

Senate Armed Services Committee
Advance Policy Questions for Dr. John F. Plumb
Nominee to be Assistant Secretary of Defense
for Space Policy

Duties and Qualifications

Section 955 of the Fiscal Year (FY) 2020 National Defense Authorization Act (NDAA) created the position of the Assistant Secretary of Defense for Space Policy (ASD(SP)) whose principal duty “shall be the overall supervision of policy of the Department of Defense for space warfighting.” You are the first person nominated for Senate confirmation to this position.

1. What is your understanding of the duties and responsibilities of the (ASD(SP))?

ANSWER: As required by statute, the primary duty of the Assistant Secretary of Defense for Space Policy (ASD(SP)) is the overall supervision of policy of the Department of Defense for space warfighting, pursuant to Section 138(b)(5) of Title 10, U.S.C. In carrying out these responsibilities, the ASD(SP) advises and represents the Secretary of Defense on national security space strategy, policy, plans, capabilities, and operations to achieve national security objectives. The ASD(SP) also has related implementation oversight responsibilities. Additionally, as part of an ongoing reorganization, the ASD(SP) will have similar advisory, representational, and implementation oversight responsibilities regarding nuclear, missile defense, cyber, and countering weapons of mass destruction policies, strategies and programs. This reorganization will also designate ASD(SP) as the Principal Cyber Advisor to the Secretary of Defense with responsibility for, among other things, overseeing the development and execution of the Cyber Posture Review and Defense Cyber Strategy.

2. If confirmed, what additional duties and responsibilities do you expect the Under Secretary of Defense for Policy (USD(P)) to prescribe for you, particularly in light of the lines of effort comprising the National Defense Strategy (NDS)?

ANSWER: The lines of effort from the 2018 NDS – building a more ready and lethal force; strengthening alliances and partnerships; and reforming DoD operations – remain very relevant to the space security challenges facing the nation. If I am confirmed, I expect the USD(P) will ask me to prioritize oversight and implementation of the reforms in the national security space organization of recent years – such as creation of the United States Space Force, the United States Space Command, and the ASD(SP) – to advance those lines of effort and strengthen integrated deterrence under the forthcoming National Defense Strategy. Additionally, consistent with the ongoing reorganization of the office, I expect he would task me to focus on achieving closer integration in our approaches to the nuclear, missile defense, cyber, space and countering weapons of mass destruction mission areas. Space is a common element in each of these mission areas, and how we leverage them together will be important to securing our overall national security interests across all domains and regions.

3. What background, experience, and expertise do you possess that qualify you to serve as the ASD(SP), including in each of the following areas:

- **Development of internationally-applicable space policy, rules, and normative behaviors in space.**

ANSWER: As a former acting Deputy Assistant Secretary of Defense for Space Policy, a former director for defense policy and strategy on the National Security Council staff, and the current Chief of Government Relations for the Aerospace Corporation (a Federally Funded Research and Development Center), I have substantial expertise working on space policy, rules, and normative behaviors in space. My academic background in physics and aerospace engineering combined with my hands-on engineering experience across multiple disciplines as a submarine officer has allowed me to apply a technical understanding of the physics and engineering dynamics of spaceflight to help inform the scope of possible policy solutions for the domain.

- **The national security space policy process.**

ANSWER: As a former acting Deputy Assistant Secretary of Defense for Space Policy, a former director for defense policy and strategy on the National Security Council staff, and the current Chief of Government Relations for the Aerospace Corporation (a Federally Funded Research and Development Center), I have substantial expertise working on the national security space policy process. My academic background in physics and aerospace engineering combined with my hands-on engineering experience as a submarine officer has allowed me to bring a technical understanding to the policy, technological, and programmatic issues I have encountered during my career.

- **The relationship between space, cyber, and nuclear operations in terms of escalation dynamics.**

ANSWER: As former Principal Director for Nuclear and Missile Defense Policy, former acting Deputy Assistant Secretary of Defense for Space Policy, and a former director for defense policy and strategy on the National Security Council staff, and as a current United States Navy Reserve Captain and current Chief of Government Relations for the Aerospace Corporation (a Federally Funded Research and Development Center), I have substantial expertise working at the intersection of space, cyber, and nuclear operations. My education, engineering experience, and previous roles in the national security community have introduced me to the strategies, policies, technologies, and programs that affect the escalation dynamics across these issue areas.

- **Oversight of nuclear, missile defense, cyber, and countering weapons of mass destruction policy.**

ANSWER: As former Principal Director for Nuclear and Missile Defense Policy, former acting Deputy Assistant Secretary of Defense for Space Policy, and a former director for defense policy and strategy on the National Security Council staff, and as a current

United States Navy Reserve Captain and current Chief of Government Relations for the Aerospace Corporation (a Federally Funded Research and Development Center), I have substantial expertise working at the intersection of space, cyber, nuclear, missile defense, and countering weapons of mass destruction policy.

4. What leadership and management experience do you possess that you would apply to your service as ASD(SP), if confirmed?

ANSWER: During my service both in and outside of the U.S. Government, I have had the privilege of leading and managing multiple organizations in national security missions. In the Navy I have led teams varying in size from a handful to several hundred. As a civilian I have served as director for defense policy and strategy on the National Security Council staff, where I led interagency deliberations on national-level defense matters, working both internally and across the national security apparatus to execute the President's national security strategy. As a civilian at the Department of Defense, I served as acting Deputy Assistant Secretary of Defense for Space Policy, leading the team responsible for implementation of the National Security Space Strategy. Previously in the Department, I also served as Principal Director for Nuclear and Missile Defense Policy, where I supported the Deputy Assistant Secretary for Nuclear and Missile Defense Policy in leading our team through the 2010 Nuclear Posture Review and the first-ever Ballistic Missile Defense Review. Across all of these roles, I have exercised inclusive decision-making, deliberate communication, close collaboration throughout the US government and with our allies, and, most importantly, leadership and management by example.

Major Challenges and Priorities

5. In your view, what are the major challenges that will confront the first ASD(SP)?

ANSWER: I see the major challenges for the first ASD(SP) centering on the challenges of strengthening integrated deterrence, which Secretary Austin has stated will be a cornerstone of the NDS and the closely related Nuclear Posture Review and Missile Defense Review. The ASD(SP) must strengthen integration across the areas of space, nuclear, cyber, missile defense, and countering WMD to sustain capability advantages that underpin the power of the joint force globally and the credibility of our commitments to defending national interests. To do this, we must continue to adapt to the realities of conflict extending to or originating in space; protect against increasingly space-capable adversaries; undertake necessary modernizations of the nuclear enterprise; modernize homeland missile defenses; strengthen integrated air and missile defenses regionally; posture to defend forward in cyberspace and be prepared to use our cyber capabilities on operationally relevant timelines; and continue leading the world in preventing further proliferation of nuclear, chemical, and biological weapons.

6. If confirmed, what plans would you implement to address each of these challenges?

ANSWER: If confirmed, my first focus will be to help implement the Administration's National Defense Strategy, Nuclear Posture Review, and Missile Defense Review, as well as

the 2020 National Space Strategy. I would anticipate those documents will provide important roadmaps, both across the totality of national defense and with specific focus to nuclear, missile defense, and space mission areas. I am also aware of the National Defense Authorization Act requirements to conduct a Cyber Posture Review this year. I believe that review will be very important for assessing the evolution of threats and the progress of current programs, and for developing plans to serve our interests over the next several years. In each of these areas as well as in non-proliferation and countering weapons of mass destruction, I would expect to work closely with our allies and partners to develop complementary and integrated plans to achieve our common objectives.

7. If confirmed, what broad priorities would you establish for your tenure in office?

ANSWER: If confirmed, my overarching priority would be to approach all of my responsibilities from the perspective of advancing and assuring U.S. national security interests in an unprecedented era of strategic competition. The ASD(SP) mission portfolio is broad, but each of those missions are critical to sustaining the open international system as we have known it for the past 75 years and assuring our adversaries do not supplant it with one based on their authoritarian models. I would therefore seek to integrate the DOD policy approach across my portfolio to both strengthen our alliances and better deter potential aggressors. From my previous experience working in government, I know the sense of mission and national purpose our military and career civil service have. If confirmed, I would also make it a top priority to build an ASD Space Policy organization that nurtures and leverages this tremendous source of national strength.

