisition

Executives Offices and other stakeholders to support resourcing of testing organizations balanced with other Department priorities. This support includes OSD organizations.

**147. Will we be able to develop and deploy next generation weapons systems without a robust test and evaluation capability—including modern testing facilities and a well-trained technical workforce?**

No. The question, however, is not whether or not we would be able to develop and deploy next generation weapons systems without a robust test and evaluation capability, the question is will we be able to understand the risks and performance envelop of future weapons systems without a robust test and evaluation capability. Test and evaluation is important to reduce risk for performance and availability. To do so requires modern test facilities and a well-trained technical workforce. To me, this includes an expanded virtual (modeling and simulation capability) to allow more test for less cost. If confirmed, I will work with the Services and across the Department to address issues to ensure that we have adequate budgets, infrastructure, and the space and capabilities to support development of our current generation and emerging next generation technologies and weapons systems as well as modernization and sustainment of older systems; I will also work with the USD(R&E) to protect key development training assets.

**148. Will you work with the test and evaluation community to develop policies and procedures for testing programs being run under new authorities, such as Section 804 middle-tier?**

Yes.

**A natural tension exists between major program objectives to reduce cost and schedule and the test and evaluation objectives to ensure performance meets specifications and requirements.**

**149. What is your assessment of the appropriate balance between the desire to reduce new program cycle times and the need to perform adequate testing?**

There is not singular answer to this question. The amount of testing done should vary depending upon how quickly the capability is needed, how long the system will be in use, how much of a technical advance the new platform represents, and what is the mix of known and unknown technologies (to include software). I think for major programs, there needs to be an active healthy dialogue of the risks of delaying / slowing fielding with risk of minimal testing.

I believe this balance can be illustrated by considering two programs that I am familiar with: MRAP and the F-35. We fielded the MRAP as quickly as possible because US and Allied Forces casualties from improvised explosive devices were large and getting worse. The Department went from program start to fielding 28,000 vehicles in four years. There was testing, but it was developmental testing for the big parts of the project—does the under-body armor protect against a specific size explosive? Do the on-board electronics operate as anticipated, or do they interfere with each other, and so forth. A conscious decision was made to assign a very good test engineer as the Deputy Program Manager. Secretary Gates made the decision when to

deploy the vehicles based on the risk. We deployed well before complete testing had been finished, but based on the operational need, I believe the decision was right.

Compare MRAP to the F-35, a very complex platform with advanced capability, with what has been characterized as the most complex software suite ever fielded. This system needs more test, and takes us more of the development time. Again, different platform, different test protocols. My assessment is every program is different, and the appropriate balance between cycle time in most reduction and test should be made based on risk, and the appropriate stakeholders (operator, developer, tester) should all define the risk in their domain for decision at senior level.

**150. Under what circumstances, if any, do you believe we should procure weapon systems and equipment that have not been demonstrated through test and evaluation to be operationally effective, suitable, and survivable?**

I believe the Department should only field a weapon system without complete testing if the capability is urgently needed, and fielding will likely save lives. Thorough testing to determine a system's effectiveness, suitability, and survivability in an operationally realistic environment is important to inform production and fielding decisions. Procuring and delivering new weapons systems without conducting operationally realistic testing may expedite fielding and reduce the upfront acquisition costs, but can lead to increased life cycle costs, or if the fielded system does not perform adequately. However, urgent warfighter needs may require tailored testing to expedite fielding in which case the Department must balance the need for testing against the urgency of the requirement. This balance of structure and urgency should be a senior level decision, in my opinion. I am aware the Department still operates a forum, the Warfighter Senior Integration Group (W-SIG) to review needs of the deployed warfighter and provide solution with identified risk. The forum allows identification of the risk and allows the warfighter to assess need. I believe test sufficiency is addressed in this forum, and balanced with urgent needs. If confirmed, I vow to be cognizant of the tension between the need to test and the need to field, and will work to frame decisions for senior leaders, when appropriate.

**Congress established the position of Director of Operational Test and Evaluation to serve as an independent voice on matters relating to operational testing of weapons systems. As established, the Director has a unique and direct relationship with Congress, consistent with the statutory independence of the office.**

**151. Do you support the continued ability of the Director of Operational Test and Evaluation to speak freely and independently with Congress?**

Yes.