The Office of Nuclear and Missile Defense was eliminated in the most recent re-organization with missile defense falling under the Office of Space and Missile Defense and Nuclear Deterrence falling under the Office of Nuclear, Chemical and Biological Policy.

8. If confirmed, what steps would you take to ensure that the nuclear deterrence mission is appropriately prioritized within the Office of Nuclear, Chemical, and Biological Policy?

ANSWER: Our nuclear deterrent continues to serve an essential purpose in US national security strategy, as it has done for 70 years. Secretary Austin has testified that nuclear deterrence is the Department's number one priority. If confirmed as ASD(SP), and consistent with Secretary Austin's statement, I intend to advance the Department's goals for integrated deterrence; maintaining our strategic deterrent is critical to that strategy. This approach includes leveraging the unique capabilities associated with our nuclear deterrence so that they are given the priority needed to advance the Department's deterrence and defense missions. (I understand that this policy office will be titled "Nuclear and CWMD Policy.")

9. If confirmed, what steps, if any, would you recommend to ensure that nuclear and missile defense policies are appropriately coordinated under the Policy office reorganization?

ANSWER: Missile defense and nuclear weapons policies are complementary – the capabilities combine to strengthen deterrence. If confirmed as ASD(SP), a core part of my

responsibilities will involve coordinating among the offices falling within my portfolio to ensure we can protect our homeland, defend US national security interests, deter attacks, and assure our allies. Such a responsibility entails analyzing the threat environment, the relevant U.S., allied and partner strategic capabilities (including but not limited to nuclear deterrence and missile defense), how all these capabilities intersect with one another, and our global security commitments, among many other elements. This understanding would provide the foundation to carry out a coherent approach that enables the United States to achieve its national security policy and strategic objectives.

Civilian Control of the Military

In its 2018 report, *Providing for the Common Defense*, the National Defense Strategy Commission observed, “there is an imbalance in civil-military relations on critical issues . . . Civilian voices appear relatively muted on issues at the center of U.S. defense and national security policy.”

10. Congress created the position of ASD(SP) to ensure civilian oversight of a new branch of the armed services and Combatant Command. What are your views on the purposes underpinning creation of the position of the ASD(SP) and how would you effectuate those purposes, if confirmed?

ANSWER: My understanding is Congress created the position of the ASD(SP) to reinforce the important role of civilian oversight at a time when the nation was taking major steps to strengthen the military’s role in securing national security interests against growing threats in space. The rapid emergence of these challenges in space security means we must develop our policy and strategic approaches at the same time we are organizing, training, and equipping forces and developing operational plans to address those challenges. We are also developing our understanding of how these dynamics affect national security across other domains and other areas of national interest. I believe the ASD(SP) has a key role in developing a holistic understanding and approach that combines the best of our civilian and military organizations. To that end, and if confirmed, I would expect to work closely with the Chief of Space Operations, the Commander of the U.S. Space Command and other leadership of the defense space enterprise. I would also want to work closely with the Under Secretary of Defense for Intelligence and Security to ensure close partnership and collaboration between the defense and Intelligence Community components of the national security space enterprise. Likewise, I would hope to strengthen defense partnerships with civil agencies, commercial industry, and our international allies and partners.

11. If confirmed, specifically what would you do to ensure that your tenure as ASD(SP) epitomizes the fundamental requirement for civilian control of the Armed Forces embedded in the U.S. Constitution and other laws?

ANSWER: Throughout my military service as a submariner in the U.S. Navy and as a public servant with the Department of Defense, the National Security Council, and the United States Senate, I have sworn oaths to support and defend the Constitution. Civilian control of the military is fundamental to the preservation of the freedoms enshrined in that document. It is

part of our national identity. If confirmed, I will ensure a clear chain of command in my own organization and across those I will oversee that reflects the will of the civilian leaders we serve each day. I will ensure that the Secretary and Deputy Secretary of Defense always have the best advice of both the civilian and military leadership regarding the matters for which I would be responsible so that they can ensure the appropriate exercise of civilian control. I will ensure that the organizations I have oversight of comply with laws and regulation. And I will work with the Congressional committees of jurisdiction to enable Congressional oversight.

National Defense Strategy (NDS) and Interim National Security Strategic Guidance

The 2018 NDS outlines that threats confronting the United States: a rising China, an aggressive Russia, and the continued threat from rogue regimes and global terrorism. In March 2021, the Biden Administration issued its Interim National Security Strategic Guidance, which sets out the national security priorities for the Administration. Among these priorities is the requirement to “promote a favorable distribution of power to deter and prevent adversaries from directly threatening the United States and our allies, inhibiting access to the global commons or dominating key regions.” The Administration has initiated the process of preparing a new National Defense Strategy, which is planned for issuance in 2022.

12. Do you believe that the 2018 NDS and the Interim National Security Strategic Guidance accurately assess the current strategic environment, including the most critical and enduring threats to the national security of the United States and its allies?

ANSWER: I believe the 2018 NDS correctly identified strategic competitions with China and with Russia as the primary challenges animating the global security environment. The Interim National Security Strategic Guidance similarly highlights these threats to the international system, most urgently from China as well as from Russia, while also noting the emerging, unconventional, and non-military threats that continue to challenge national security, such as nuclear and WMD proliferation and cyber threats. I expect that the 2022 National Defense Strategy will build on the 2018 NDS to reflect these critical threats as well, and if confirmed, I will ensure the offices in my purview will use the NDS as a guide to prioritize our security challenges.

13. What revisions or adjustments, if any, would you recommend that the Secretary of Defense make to the 2018 NDS with respect to space? Please explain your answer.

ANSWER: The 2018 NDS was right to highlight emerging challenges to our most critical space assets, and to direct the prioritization of investments in space resilience and reconstitution. The threats posed by competitors in space have only become more acute since then. Mission-assured space capabilities and the ability to protect our forces from any adversary’s hostile uses of space are foundational to a successful deterrent, and the Secretary of Defense has made clear that integrated deterrence is a focus of the forthcoming 2022 NDS. If confirmed, I would work with the Defense space enterprise, the Department’s senior leadership, and Congress to prioritize investments in the mission assurance of our space

architecture, protect our forces from hostile uses of space, work with our allies and partners to promote norms of behavior to reduce miscalculation and escalation in space, and leverage the talent and ingenuity of both our Defense space workforce and the private sector to stay ahead of current and future threats.

14. The June 2020 Defense Space Strategy Summary outlines four lines of effort to comport with the 2018 NDS, as follows: “(1) build a comprehensive military advantage in space; (2) integrate space into national, joint, and combined operations; (3) shape the strategic environment; and (4) cooperate with allies, partners, industry, and other U.S. Government departments and agencies.” Please explain your views on each of these elements of the 2020 Defense Space Strategy Summary.

ANSWER: I have reviewed the June 2020 Defense Strategy Summary, and believe that its core elements remain valid, important, and align with the Interim National Security Strategic Guidance, as well as the Administration’s more recently released United States Space Priorities Framework. I assess it will be important to sustain the focus on the following elements in particular:

- The first line of effort primarily focuses on the actions that the U.S. Space Force should take as the organization responsible for organizing, training, and equipping the preponderance of our space forces. Across these efforts, a critical element I will focus on, if confirmed, is ensuring that the U.S. is able to field resilient and assured space capabilities to deter and counter hostile uses of space.
- The second line of effort is the major focus of the U.S. Space Command. Establishing the U.S. Space Command as a Unified Combatant Command was an important step to enable the Department to plan, exercise, and execute joint and combined space operations across the spectrum of competition and conflict, in concert with operations across all domains and in coordination with the other combatant commanders. A specific focus of mine, if confirmed, will be realigning operational authorities, updating rules of engagement, and improving the integration of space operations and intelligence personnel in military plans and staffs.
- The third line of effort is focused on addressing the challenges in space that arise from the lack of common understandings about norms of responsible behavior. If confirmed, my focus on this line of effort would be in shaping the strategic environment in ways that enhance domain stability and reduce the potential for miscalculations. This includes diplomatic work in partnership with the Department of State, as international views about what constitutes acceptable and unacceptable behavior in the space domain continue to evolve. If confirmed, I look forward to working with the Department of State and other interagency partners to advance international norms and increase stability.
- Finally, the fourth line of effort focuses on the partnerships necessary to advance the first three lines of effort. I believe relationships with allies and partners, as well as with commercial entities, are integral to collective security. I anticipate there is still important work to be done to advance our key partnerships through enhanced information sharing,

increased programmatic collaboration, and developing combined operations. If confirmed, partnerships in this domain will be a key focus of mine.

15. In your view, is each element of the Strategy Summary properly scoped?

ANSWER: In my view, the four lines of effort under the Defense Strategy are appropriate. If confirmed, I will work to align the Defense Space Strategy to the United States Space Priorities Framework, as well as the forthcoming National Security Strategy and National Defense Strategy.

16. Should additional elements be added, in your view?

ANSWER: In my view, the four lines of effort are comprehensive. There could be additional work to implement these efforts as new DoD space-focused organizations, their leaders, and related activities and capabilities grow and mature to adapt to the evolving complex space security environment. If confirmed, I would work with the leadership of the U.S. Space Force, U.S. Space Command, and other stakeholders to support that implementation work.

17. If confirmed, what steps would you take to effectuate each of these elements of the Strategy Summary?

ANSWER: The strategic environment continues to evolve rapidly. If confirmed, I would review the strategic environment since the Defense Space Strategy was published in June 2020, particularly the continued growth of Chinese and Russian space and counterspace capabilities. I would also review steps the United States has taken to improve the DoD space enterprise to address the growing threats and challenges in the domain. I would work to bolster U.S. resilience in the space domain, ensuring space is integrated with and contributing to deterrence and military effectiveness across all domains, and promoting norms of responsible behavior in space. Because I am concerned the threat is evolving faster than typical DoD processes can respond, I would work to help the Department speed adoption of new capabilities. Finally, I would ensure implementation of the Defense Space Strategy remains aligned with the more recent United States Space Priorities Framework, and National Security Strategy and National Defense Strategy, to enhance unity of effort and synchronization of space activities across the enterprise.

Advances by Russia and China in Space

18. What is your assessment of China's technological advances in space activities in the last 10 years?

ANSWER: My understanding is that over the last decade, the People's Republic of China (PRC) space enterprise has matured rapidly as a result of the PRC's investment in all aspects of its space program, from civil to military space applications. The most recent China Military Power Report and other open source publications indicate that the PRC has improved its capabilities in space-based intelligence, surveillance, and reconnaissance (ISR),

satellite communications, satellite navigation, as well as human space flight and robotic space exploration. The PRC has also built an expansive ground support system, including space launch vehicle (SLV) manufacturing, launch, command and control (C2), and data downlink capabilities. Notably, during this period, the PRC invested significant economic resources in the development and testing of counterspace capabilities, such as direct-ascent, co-orbital, electronic warfare, and directed energy capabilities, which can contest or deny an adversary's access to and operations in the space domain during crisis or conflict.

19. What threats does China pose—now and in the future—to the ability of the United States to use space as part of our national security posture?

ANSWER: I agree with Secretary Austin that China is the United States' pacing challenge, including in the space domain. From the open literature, I understand PRC military doctrine indicates that PRC leadership views space as critical to modern warfare, and considers the use of counterspace capabilities as both a means of reducing U.S. military effectiveness and for winning future wars. As such, the PRC military continues to acquire and develop a diverse set of counterspace capabilities and related technologies, including ground-based and space-based systems with kinetic and non-kinetic effects. My understanding is that China's rapid development and operational focus in the space domain constitutes the most significant security threat in space to the United States, as well as to our allies and partners.

20. What is your assessment of Russia's technological advances in space activities in the last 10 years?

ANSWER: From open source material, I understand that Russia's space program is robust but more narrowly focused than China's. Since at least 2010, Russia has concluded that gaining and maintaining supremacy in space will have a decisive impact on the outcome of future conflicts. Russia has therefore embarked on major efforts to develop space and counterspace activities as a means to gain an asymmetric military advantage over the United States. Russia has developed and tested a range of kinetic and non-kinetic options with reversible and irreversible effects against adversary space assets. Specifically, I am aware from U.S. government and allied government statements that Russia tested space-based anti-satellite systems in 2017 and 2020, including in an orbit very close to a U.S. satellite. And, just last November, Russia conducted a destructive, direct-ascent ASAT test against one of its own satellites.

21. What threats does Russia pose—now and in the future—to the ability of the United States to use space as part of our national security posture?

ANSWER: While China is the pacing threat in space, Russia is also a major concern. Russia views space as a key enabler of U.S. military power. The Russian military continues to develop and test space and counterspace capabilities aimed at offsetting perceived U.S. military advantage, and disrupting and destroying U.S. and allied space capabilities in crisis and conflict. The growth of Russia's counterspace arsenal appears to present a serious threat to U.S., allied, and partner space activities.

22. In your view, what other countries or groups are advancing technologically in space?

ANSWER: More than 30 countries – many of which are allies and partners – currently invest in advanced space activities and associated technologies. Australia, Canada, France, Germany, India, Israel, Japan, Luxembourg, the Republic of Korea, United Kingdom, and the participants in the European Space Agency (ESA), to name a few, continue to make noteworthy advances in space technologies and partner with the United States in civil, commercial, and national security domains. In term of actors that pose national security concerns, Iran and North Korea continue to pursue space and counterspace-related technologies and capabilities that could threaten U.S., ally, and partner interests in space.

23. How do each of these countries or groups affect ability of the United States to use space as part of our national security posture and why?

ANSWER: My understanding is that the Department of Defense maintains and continues to build space-related partnerships with many countries worldwide to enhance our national security posture and to promote safe operations in space. These countries understand that rapid increases in civil, commercial, and military space activities create new economic opportunities and provide national security benefits through new technologies and services. Additionally, these countries recognize the use of space enhances collective security, and many increasingly understand the emerging threats to the space domain from strategic competitors like China and Russia. Maintaining and strengthening space-related alliances and partnerships will likely be critical to the Department’s focus on integrated deterrence, particularly by helping the United States to maintain a durable strategic advantage over China, Russia, and regional powers like Iran and North Korea.

Norms of Behavior in Space

24. Please explain your views on the “Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies” as it pertains to the Department of Defense.

ANSWER: The Outer Space Treaty of 1967, as well as the other three core space treaties (i.e., the Rescue and Return Agreement of 1968; the Liability Convention of 1972; and the Registration Convention of 1975), form the basis and cornerstone of existing international space law. All United States Government space operations, including operations undertaken by the Department of Defense, should comply with applicable international law, which, in addition to the four core space treaties, includes the inherent right of self-defense under the United Nations Charter.

Russia and China have proposed additional treaties, resolutions and rules of behavior related to space through the U.N. Conference on Disarmament.

25. What is your understanding of these recent proposals and what is your view of how each would affect the United States and its national security interests in space?

ANSWER: My understanding is that the U.S. Government agrees with establishing best practices, standards, and norms of behaviors in space in order to create shared understanding between operators and nations about what constitutes responsible behaviors and to reduce the misperceptions or miscalculations leading to destabilizing behavior. However, in my view, the Russian and Chinese proposals and concepts for arms control, such as their co-sponsored draft Treaty on the Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force Against Outer Space Objects, do not provide pragmatic, equitable, or verifiable mechanisms that would enhance U.S. national security interests. In light of their ongoing development and deployment of weapons, most recently highlighted by Russia's reckless test of an anti-satellite missile in November, which destroyed a satellite and scattered debris across low Earth orbit, their proposals seem even more disingenuous. I believe the U.S. should pursue a more sustainable path with our allies and partners to underpin space security and the peaceful use of space for all spacefaring nations.

The Secretary of Defense issued a memorandum, dated July 7, 2021 outlining the Department's tenets of responsible behavior in space as to the following key objectives:

- **Operate in, from, to, and through space with due regard to others and in a professional manner.**
- **Limit the generation of long-lived debris.**
- **Avoid the creation of harmful interference.**
- **Maintain safe separation and safe trajectory.**
- **Communicate and make notifications to enhance the safety and stability of the domain.**

26. What are your views on each of these objectives? Please explain your answers.

ANSWER: Secretary Austin's July 7 memorandum on the "Tenets of Responsible Behavior in Space" is a strong example of the Department of Defense's commitment to lead in the responsible use of space and stewardship of the space environment, as set out in President Biden's Interim National Security Strategic Guidance of March 2021, and the United States Space Priorities Framework of December 2021. If confirmed, I would seek to continue building upon last year's progress to advance these tenets.