**152. Do you believe that the operational and developmental testing organizations in the Department and the military services are adequate to ensure an appropriate level of testing, and testing oversight, on major defense acquisition programs?**

Yes, I believe that the operational and developmental testing organizations in the Department and Services are adequate to ensure an appropriate level of testing and testing oversight.

**153. What are your views about the role of the Director of Developmental Test and Evaluation in ensuring the success of the Department's acquisition programs?**

I think the Director, Developmental Test and Evaluation is very important to the overall acquisition system of the Department, and the Department's DT&E organization should support Acquisition Program Managers and Chief Developmental Testers. I believe the DT&E and Chief Testers should have adequate resources to provide a reliable service.

**154. What role should the Office of the Secretary of Defense play in ensuring that adequate developmental test and evaluation are performed in acquisition programs?**

I believe the Office of the Secretary of Defense should support inclusion of a DT&E assessment as part of the Milestone decision of any Major Defense Acquisition Program, and I believe the Department needs to conduct enough developmental testing to ensure warfighters are equipped with affordable, effective, suitable, and survivable systems. If confirmed, I will ensure that guidance on developmental testing and evaluation is included in USD(A&S) guidance on program oversight.

**Cost Analysis and Estimation**

**155. What role will cost estimation and analyses play in your oversight over acquisition programs?**

I believe the role of the Cost Analysis and Program Evaluation office is to produce an Independent Cost Estimate of Major Defense Acquisition Programs. This is an important input into program credibility and risk.

**156. What is your assessment of the ability to estimate life cycle costs of major systems?**

My experience with the life cycle cost estimates provided by CAPE is three years old, so I can't provide a valid current assessment. What I can say is that, as of three years ago, the CAPE Independent Cost Estimate capability was improving, but far from perfect. Because I do believe strongly in an independent cost estimate, if confirmed, I will examine how the capability has progressed, and act, as appropriate. Additionally, as reexamination of the data collection and analysis methods in support of acquisition is one of the emerging responsibilities of USD(A&S), if confirmed, I will ensure CAPE viewpoints are injected into the data process development.

**157. What is your assessment of the ability to estimate life cycle costs of software-intensive and IT systems?**

Once again, my experience in this area is three years old. As of three years ago, I did not think the Department had a reliable method to estimate lifecycle costs of software intensive systems.

Software estimates are very hard because the technical areas are progressing so rapidly that it is not possible to converge on a reliable model. I am aware that the USD(A&S) has hired a special assistant for software, and is using the F-35 as a pilot case. I do not really believe this is a unique problem to the Department or to defense systems. There are additional assets available to the Department, such as the Software Engineering Institute, that may be able to assist in improving life cycle cost estimates.

**158. What steps will you take to improve the Department of Defense's cost estimation capabilities?**

I note the CAPE has the statutory requirement for producing cost estimates in the Department of Defense. However, if confirmed, I would not be comfortable stating "this is CAPE's responsibility" without attempting to help. Cost estimates form one of the basic pillars of acquisition programs. Good cost estimates rely on solid underpinning data. If confirmed, I would, with the Assistant Secretary for Acquisition, work with CAPE to determine what data they would need from the acquisition community to start to refine their estimates.

**There is growing concern, including from the Defense Innovation Board, that the Department of Defense does not make use of data to control acquisition costs and improve outcomes. Additionally, your position description states that you will establish standards and common data sets to facilitate appropriate program insight and inform decision-making in Services, Agencies, and the Office of the Secretary of Defense.**

**159. How do you intend to establish these standards and data sets?**

I will start by saying I strongly agree in principal with the Defense Innovation Board, and am very much data-driven in trying to improve management outcomes. If confirmed, I understand this is one of my high priorities. However, I believe we need to clarify what the Department is trying to achieve with data analysis, determine what visuals would help understand the data, and then look at what data will provide that insight. I have seen too many data centric projects fail because people started collection before they knew what would be done with the data. If confirmed, I would first need to understand the current status of the data collection efforts focused on performance and outcomes, because I am aware that the USD(A&S) is also very much data driven, and I believe some initiatives are underway. I would need to meet quickly with the members of the Defense Innovation Board to see if they can identify best practices in either industry or other government agencies. The Department (and I) needs to better understand the state of the art in data collection for understanding performance and outcomes industry. Additionally, I would meet with the Section 809 panel for their views. Once I had a broad baseline of current status, limitations of the current model, and best practice models in other agencies, I would work with other effected groups in the Pentagon to develop a data collection strategy and plan. I believe this will take time, but I also recognize the value, and if confirmed, vow to take this as far as possible over the coming several years. Also, if confirmed, I vow to keep Congress informed, and seek the views of Congress as to the adequacy of the approach.