27. What is your view on the nature and scope of the U.S. responsibility to protect Space as a "global common"?

ANSWER: (My understanding is that the term "global commons" is a legal term that can have different meanings based upon the perspective of the speaker. To avoid any confusion inherent in this term I will address what I understand to be the underlying concept of this question. Space activities are essential to our way of life. Access to, and the use of, space are vital national interests. I agree with the United States Space Priorities Framework's direction to the Department to defend U.S. national security interests from the growing scope

and scale of counterspace threats and contribute to strategic stability through multiple means, including increasing resiliency. Concurrently, the long-term sustainability of the space domain is a shared interest between all nations, which means that the DoD must balance the protection of our national security interests with the responsible use of space and stewardship of the space environment. One sustainability problem of particular concern to me is that of long lived orbital debris, which can reduce access to space as it accumulates over time. I believe the United States, as a global leader, has a responsibility to also lead on this issue in order to preserve assured access to space.

Oversight of National Security Operations in Space

If confirmed, you would be the principal civilian official responsible for oversight of the Department's operations in space. Please describe your vision of the relationship and specific oversight duties of the ASD(SP) with respect to each the following organizations:

I see each of these close relationships as distinct, yet centered on a common purpose of achieving strategic alignment toward sustaining national security advantages in space. If confirmed, I would approach these relationships in the following manner.

28. The U.S. Space Command;

ANSWER: The relationship with U.S. Space Command is most similar to the relationships that other Assistant Secretaries of Defense who report through the Under Secretary of Defense for Policy have with Combatant Commands. Although the chain of command runs from the Secretary of Defense to the Combatant Commander, the role of the Assistant Secretary as an advisor to the Secretary of Defense makes this relationship key for ensuring the strategic objectives of civilian leadership are reflected in space operations of the Joint Force.

29. The U.S. Space Force;

ANSWER: The relationship with the U.S. Space Force is quite different. The Chief of Space Operations reports to the Secretary of Defense through the civilian Secretary of the Air Force. Additionally, the organize, train, and equip activities of the Space Force follow Department-wide guidance established and overseen by several other OSD civilian officials. Thus, the civilian oversight responsibilities are shared, with the ASD(SP) focusing on how Space Force activities contribute to strategic advantage in space and integrated strategic outcomes across national security policy objectives.

30. Space activities with the Undersecretary of Defense for Intelligence and Security; and

ANSWER: The Under Secretary of Defense for Intelligence and Security (USD(I&S)) is a co-equal to the Under Secretary of Defense for Policy (USD(P)), oversees the military intelligence program (MIP) budget, and exercises Secretary of Defense authority, direction, and control related to the National Reconnaissance Office and other military elements of the Intelligence Community. In this relationship, the ASD(SP), in support to the USD(P) and the

Secretary of Defense, works with the USD(I&S), to ensure that space-related MIP investments and space activities of the intelligence community advance DoD policy, strategy, and plans to achieve national security objectives.

31. Space activities with the intelligence community, and in particular the National Reconnaissance Office.

ANSWER: The ASD(SP) does not exercise direct oversight of the National Reconnaissance Office and other space elements of the Intelligence Community, but should maintain a close partnership with them, as part of the relationship with the USD(I&S). This is essential to facilitate the unity of effort activities in space operations between the DoD and Intelligence Community, and to realize strategic synergies in DoD and IC space acquisition activities.

Organization of the ASD(SP)

Section 955(b) of the FY 2020 NDAA required a study by a Federally Funded Research and Development Center (FFRDC) on the organizational challenges of this position of ASD(SP). The study, “Drawing the Oversight Constellation: Options for the ASD for Space Policy,” was completed by the Center for Naval Analysis (CNA) in July of 2020.

32. What are your views regarding the study’s findings (as set forth in table 3 of the CNA report) regarding the gaps and seams in oversight of space activities in the Department of Defense?

ANSWER: The Center for Naval Analyses (CNA) study considered a number of options for how to structure the office of the ASD Space Policy. As part of that work, CNA addressed gaps and seams across the defense space enterprise, and considered how the different organizational options might address those gaps and seams. I think the CNA study was thorough in its approach and can continue to serve as an important reference.

33. What are your views regarding the study’s findings (table 5 of the CNA report) regarding options for consideration by the ASD(SP) relative to the degree of change in the organization of the office of the ASD(SP) deemed necessary and appropriate?

ANSWER: In table 5, the CNA study identifies considerations for how to structure an ASD(SP) office centered on the former Deputy Assistant Secretary of Defense for Space Policy. I think the table identifies an appropriate initial scope of issues where the office should have interest and influence: strategy, policy, international relations, plans, operations, programs, budget, and acquisition. In my view, a policy-level ASD office requires sufficient expertise in each of those issue areas to set strategic direction and provide oversight to ensure follow-through along the strategic path.

Space Deterrence and Classification of National Security Space Information

In order for space deterrence to be effective, the adversary must subjectively balance the cost penalties for actions taken. However, most national security space programs are classified and information about them withheld from public disclosure.

34. Do you believe the balance between space deterrence and withholding national security space information from public disclosure needs to be adjusted? Please explain your answer.

ANSWER: I believe it is important to think of space deterrence in the broader context of deterring adversary aggression that threatens U.S. vital national interests. Shaping adversary perceptions of U.S. will and capability, includes, but is not limited to knowledge of particular U.S. capabilities.

35. If you believe this balance needs to be adjusted, what specific actions would you take to effectuate that belief, if confirmed?

ANSWER: If confirmed, I would work with leadership of the U.S. Space Force, U.S. Space Command, and the Under Secretary of Defense for Intelligence and Security, among others to ensure classification policies regarding defense and other national security space activities are current and focused on protecting information that truly needs protection in this era. Likewise, I would work with these stakeholders to assess how we should update our policies and practices for disclosure of classified information to enhance ally and partner cooperation.

In response to section 1611 of the FY 2020 NDAA, the Department of Defense issued a report entitled, “Report on Deterrence in Space” in January 2021. According to that report, “Depending upon an adversary’s reliance on space, and on other factors, in-kind response to threats against adversary space and counterspace systems may be of limited utility in some situations, and response options in other domains may be more appropriate and effective. The United States draws upon the sum of its military capabilities as part of our broader U.S. deterrence posture for the space domain as it does in all domains.”

36. Do you agree with this statement?

ANSWER: I agree that DoD must consider space-related deterrence within the broader, integrated framework of deterrence. This means that assured space capabilities and resilient space architectures may contribute to deterrence of aggression in any domain. Other national tools must also contribute to deterring attacks or other forms of harmful interference against U.S. space capabilities. We must also work with allies and partners to bring our collective strength to bear against common challenges. My understanding is that the Department is developing an integrated deterrence approach that seeks to prioritize and align cross-domain options, coordinated strategic messaging, and international alliances and partnerships, to help address the deterrence challenge we face, including our increased reliance on space for our way of life as well as support to military operations in all domains, coupled with the vulnerability of our space architectures.

37. In what types of scenarios would you expect this statement to apply?

ANSWER: From a deterrence perspective, cross-domain military response options should be tailored relative to our understanding of an adversary's strategy, strengths, and vulnerabilities. Cross-domain responses, as opposed to responses in space, enable the United States to draw on the sum of its capabilities, and may be more appropriate and effective if an adversary is not as reliant as the United States is on space. Deterrence approaches must also be tailored to the specific adversary, and must consider the adversary's motivations and ultimate objectives, perceived benefits of attack, availability of alternate courses of action outside the space domain, and the perceived escalation risks.

38. If confirmed, what are your views as to whether such a cross domain response can increase or decrease escalation dynamics in a conflict? Please explain your answer.

ANSWER: Any type of military response, whether in-domain or cross-domain, would require the U.S. to manage escalation. The efficacy of deterrence by military response is associated with multiple factors, including the adversary's perception of the value of U.S. capabilities and the credibility of U.S. will to employ said capabilities. An effective cross-domain response, if employed, requires the adversary to understand the action is intended as a response and not an escalation; that understanding may require clear articulation by the United States to prevent miscalculation. I share the concern that there is not a broad understanding of escalation risks in the space domain. I believe that more work must be done to build a set of shared space-related international norms and best practices in order to reduce the risk of miscalculation and escalation.

39. Do you ascribe to the assertion of "first mover advantage" in space and if so, how does that effect deterrence in Space, in your view?