**160. Who will you coordinate with to develop and establish these standards and data sets?**

If confirmed, I will seek input and coordinate with the organizations listed in the previous answer.

**161. Do you think the acquisition programs get access to, analyze, and share data in a manner that supports the cost analysis and evaluation needs of the Department?**

I do not know if acquisition programs currently have access to data to support cost analysis. If confirmed, I would have to better understand how much access the program managers have to reliable cost data, and if confirmed, would work to get the cost analysis and evaluation community together with the acquisition community. I believe that there is quite a bit of ongoing collaboration, but would seek to further that relationship to make sure we are accessing, sharing, and using data effectively across our organizations.

**Defense Industrial Base**

**162. What is your view of the current state of the U.S. defense industry?**

In my view, the US defense industry is mixed. Based on my experience in Europe and internationally, the main US primes are considered the “Gold Standard” for weapons system development. This is not to say that there are not good defense industries overseas, there are (such as BAE, Airbus, NAMMO, MBDA, and Kongsberg and others) industries in allied countries that can provide capability to the US. However, even though the US is “Gold Standard” for primes, I think there are some signs of concern. Numerous studies have pointed to obsolescence, foreign dependency, fluctuating demand, industry consolidations, and loss of design teams and manufacturing skills for critical defense products to continue to threaten the health of the industrial base, limit innovation, and reduce U.S. competitiveness in the global markets. I also believe there is some concern with second and third tier suppliers, but am aware that President Trump’s Executive Order 13806 has launched a review of the fragility of the industrial base.

**163. Do you support further consolidation of the U.S. defense industry**

In general, I support maintain a healthy industrial base that supports competition. I think that any industry consolidation must be assessed on a case by case basis. The Defense Industrial Base office in Office of the USD(A&S) will review each case based on the merits of competition, efficiency, and other factors, including antitrust evaluations by the Department of Justice and the Federal Trade Commission. I think the issue is too complex to provide a simple yes or no answer, but if confirmed, I welcome the views of others.

**164. What is your position on foreign investment in the U.S. defense sector?**

I think in general, the Department supports foreign direct investment in the U.S. defense sector, but I believe the Department has to consider the country and criticality of the technology on a case-by-case basis. However, as mentioned in the National Defense Strategy, maintaining the Department’s technological advantage will require changes to how we view our investment sources, particularly as we confront China’s predatory economics. The changes outlined in the recent Foreign Investment Risk Review Modernization Act (FIRRMA) will broaden the authorities of the Committee on Foreign Investment in the United States (CFIUS) to review

transactions for national security concerns. There are some industrial sectors, and some countries, that we would and should exclude. The enhanced provisions of FIRMMA in stiffening CFIUS is, I believe, a positive step.

**165. What role, if any, should the Department have in vetting and approving or disapproving such consolidation efforts?**

I believe the DoD should continue to support the Department of Justice and Federal Trade Commission as part of the Hart-Scott-Rodino process to review industrial consolidation. The DoD provides reviews of transactions impacting the defense industry. As a voting member on the Committee on Foreign Investment in the United States, the Department is involved in every decision the Committee makes. Additionally, with the approval of FIRMMA in the FY2019 NDAA, the Department will be an integral part of the regulation writing process

**166. Are there security concerns for why the Department of Defense should consider maintaining a domestic supply source for certain goods or materials?**

Yes.

**167. What steps, if any, should the Department take to ensure the continued health of the U.S. defense industry?**

I think the Department needs to understand the impact of changes in the defense industry, and how any changes in the base could erode the future security posture of the United States. I believe the USD(A&S) staff has led the Department response to Executive Order 13806. It is my understanding this report is either finished or finishing, and includes recommendations for a way forward. If confirmed, I will look at this report, and ensure there is a viable action plan to address the recommendations. This is, I think a good start.

**168. What role, if any, should the Department have in vetting and approving or disapproving such consolidation efforts?**

I believe the DoD should continue to support the Department of Justice and Federal Trade Commission as part of the Hart-Scott-Rodino process to review industrial consolidation. The DoD provides reviews of transactions impacting the defense industry. As a voting member on the Committee on Foreign Investment in the United States, the Department is involved in every decision the Committee makes. Additionally, should FIRMMA be approved, the Department anticipates being an integral part of the regulating writing process

**169. To what extent should the Department make more use of commercial technology and commercial industry? How can the Department make itself a more attractive customer to commercial industry?**

The FY2016 through FY2019 National Defense Authorization Acts provided what is arguably the most comprehensive acquisition reform since Goldwater-Nichols. The National Defense Strategy outlines business reform as one of three priorities for shifting to a great power competition. Acquisition reform efforts currently underway and those to start soon all aim to

make DoD a better business partner and a more attractive customer to traditional and non-traditional firms.

**170. How can the Department make itself a more attractive customer to commercial industry?**

I believe many of the recent reforms in the FY2016-2019 NDAs provide opportunities to make the Department more attractive to industry, primarily through the application of agile acquisition processes, like Section 804, "Middle Tier of Acquisition" and enhancement of the use of Other Transaction Authorities. If confirmed, I will seek industry's views on how well these, and other reforms, are working. I believe reforming acquisition processes to align to the way business works will enhance the Department's ability to leverage commercial technology for national security.

**171. Do you support the inclusion of Australia and the U.K. in the National Technology and Industrial Base (NTIB) as mandated by the National Defense Authorization Act for Fiscal Year 2017?**

Yes.

**172. What do you believe is the strength of the NTIB?**

The NTIB provides a valuable opportunity to enhance the integration of the industrial bases of Canada, the UK, Australia, and the US. Doing so will improve the interoperability of our armed forces and support preservation of the collective technological superiority of the four nations. The NTIB benefits each country individually by increasing access to NTIB members' knowledge and expertise, offsetting shortcomings in each country's industrial bases, and enhancing the overall reliability and robustness of supply chains. By removing barriers to the flow of knowledge, goods, and services, and increasing cooperation, coordination, and regular collaboration, the NTIB builds strength and resiliency of the defense industrial base ecosystem.

**173. Do you believe there are other countries emerging at candidates to be included in the NTIB?**

The current NTIB partners are wrapping up a series of pilot projects which will garner a path forward for how the NTIB structure will be operationalized, which will aid in determining how to possibly expand the relationship to other countries in the future. I do know, from my time in NATO, that nations like Norway would like to be included in the NITB.

**Manufacturing**

**174. Do you believe that more attention and resources need to be paid to the development of low cost, advanced manufacturing capabilities?**

I think the degree to which the DoD should be involved in resourcing advanced manufacturing needs to be dependent upon the product. If industry is already funding advanced manufacturing capabilities, I believe the Department should leverage the industrial investment. For Defense-



unique capabilities and products, I think any additional investment in advanced manufacturing should follow the standard budget process whereby the proponent defines the cost and benefit, and if the case is compelling, the Department will fund. If confirmed, I will work with USD(R&E) on the Department's strategy for developing low cost, advanced manufacturing capabilities and collectively decide on the prioritization and the alignment of resources to achieve the Department's objectives.

**175. How will you assess the effectiveness of manufacturing technology programs and the manufacturing institutes?**

I believe manufacturing technology has remained in the Under Secretary of Defense for Research and Engineering and I would look to him to make the case for defining the value of the manufacturing technology programs and manufacturing institutes.

**176. How will you work to ensure that advanced manufacturing capabilities are transitioned for use in the organic industrial base?**

If confirmed, I would work with the Assistant Secretary for Sustainment to develop and implement an enterprise-level strategy for transitioning advanced manufacturing capabilities/technologies into our organic industrial base. This strategy should include identifying methods and approaches for accelerating adoption of commercial best-practices. I will place a high priority on emerging advanced manufacturing capabilities to ensure the entirety of the organic industrial base is on par or ahead of competitor nations, as well as methods and approaches to transition them into both private and public sectors of the industrial base. The Department continues to move forward with integrating such capabilities including things like additive manufacturing.