ANSWER: In any domain, the question of whether an aggressor or defender has an advantage by moving first impacts deterrence. I am concerned that China perceives itself at an overall disadvantage in military competition with the United States, and views counterspace operations as part of a strategic counterbalance to U.S. conventional superiority. As a result, China's strategy against the United States may well include attacks in space early in a conflict in order to achieve strategic objectives. If confirmed, I would prioritize efforts to increase resilience and reduce factors that contribute to destabilizing perceptions of first mover advantage.

40. How would you, if confirmed, overcome the "first mover advantage" in Space?

ANSWER: If confirmed, I would support ensuring a resilient US space architecture by fielding assured space capabilities that serve to deter adversary attacks by demonstrating it would be difficult, expensive, and/or ineffective to degrade or destroy U.S. space capabilities. These efforts will be critical to reducing any "first mover advantage" in space. Resilient architectures and reconstitution measures could also deter adversaries' initial attack or absorb losses without significant degradation of U.S. capability. Finally, I would also

support development of norms that could help establish a better shared understanding responsible behavior in space.

International Security Space Cooperation

Many U.S. allies and NATO partners are now developing national security space doctrine.

41. If confirmed, how would you coordinate and integrate the efforts of our allies and NATO countries to deter adversarial actions in space by other nations?

ANSWER: It is essential that we work closely with allies and partners in space. I am aware that the Department of Defense already conducts numerous bilateral activities with allies and partners ranging from development of space policies and strategies to developing capabilities and plan. If confirmed, I would continue these efforts and focus on improving our information sharing to enable progress. I would also seek to engage at NATO to advance discussions on how the alliance can support space as an operational domain.

Use of commercial space systems for DOD needs

Commercial space systems have become an integral part of the Department's use of space because they can offer lower cost and innovative approaches than the government can achieve by itself. However, little is known about over reliance on commercial systems for critical defense functions such as ballistic missile warning or the transmission of nuclear action messages. In particular, it is not clear whether these commercial space systems would be deemed "combatants" in a time of conflict.

42. In your view, how should DOD balance taking advantage of commercial innovation and lowering the cost of space operations, while ensuring the Department does not become over-reliant on non-governmental entities for the performance of critical defense functions?

ANSWER: Continuing to pursue opportunities to utilize commercial innovation in space, such as proliferated constellations based on low cost commodity components and rapid technical refresh, is important to maintaining the U.S. competitive edge in space. However, it is also important to have balance and maintain stringent mission assurance requirements for the most critical national security space systems. For experimental, or research and development programs, I believe the Defense Innovation Unit, Defense Advanced Research Projects Agency, and the Space Force Space Enterprise Consortium are good examples of how the Department can partner with newer commercial space providers outside of the more rigorous DoD acquisition framework.

Assured Access to Space

The policy of ensuring that there is more than one commercial provider of space launch services is the cornerstone of DOD's objective of Assured Access to Space.

43. What are your views on the effect of section 2773 of title 10, U.S. Code, as it relates to Assured Access to Space?

ANSWER: The longstanding statutory requirements regarding assured access to space have ensured that DoD maintains two reliable options for launches of national security payloads. The requirement has bolstered competitiveness, strengthened the industrial base, and provided flexibility that is critical to national security. If confirmed, I would continue to support this requirement.

44. What are your views on the benefits and risks associated with combining contracts to acquire a satellite and launch it into orbit, as compared to the standard block buy process currently used?

ANSWER: I believe DoD should maintain flexibility in satellite and launch acquisition pathways to align with mission needs and national security requirements. For the major National Security Space Launch programs, I understand the Space Force's current five-year contract period demonstrated a commitment to industry partnership that reduced launch costs substantially and saved billions of dollars for major mission systems. Likewise, DoD research and development activities can benefit from having the flexibility to leverage delivery on orbit and other commercial market options. It is important to be able to balance the various cost, schedule, mission, and national security risks of a given activity and be able to choose the appropriate option.

45. Do you believe the Department should use allied or NATO country launch services? Please explain your answer.

ANSWER: In accordance with U.S. law and policy, DoD uses U.S. commercial launch services for its space lift requirements. While there are no current requirements for using non-U.S. space launch capabilities, if confirmed, I would encourage the Department to explore opportunities for space cooperation and collaboration with NATO allies and partner nations as appropriate.

Consolidation of DOD Space Activities

Congress created the U.S. Space Force, in part to address the extant ad hoc integration of space activities across the DOD, and between DOD and the Intelligence Community, that often led to unhealthy one-upmanship and in some cases the over-classification of essential information.

46. Do you believe consolidating and integrating space activities is important to the space mission of the DOD? If so, please provide some specific examples of space activities as to which you perceive consolidation and integration of activities would be particularly beneficial.

ANSWER: Yes, in many cases. For example, in satellite communications I understand the Space Force is assuming responsibility for acquisition programs that used to be managed by the Navy. Likewise, the Space Force is taking over responsibility for managing satellite communications payloads on behalf of the Joint Force. Space Domain Awareness is another area where consolidation can be beneficial. Assigning the Commander of Space Command responsibility for global sensor integration is a good example of how we can leverage capabilities across the Joint Force to benefit multiple missions for the Joint Force. If confirmed, I would support consolidation efforts that strengthen unity of effort across DoD space missions.

47. Do you believe there are activities in which consolidation would be counterproductive? Please explain your answer.

ANSWER: Yes. For example, there are space missions and activities that are closely associated with the missions of the other Military Services. We see this in the Navy's fleet defense mission, which includes defense against threats from all domains. Some of that capability, the Navy must provide itself, some of it will come from other elements of the Joint Force. Likewise, the Army and Air Force must remain aware of and prepared to defend themselves against threats emanating from space. Space Force and Space Command both have important roles, along with the other Military Services and Combatant Commands, in helping define the Joint Force's approach to align roles, missions, and capabilities in these areas. If confirmed, I would work to ensure these consolidation decisions account for Joint Force and Military Service-specific considerations.

Dual use export controls as applied to space

The FY 2013 NDAA returned licensing for many space systems from the Department of State, where they were licensed under the International Trafficking in Arms Regulations, to the Department of Commerce where they were regulated under the dual use licensing system. DOD plays an active role in the licensing of dual use space items through the interagency process. With the expanding commercial use of space, this licensing process should enhance innovation and the growth of the commercial space sector while preventing adverse effects on national security.

48. What are your views on the licensing process for dual use export controls on space-related items as they apply to ensuring the United States maintains an innovative and competitive space industrial base?

ANSWER: The transition of many space systems and capabilities to the Commerce Control List has contributed to the competitiveness of U.S. industry in ways that also benefit national

security, and without making available to potential adversaries' capabilities they could not otherwise acquire or produce themselves. DoD plays a key role in the interagency licensing process that accounts for both aspects of the national security interest: ensuring our industry remains competitive and preventing critical capabilities from reaching our adversaries. If confirmed, I look forward to collaborating with my interagency counterparts and Congress to ensure the licensing process regarding space systems and capabilities maintains appropriate balance across key economic and national security interests.

Space Domain Awareness and Collision Avoidance

Space is increasingly becoming a congested domain of operations, especially with proliferated commercial architectures in low earth orbit. DOD manages not only the largest array of space domain sensors on earth and in space but also tracks objects in space in order to avoid collisions.

49. In your view is the management of space traffic and domain awareness an appropriate role for the DOD? If so, please explain your answer. If not, to which other executive branch department or agency would you recommend these functions be transferred?

ANSWER: To my knowledge, due to its unique role as operator of the world's most extensive and comprehensive source of space domain awareness information, DoD has also provided space situational awareness services to all space operators in the interest of spaceflight safety for well over a decade. However, in my view, the primary mission of the Department should be to operate national security space assets and provide space support to the Joint Force. While the DoD must maintain space domain awareness to carry out its military missions, the space traffic management, or space traffic coordination function would be better served if moved to a civil agency, such as the Department of Commerce. This shift would allow the DoD to properly refocus resources on defending the nation. I am aware Commerce is already working toward a prototype space domain awareness system in partnership with DoD and industry. If confirmed, I would support such a transition of the space traffic management mission.

To avoid conjunctions, the Department maintains numerous sharing agreements with other countries on space domain awareness. Russia and China have had tests and collisions in space that have generated debris affecting other countries' space operations. Yet, according to testimony in a May 26, 2021 Strategic Force Subcommittee hearing, Russia and China have not been responsive to outreach efforts when a possible conjunction with one of their space systems has been identified.

50. If confirmed, what efforts would you propose to ensure both countries acknowledge a conjunction message sent by the Department?

ANSWER: As noted in the United States Space Priorities Framework, the United States will continue to share space situational awareness (SSA) information and provide basic spaceflight safety services to all space operators. The Framework also indicates that the United States will engage diplomatically with strategic competitors to enhance stability in

outer space. Sharing SSA information is a key element of building shared understanding and protecting the space environment, which supports space stability. If confirmed, I would continue to pursue opportunities with my State Department counterparts to improve the exchange of appropriate spaceflight safety information with the PRC and Russia to reduce the risk of space object conjunctions, consistent with the U.S. approach with over a hundred other countries, companies, and international organizations.

Integration of Space with Cyber Space and Nuclear Escalation

Space is an integral element of our nuclear deterrent and national missile defense capability through its early warning and communications satellites. Space and cyber space are considered enabling elements of the United States' overall strategic posture and are complimentary domains of operations where early phases of escalation dynamics can occur relative to nuclear deterrence. A thorough understanding of nuclear deterrence and its modernization, cyber operations, and missile defense are considered essential to performing the duties of the ASD(SP).

51. What are your views on the relationship between space, cyber space, and nuclear escalation in the context of our Nation's strategic posture?

ANSWER: The emergence of space and cyber as areas of strategic competition has the potential to create new pathways for conflict escalation that are uncertain and unpredictable given that there are not well established norms informing the use of these capabilities. U.S. asymmetric dependence on space and cyberspace as enabling elements of conventional warfighting and strategic deterrence could encourage adversaries to consider attacking these architectures, creating escalation risks. This underscores the importance that our adversaries understand our views on and approach to both domains. My understanding is that the Department's emerging integrated deterrence strategy will support this kind of approach, and ASD(SP) is uniquely postured to support these efforts.

52. How does modernization of U.S. nuclear capabilities relate to the functions of the ASD(SP), in your view?

ANSWER: ASD(SP) will be responsible for nuclear deterrence policy and will represent USD(P) in policy formulation and execution related to the nuclear modernization program. Nuclear deterrence is the Department's highest priority mission and, if confirmed, I look forward to supporting this priority.

Nuclear Deterrence and Modernization

Former Secretary Carter has called our nuclear deterrent the "bedrock" of every national security mission we undertake.

53. Do you agree with the assessment of the past four Secretaries of Defense that nuclear deterrence is DOD's highest priority mission and that modernizing our Nation's nuclear forces is a critical national security priority? Please explain your answer.

ANSWER: Yes, I agree that nuclear deterrence is DoD's highest priority mission, and that we must continue to modernize our nuclear triad to ensure a safe, secure, and effective nuclear deterrent.

The 2018 Nuclear Posture Review (NPR) reaffirmed long-held American doctrine that includes limiting the use of nuclear weapons to "extreme circumstances" and the need to maintain the nation's nuclear triad of land-, sea-, and air-based capabilities. The NPR also recommended the development of a low-yield nuclear weapon to deter threats from Russia, and potentially, the return of a nuclear sea-launched cruise missile to the Navy fleet.

54. Do you agree with the 2018 NPR that nuclear weapons should only be used under extreme circumstances to protect vital interests? Please explain your answer.

ANSWER: Our nuclear forces play a unique role safeguarding our national security, and ensuring the United States maintains a safe, secure, and effective nuclear deterrent is of vital importance for U.S. national security. We must carefully evaluate the circumstances in which we would consider employing nuclear weapons, and how we publicly describe those circumstances.

In November 2020, NATO's Secretary General stated that, "Simply giving up our deterrent without any guarantees that others will do the same is a dangerous option because a world where Russia, China, North Korea and others have nuclear weapons, but NATO does not, is not a safer world."

55. Do you agree that the world is a safer place due to the existence of an effective U.S. nuclear deterrent and the extended deterrence assurances we provide to our allies? Please explain your answer.

ANSWER: A safe, secure, and effective U.S. nuclear deterrent is vital to our national security, and the security of our allies and partners.

Over the past eight years, China, Russia, and North Korea all have expanded and modernized their nuclear arsenals, and all are continuing to do so.

56. Given these actions and the increasing nuclear threat to the United States and its allies, do you believe it prudent to significantly alter U.S. use and deterrence policies that have worked to deter nuclear aggression for more than 70 years?

ANSWER: Any changes to nuclear policy that the President may consider should be carefully deliberated and communicated to US allies and partners, and should take into

account their impact on US national security, the security of our allies and partners, and the impact on our potential adversaries.

Consistent with past practices, I understand the Department is conducting a deliberate strategy review in the context of the new National Defense Strategy. If confirmed, I look forward to reviewing the Nuclear Posture Review conclusions and recommendations.

57. If confirmed, how, if at all, would you propose such policies be altered? Please explain your answer.

ANSWER: If confirmed, I would work to fully understand the security environment, including current and projected adversary capabilities and security interests and concerns of US allies and partners, before considering any recommendations to alter nuclear policies.

58. What is your understanding of the state of Russia's and China's nuclear forces?

ANSWER: Russia is undertaking a large-scale nuclear modernization program that covers both its strategic and non-strategic nuclear forces. Compared to the United States, Russia has a large variety of nuclear delivery systems, which it continues to expand through pursuit of novel capabilities including nuclear-capable hypersonic glide vehicles, among others.

China has taken steps to develop a nuclear triad and modernize its nuclear arsenal through expansion of its ICBM silo fields, development of hypersonic glide vehicles, and development of an SSBN fleet.

59. Do you believe that Russia's and China's ongoing nuclear modernization and expansion efforts pose an increasing threat to the United States and its Allies? Please explain your answer.

ANSWER: Yes. Russian and Chinese nuclear modernization and expansion continue to demonstrate the intent of both countries to threaten the interests of the United States and our allies and partners. Each has also pursued new nuclear delivery capabilities that undermine global stability.

Taken together, these developments have increased complexity in the security environment and pose a significant challenge to U.S., allied, and partner security interests.

The Commander of U.S. Strategic Command has referred to reports of China's nuclear force expansion as "breathtaking" and contends that China's efforts to become a nuclear peer to the U.S. and Russia is a "strategic breakout," which represents an unprecedented threat to global stability.

60. What are your views of this assessment?

ANSWER: Based on media reporting and unclassified commercial imagery, it is clear that China is taking unprecedented steps to modernize its nuclear forces and develop new delivery

capabilities. I am not familiar with all of the details of Admiral Richard's assessment, but if confirmed, I look forward to working with Department leadership to ensure our nuclear deterrence posture is sufficient to ensure a safe, secure and effective nuclear deterrent, and strong and credible extended deterrence to our allies and partners.

61. Given that China is developing a triad, expanding its ICBM missile fields and recently tested an orbital vehicle that is capable of delivering a nuclear payload, what is your assessment of its minimal deterrence policy and no first use declaratory policy?

ANSWER: These capabilities are not consistent with China's historic posture or its public messaging regarding this posture. Furthermore, China's development of novel delivery systems undermines global stability.

U.S. nuclear forces are nearing the end of their useful lives. These capabilities must be updated over the next 20 years if the United States is to maintain a viable nuclear deterrent.

62. What is your understanding of the state of U.S. nuclear forces, its global nuclear command, control, and communications (NC3) architecture, and the supporting weapons sustainment and production capabilities within the National Nuclear Security Administration?

ANSWER: As Secretary Austin and Deputy Secretary Hicks have testified, nuclear deterrence is the highest priority mission for the Department. Maintaining a safe, secure, and effective nuclear deterrent means sustaining and modernizing delivery systems, maintaining a modern nuclear weapons production complex within the National Nuclear Security Administration, and a robust NC3 architecture. All of these elements have served their purpose well for the past seven decades. Nevertheless, we are at a tipping point wherein each needs to be modernized, with very little room for delay. If confirmed, I will commit my support to the modernization of U.S. nuclear forces.

63. In your view, is the sustainment and timely modernization of the three legs of the nuclear triad, including the air-launched cruise missile, essential for maintaining a viable nuclear deterrent?

ANSWER: Yes. As Secretary Austin has stated, our nuclear deterrent is the Department's number one priority. While it remains effective today it depends on aging weapons, aging delivery systems, aging infrastructure, and an aging nuclear command, control, and communications (NC3) architecture. Sustaining and modernizing our deterrent is essential to ensuring it remains effective in the future.