**Foreign Military Sales**

**177. How would you describe the primary objectives of U.S. Foreign Military Sales (FMS)?**

I believe the Foreign Military Sales program is an important security cooperation tool that advances national security, foreign policy, and economic security objectives outlined in the National Security and National Defense strategies. FMS strengthens alliances and partnerships by promoting regional security, enhancing military-to-military cooperation, and enabling interoperability. Finally, based on my experience in NATO, the more nations that are using identical or complementary systems, the more interoperable the Allied force is. Consequently, I see economic, policy, and operational advantages to FMS.

**178. Do you believe that FMS are an important element to (1) ensure our friends and allies are adequately prepared to defend themselves and aid us in global security; (2) ensure the preservation of the U.S. industrial base; and (3) increase quantities to drive down costs for the United States and drive up innovation?**

As outlined in the previous answer, I believe FMS plays multiple roles in support of the Department's mission. FMS is a tool for the Department to support defense and strategic objectives. Through FMS the Department advances the global network of partnerships that

enable allies and partners to respond collectively to regional security issues. Our partners are able to build and sustain security capabilities for self-defense and multinational operations with the support of the FMS enterprise. FMS also plays an important role in protecting economic security through maintaining and strengthening the U.S. industrial base. FMS drives innovation and cooperation and also creates economies of scale that benefit both the Department and our international partners. FMS further improves the competitiveness of U.S. defense systems in the current global market. In our fiscally constrained environment, it is essential to maximize our resources at every opportunity, freeing critical funding to enable future innovation.

**179. If confirmed, what steps will you take to increase the speed of the FMS process while ensuring that the U.S. Government maintains good governance?**

Improving the speed of the FMS process while balancing good governance is a priority for the Department. If confirmed, I look forward to working with stakeholders within the Department of Defense, and with industry, to support the reforms currently underway in the security cooperation enterprise. Specifically, I would seek to improve requirements planning to minimize the time and costs associated with developing exportable weapons systems; build upon initiatives to streamline contracting processes; identify, validate, and track FMS contracting milestones, standards, and actual performance to identify areas where further improvements may result in greater efficiency; and work with Congress to address any legislative changes that may be needed to assist with spending this process.

**180. What responsibility, if any, do you believe the Department generally and the A&S directorate in particular have to facilitate additional foreign sales of U.S. weapons and equipment?**

I believe the DoD and USD(A&S) (in particular), have the responsibility to obtain as much capability as possible for a specific investment. Foreign military sales can support this goal, so I believe USD(A&S) has a role in supporting FMS. Having interoperable forces reduces the demand on US systems. Foreign sales do help support economic order quantities. Finally, FMS to our allies supports alliance building. I believe the Department has clear responsibility to work with our Foreign Partners and our warfighters to address important capability gaps and maintain interoperable forces. USD(A&S) leadership should create opportunities to implement efficiencies in contracting processes to improve upon our actions to build partner capability and capacity while strengthening the industrial base.

**181. What is the appropriate role for Defense Department officials in the FMS negotiation process with respect to (1) negotiating pricing on behalf of foreign governments; and (2) facilitating the foreign sale of U.S. weapons and equipment?**

The Defense Federal Acquisition Regulation Supplement (DFARS 225.7304) prohibits foreign government participation in or observation of negotiations between the U.S. government and the contractor during negotiations over cost or price. The DoD contracting officer is the sole negotiator with Industry. Contracting officers must balance the need for appropriate firewalls and being responsive to the customer, while maintaining close communication with industry. The speed and tenor of the interaction are critical to overall success. If confirmed, I plan to assist in the promotion of and advocacy for U.S. defense systems while staying within the government role.

**182. Should the Department, in coordination with the State Department, create a system to allow the FMS process to be used for programs other than programs of record?**

If confirmed, I would welcome any number of proposals to improve the overall capacity and capability of the Department of Defense. If development of a system to allow FMS-like sales be used for non-programs of record, I would support a look at this, subject to the advice and consent of the General Counsel of the DoD. I understand that there are a number of challenges that would need to be addressed, technology release and foreign disclosure processes, so close coupling with the Department of State. Improving DoD support for transfers of non-programs of record could improve U.S. responsiveness in building partner capability, interoperability, and capacity while bolstering the national defense industrial base.