64. Do you agree with Secretary Austin that modernizing the Department of Energy (DOE) nuclear weapons complex is a critical national security priority? Please explain your answer.

ANSWER: Yes. A modern, robust, and agile nuclear weapons complex, developed in a cost-effective and judicious manner, is key to meeting current nuclear modernization needs and also for being responsive to future posture needs. We must invest in the DOE nuclear weapons complex today to be able to achieve these goals.

Admiral Richard, Commander of U.S. Strategic Command, recently reaffirmed the longstanding assessment of the Department of Defense that extending the service life of the Minuteman III system is no longer a cost-effective option for preserving the nation's intercontinental ballistic missile force.

65. Do you agree with the Commander's assessment?

ANSWER: I understand that perpetually extending the life of legacy systems is a challenge. While I am not familiar with the details of Admiral Richard's assessment, if confirmed, I would look forward to consulting with USSTRATCOM and the Air Force to understand the implications of further life extending Minuteman III.

66. Do you support the continued development of the Ground Based Strategic Deterrent? Please explain your answer.

ANSWER: I understand the Ground Based Strategic Deterrent is being considered in the Nuclear Posture Review. If confirmed, I look forward to understanding the full scope of the GBSD program and will promote modernization of the nuclear triad in the most cost-effective and judicious manner.

The Long Range Stand Off Weapon (LRSO) is intended to replace the AGM-86B Air Launched Cruise Missile (ALCM)—a system that is 20 years past its retirement, under increasing threat from adversary air defenses, and considered essential to maintaining the air leg of the triad.

67. Do you support the Long Range Stand-Off weapon as a replacement for the aging ALCM?

ANSWER: I am committed to a credible US nuclear deterrent, and the ALCM is an essential element of the air leg of the triad. If confirmed, I look forward to thoroughly understanding and reviewing the LRSO weapon and will promote modernization of the nuclear triad in the most cost effective and judicious manner.

68. Do you support the continuation of the W93 program and the parallel efforts to collaborate with the United Kingdom in the maintenance of its independent nuclear deterrent? Please explain your answer.

ANSWER: The U.S.-UK Mutual Defense Agreement reflects a vital, invaluable partnership that has bolstered U.S. national security for over six decades and deepened the assurances we provide to our NATO allies.

If confirmed, I look forward to understanding the details of the W93/Mark 7 program, the role it plays in our efforts to maintain a safe, secure, and effective nuclear deterrent, and to carrying the program out in a responsible and cost-effective manner.

69. Do you believe that DOD or the Department of Energy should de-scope or delay any of the ongoing programs to replace our aging nuclear forces or efforts to rehabilitate or reestablish key nuclear weapons sustainment and production capabilities?

ANSWER: The United States has reached the point where both our nuclear forces and our infrastructure must be modernized to ensure a safe, secure, and effective nuclear deterrent.

If confirmed, I look forward to reviewing the recommendations and conclusions of the Nuclear Posture Review to better understand the status of these programs and their way forward. With that said, I share Secretary Austin's view that we have now reached a tipping point at which we must simultaneously overhaul our nuclear forces.

During his confirmation hearing, Secretary Austin voiced his agreement that any future reductions in U.S. nuclear forces should only be taken within the context of a formal, verifiable arms control agreements with adversaries, rather than by unilateral actions.

70. Do you agree with this statement? Please explain your answer.

ANSWER: Yes. While I believe the United States should continue to lead global arms control efforts, any arms control agreement must reciprocally reduce nuclear threats from other nuclear-armed powers.

71. In your opinion, should the United States pursue arms control and strategic stability talks with China while China is undertaking this expansion of its nuclear arsenal?

ANSWER: Yes. Even as China expands its nuclear forces, the United States should engage with China to address longstanding concerns over its nuclear posture, including China's lack of transparency regarding its strategy and doctrine. The United States should also pursue dialogue with China to preserve strategic stability and minimize risk.

72. In your assessment, how would delaying or cancelling current nuclear modernization plans and programs affect our arms control negotiation leverage with near-peer and peer competitors?

ANSWER: The linkage between nuclear modernization and arms control is a complex topic that I understand is being examined in the Nuclear Posture Review (NPR). If confirmed, I will seek to understand the range of the NPR's considerations on this issue.

73. Do you believe that the United States should consider accepting limitations on its missile defense, cyber, or conventional power projection capabilities as part of an agreement with Russia or China on nuclear weapons' reductions? Please explain your answers.

ANSWER: Any arms control approach must leave the United States and its allies and partners more rather than less secure. That said, I believe such considerations are highly context-specific and dependent on the capabilities in question.

74. If confirmed, do you believe there should be any significant change in U.S. declaratory policy, including adopting a "No First Use" policy? Please explain your answer.

ANSWER: Any decision on declaratory policy should be made by the President, in consultation with allies and the U.S. military, and should be based on a deliberate, rigorous assessment of the security environment and the need to maintain credible and effective deterrence.

At this time, I do not personally think a categorical "no first use" policy would be advisable for the United States given the current security environment.

75. In your view, what would be the impact of a "sole purpose" use doctrine with respect to our nuclear deterrence and especially with respect to our extended deterrent?

ANSWER: Any decision on declaratory policy should be made by the President, in consultation with allies and the U.S. military, and should be based on a deliberate, rigorous assessment of the security environment and the need to maintain credible and effective deterrence.

76. Do you believe a change in declaratory policy could destabilize the nuclear assurance doctrine of NATO with respect to its nuclear and non-nuclear states?

ANSWER: I believe any change to declaratory policy—which would be made by the President in consultation with allies and the U.S. military, and should be based on a deliberate, rigorous assessment of the security environment the need to maintain credible and effective deterrence—would require extensive consultation with U.S. allies, both in the run-up and following the decision, to preserve the assurances that form the bedrock of the NATO alliance and our Indo-Pacific alliances.

77. Do you believe our NATO allies would be concerned about a change in our declaratory policy?

ANSWER: Based on a review of public reporting, I understand that allies have expressed concerns regarding any such change.

78. Do you believe our Asian allies would be concerned about a change in our declaratory policy?

ANSWER: Based on a review of public reporting, I understand that allies have expressed concerns regarding any such change.

Missile Defense

The United States enjoys a measure of protection against ballistic missile threats from rogue nations like North Korea and Iran, but the threat from Russian and Chinese ballistic, cruise, and hypersonic missiles against U.S. forces, allies, and the U.S. homeland continues to grow. The 2019 Missile Defense Review (MDR) articulated existing U.S. policy on missile defense and endorsed follow-on actions to improve U.S. capability.

79. In your view, do you believe missile defense policy should be limited to countering only rogue nations, such as North Korea and Iran?

ANSWER: I support longstanding U.S. policy to rely on strategic deterrence to safeguard the United States against large-scale nuclear missile threats from Russia and China, and to pursue homeland ballistic missile defenses against nations like North Korea or Iran.

80. If so, what role do you believe integrated air and missile defenses should play in defending limited areas and defeating smaller scale cruise or hypersonic glide missile attacks by larger threats, such as Russia and China?

ANSWER: These types of threats from Russia and China present challenging problems. I agree that missile defenses cannot protect every asset against every threat, and that this mission is only one piece of an integrated deterrence and defense approach to protecting against the growing number of advanced missile threats, both nuclear and non-nuclear. I understand the Department is examining ways to enhance its architecture against these threats, and if confirmed, I would support continuing improvements to our homeland missile defense architecture.

The global U.S. architecture for detecting and tracking threat missiles is a highly complex maritime, terrestrial, airborne, and space-based “system of systems,” with the constituent pieces managed and sustained by multiple DOD components.

81. Do you believe these various systems are appropriately integrated and provide operational commanders with a holistic threat picture capable of supporting real-time

operational decisions? If so, please explain your answer. If not, please explain what steps you would take, if confirmed, to improve global sensor integration.

ANSWER: An effective missile defense architecture requires persistent and integrated battlespace awareness. Multi-domain sensors support missile defense and other missions, providing real-time detection, warning, tracking, and targeting information that is critical to decision-makers and commanders during a crisis. If confirmed, I will work within the Department to ensure prioritization of the integration of new and existing sensor capabilities to provide the improved all domain awareness and informed decision making necessary for missile defense.

The cancellation of the Redesigned Kill Vehicle program with the replacement of the Next Generation Interceptor program has resulted in a likely delay of at least 10 years before the deployment of modernized ground-based interceptors for homeland ballistic missile defense.