**Ballistic Missile Defense**

**When the Missile Defense Agency (MDA) was created in 2002, the Secretary of Defense authorized the use of non-standard acquisition rules and requirements generation processes in order to field an initial set of missile defense capabilities on an expedited basis. That fielding has now taken place, although numerous upgrades and corrections are being developed and implemented. Each of the elements of the Ballistic Missile Defense System (BMDS) would normally meet the criteria for a Major Defense Acquisition Program (MDAP), but none of them has been managed as an MDAP. Furthermore, for most of MDA's existence, all of its programs were funded with Research, Development, Test, and Evaluation (RDT&E) funds, even for non-RDT&E activities. Currently, BMDS acquisition programs are overseen by the Director of MDA and by the Missile Defense Executive Board (MDEB), which is chaired by the USD(AT&L).**

**183. What management and acquisition changes or improvements, if any, do you believe are warranted for the ballistic missile defense programs?**

The United States has made considerable progress in moving toward a layered missile defense system. The Missile Defense Agency successfully developed the Ballistic Missile Defense System on an accelerated timeline using non-standard requirements generation processes and unique program acquisition authorities, and Services have also made progress in fielding new air and cruise missile defense systems. As the Department moves to develop and field new missile defense and defeat capabilities, it must ensure management of these programs is aligned with policy objectives and priorities, and supports the needs of its Combatant Commanders.

**184. If confirmed, what steps, if any, would you plan to take to ensure that the ballistic missile defense programs of the Department of Defense follow sound acquisition and management practices and processes?**

The Missile Defense Executive Board as a senior deliberative body promotes the continued improvement of the ballistic missile capability by reviewing and making recommendations regarding the acquisition strategy to develop and field an operational missile defense capability. If confirmed, I will review the current acquisition oversight authorities to ensure the sustainment

of current missile defense capabilities and the development of future capabilities to defeat evolving complex missile threats.

**For many years the Department of Defense and Congress have agreed on the principle that major weapon systems should be operationally effective, suitable, survivable, cost-effective, and affordable, and should address a credible threat.**

**185. Do you agree that any ballistic missile defense systems that we deploy operationally must be operationally effective, suitable, survivable, cost-effective, and affordable, and should address a credible threat?**

Yes, unless some strategic imperative dictates an urgent need to field a system prior to complete testing is done. As we saw from North Korea, we must be able to quickly field even marginal improvements to our defensive systems in response to the rapidly evolving threat.

**186. If confirmed, what steps, if any, would you take to ensure that the BMDS and each of its elements meet these criteria?**

From 2007 to 2015, I was the senior R&E representative on the Missile Defense Executive Board (MDEB) which was established to recommend and oversee implementation of strategic policies and plans, program priorities, and investment options to protect our Nation and our allies from missile attack. I thought this was an effective forum. If confirmed, I will work with the MDEB key stakeholders to develop assessments as to how well this forum still works, and just as required.

**For many years, Congress and the Department of Defense have agreed on the principle of “fly before you buy,” namely demonstrating that a weapon system will work in an operationally effective, suitable, and survivable manner before deciding to acquire and deploy such systems. This demonstration requires rigorous, operationally realistic testing, including independent review by the Office of the Director of Operational Test and Evaluation, to provide an accurate assessment of how weapon systems will perform in combat conditions.**

**187. Do you agree that ballistic missile defense testing needs to be operationally realistic, and should include assessments by Operational Test and Evaluation, in order to assess operational capabilities and limitations of ballistic missile defense systems, prior to making decisions to deploy such systems?**

Yes, unless some strategic imperative dictates an urgent need to field a system prior to complete testing is done. As we saw from North Korea, we must be able to quickly field even marginal improvements to our defensive systems in response to the rapidly evolving threat.

**188. If confirmed, what steps, if any, would you take to ensure that the BMDS, and each of its elements, undergo adequate independent operational test and evaluation?**

If confirmed, I will work with the Director, Operational Test and Evaluation and the Director, Missile Defense Agency (MDA) and the USD(R&E) to ensure the MDA Integrated Master Test Plan is adequate. Since the responsibility for MDA has moved to USD(R&E), it is possible that the R&E will take lead. If so, I will support to the extent he needs.

**The Missile Defense Agency has developed ballistic missile defense systems and capabilities and procured inventories of missile defense element weapon systems. However, the military departments are notionally intended to procure, operate, and sustain operational missile defense systems.**

**189. What do you believe is the appropriate role for the military departments in the procurement, operation, and sustainment of ballistic missile defense systems, and at what point do you believe these systems should be transitioned and transferred to the military departments?**

I don't have strong enough feelings one way or the other as to where the missile defense programs should transition to the Services. Since USD(R&E) is responsible for Missile Defense Agency, I believe this is something that R&E should lead the Department in formulating a position that is consistent with Title 10 U.S.C.

#### **Nuclear Weapons Council**

**If confirmed as DUSD (A&S), you may assist in chairing the Nuclear Weapons Council (NWC).**

**190. In your view, what are, or should be, the highest priorities of the NWC?**

The Nuclear Weapons Council (NWC) is responsible for facilitating the coordination of and establishing priorities for the DoD and DOE regarding our joint responsibility for the U.S. nuclear weapons stockpile management. With the publication of the 2018 Nuclear Posture Review (NPR), I would expect the NWC is focused on executing the vision and implementing the tasks. My highest priorities align with the primary priorities outlined within the NPR which are threefold: creating a modern and flexible future stockpile; building and sustaining a resilient and responsive infrastructure; and maintaining future option space.

**191. The Department of Defense and the National Nuclear Security Administration have in the past struggled to synchronize nuclear warhead programs with delivery vehicle programs. How do you think the two organizations can improve cooperation to ensure programs deliver modernized capability on time?**

I understand the DOE-DOD have worked at deepening their relationship at every level, from action officers to senior leadership. As mentioned before, the Nuclear Weapons Council is our Department's coordinating body on these matters. The NWC is statutorily mandated to meet quarterly but, due to the volume of modernization programs for delivery platforms and warheads,

the Council has been meeting monthly to timely address critical decision points and maximize leadership awareness of cross-program risk.

**192. What is your understanding of the role that DUSD (A&S) will play in the implementation of the recommendations of the 2018 Nuclear Posture Review?**

As a Deputy, my role would be to assist the USD(A&S) on the eleven tasks she is responsible for implementing in the NPR, and if confirmed, I would meet with her to define specific responsibilities, and I would expect to also work with the Assistant Secretary for Nuclear, Chemical and Biological Programs.

**Base Realignment and Closure**

**In During the FY18 budget posture hearing, Secretary Mattis stated that he is not confident in the analysis that was performed indicating the extent of excess capacity. The FY19 budget request, the Secretary of Defense did not request another round of Base Realignment and Closure (BRAC). As you know, the most recent round of BRAC cost tens of billions of dollars to execute and is widely considered a failure as a cost savings exercise.**

**193. Do you believe we need another round of BRAC?**

If confirmed, I will look at our infrastructure and how it can best support implementation of the National Defense Strategy.

**194. Are you aware of any efforts to address excess capacity using existing authorities that do not involve another BRAC round?**

The Services, as a general course of action, seek to eliminate unused buildings and facilities but, if confirmed, I will work with the Office of the USD(A&S) staff to explore specific options for optimizing military value outside of a congressionally authorized BRAC.

**195. If confirmed, what changes, if any, would you recommend to the BRAC statute to ensure a more efficient and effective BRAC process?**

If confirmed, I will work within the Assistant Secretary of Defense for Sustainment and his or her staff for specific recommendations regarding the BRAC statute. If there are specific recommendations, I would work with Congress to determine a path forward.

**Congressional Oversight**

**In order to exercise its legislative and oversight responsibilities, it is important that this Committee and other appropriate committees of Congress are able to receive testimony, briefings, and other communications of information.**

**197. Do you agree, if confirmed, to appear before this Committee and other appropriate committees of Congress?**

Yes

**198. Do you agree, if confirmed, to appear before this Committee, or designated members of this Committee, and provide information, subject to appropriate and necessary security protection, with respect to your responsibilities as the DUSD(A&S)?**

Yes

**199. Do you agree to ensure that testimony, briefings, and other communications of information are provided to this Committee and its staff and other appropriate committees in a timely manner?**

Yes

**200. Do you agree to provide documents, including copies of electronic forms of communication, in a timely manner when requested by a duly constituted committee, or to consult with this Committee regarding the basis for any good faith delay or denial in providing such documents?**

Yes

**201. Do you agree to answer letters and requests for information from individual Senators who are members of this Committee?**

Yes

**202. If confirmed, do you agree to provide to this Committee relevant information within the jurisdictional oversight of the Committee when requested by the Committee, even in the absence of the formality of a letter from the Chairman?**

Yes