82. Do you support the Next Generation Interceptor program and the fielding of additional interceptors from this program, presuming the program achieves its acquisition objectives?

ANSWER: I support the Department's March 2021 decision to commit to the development of 20 additional Next Generation Interceptors by the end of the decade. Defense of the homeland is a top DoD priority, and the Next Generation Interceptor is a key element of a more reliable and effective homeland missile defense architecture. If confirmed, I will work to ensure the Next Generation Interceptor acquisition plan adequately addresses the threat, meets warfighter requirements, and aligns with the Administration's policies.

A Navy Aegis Destroyer was able to successfully intercept an ICBM-class target, raising the possibility of using a system of Homeland Defense layered between the Ground Based Interceptor at mid-flight and the Aegis system for intercepts in the final phases of the ICBM's trajectory.

83. In your view, would this layered approach require a change in policy with respect to the types of interceptors used, the defended area, and the specific threats each is deployed against?

ANSWER: Any decision to bolster homeland missile defense with new or existing capabilities requires weighing a variety of factors, to include cost and feasibility. If confirmed, I will work to ensure that the Department uses the congressionally-directed layered homeland defense analysis to help determine the proper mix of capabilities to defend the homeland against limited ICBM threats, such as the threat posed by North Korea.

Missile and rocket attacks by Iran and Iranian-backed proxies in the Middle East have highlighted the shortage of Theater Integrated Air and Missile Defense (TIAMD) assets available to protect deployed U.S. forces. This same shortage is most acute in U.S. European Command and INDOPACOM, where the missile threats are much more

sophisticated. Air defense units remain the highest-demand, lowest-density forces in the Army.

84. In your view, should DOD expand its theater missile defense capabilities (including improvements to existing systems or the development of new systems), capacity (increased procurement of existing systems), or both? Please explain your answer.

ANSWER: Each Area of Responsibility (AOR) is unique, posing different issues and challenges. In general, the need for integrated air and missile defense capabilities is growing in most theaters as potential adversaries continue to develop and expand their missile capabilities. If confirmed, I will work closely with Department leaders, including the Joint Staff and the relevant Combatant Commands, to help determine the most appropriate mixture of missile defense capabilities and other posture requirements to maintain theater readiness and ensure a strong deterrent.

85. Do you believe the United States should encourage regional allies and partners to increase their missile defense capabilities to contribute to regional security and help reduce the burden on U.S. forces and requirements?

ANSWER: Yes. We face a dangerous era of sophisticated missile threats, including advanced ballistic missiles, cruise missiles, and hypersonic missiles. Strategic competitors and potential adversaries are pursuing anti-access and area-denial (A2/AD) strategies that leverage missile forces intended to inhibit and disrupt U.S. and allied military freedom of maneuver. Allies and partners have the lead role in their own sovereign defense, backstopped by mutual security treaty obligations and other relationships with the United States. If confirmed, I will work closely with our allies and key partners to increase their own Integrated Air and Missile Defense (IAMD) capabilities.

Policy to Counter Weapons of Mass Destruction

The office for which you have been nominated will exercise primary strategy, policy and oversight responsibility for Countering Weapons of Mass Destruction (CWMD)—nuclear, biological, and chemical weapons.

86. What do you believe are the principal challenges for this mission relating to CWMD, and if confirmed, what would be your priorities for reviewing and updating DOD's strategy and policy in this domain?

ANSWER: Secretary Austin has identified China as the current pacing challenge for the Department. The current or potential WMD threats emanating from Russia, North Korea, and Iran also pose a risk to our national security. Our primary objectives must be to make sure that the United States and our allies and partners are postured and prepared to respond to WMD use and deter adversaries from acting against vital U.S. interests, including by defending our allies from military aggression. To achieve these objectives, one of my top priorities if confirmed will be to update the Department's 2014 CWMD strategy.

87. If confirmed, how would you integrate the Intelligence Community into the CWMD mission?

ANSWER: I recognize and appreciate the critical role of the Intelligence Community in the CWMD mission and its efforts to share intelligence within the DoD, other Departments and Agencies, and with partners and allies in support of CWMD efforts. If I am confirmed, I will work with my counterpart in OUSD(I&S) to sustain and enhance IC integration into the CWMD mission.

88. What is your understanding of the role of your office in regard to technology security matters related to multilateral arms control, export control, and nonproliferation, and with which other DOD Components would you integrate your efforts in this regard, if confirmed?

ANSWER: If confirmed, I will oversee the development and implementation of CWMD strategy and policy guidance for the Department, to include guidance pertaining to multilateral arms control, and nonproliferation. In this role, I would work closely with the Defense Technology Security Administration (DTSA), the OSD lead for the four multilateral export control regimes and for technology security issues associated with military and dual-use exports, as well as other DoD components, Offices of the Under Secretaries of Defense for Acquisition and Sustainment (A&S) and for Research and Engineering (R&E), the Joint Staff, and the Military Departments. All of these DoD components have important responsibilities related to technology security, to include capability development, investment review, and monitoring and oversight of DoD's weapons programs and arms control compliance. These efforts are also whole of government, as such, I would sustain close collaboration with the Department of State, the overall Federal lead for multilateral arms control, export control, and nonproliferation, as well as the Departments of Commerce and Treasury, which all have roles in export control issues.

The August 2016 revision of the Unified Command Plan (UCP) transferred the mission for synchronizing global DOD operations for countering WMD from U.S. Strategic Command (STRATCOM) to U.S. Special Operations Command (SOCOM).

89. What is your understanding of SOCOM's responsibilities for synchronizing global DOD operations for countering WMD?

ANSWER: As I understand it, USSOCOM's mission serves as the global synchronizer, coordinator, and advocate for the combatant commanders' countering WMD activities and capabilities.

90. What is your understanding of the oversight responsibilities of the office for which you have been nominated with regard to this mission change and how should those responsibilities integrate with those of the ASD(SOLIC), in your view?

ANSWER: I understand that ASD(Space Policy) will have oversight over the CWMD strategy and policy. As part of this portfolio, the ASD(Space Policy) works in close

collaboration with ASD(SOLIC) on the range of countering WMD terrorism issues. ASD(Space Policy) will have the lead for policy and strategy development and international engagement on issues related to countering WMD terrorism, while ASD(SOLIC) has the primary responsibility for matters related to special operations forces' assigned to USSOCOM and its subordinate commands. In the event we need to plan and execute a CWMD terrorism response mission, ASD(SOLIC) will have the policy lead for mission planning and execution, and ASD(Space Policy) will support.

91. Against which threats and in which regions of the world do you perceive the U.S. should focus its CWMD efforts?

ANSWER: Based on public information, it is clear that China, Russia, and North Korea are all continuing efforts to modernize and expand their WMD and/or delivery system capabilities, with direct impacts for strategic stability in the Indo-Pacific and Europe. If confirmed, I will review the full range of DoD and intelligence assessments regarding adversary WMD capabilities; we must focus our CWMD efforts on those threats that pose the greatest risk to the United States, our forward deployed forces, and our allies and partners. DoD must also continue to support whole-of-government efforts to prevent Iran from acquiring a nuclear weapons capability and to address Iran's destabilizing activities in the region, such as its missile program. Finally, DoD must continue to contribute towards global initiatives to prevent non-state actors from acquiring WMD-related materials or capabilities.

Cooperative Threat Reduction Program

92. If confirmed, what would be your role in implementing and overseeing the Cooperative Threat Reduction (CTR) Program?

ANSWER: If confirmed, per the DoD CTR Programs' relevant governance directives, I would issue policy guidance for the DoD CTR Program and closely coordinate with the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (ASD/(NCB)) to oversee the Defense Threat Reduction Agency's execution of the program. I would also engage with U.S. interagency and international counterparts on nonproliferation and weapons of mass destruction (WMD) threat reduction strategies, activities, and opportunities in order to respond to the evolving WMD landscape.

93. If confirmed, what changes, if any, would you recommend to the CTR Program, including changes in legislative authorities, programs, and funding?

ANSWER: For 30 years the DoD CTR Program's flexible authorities, programs, funding and forward-leaning strategic guidance have allowed it to respond to emerging WMD threats, and unexpected crises. I understand that the OUSD Policy, in partnership with A&S and DTRA, is reviewing the global WMD threat environment and assessing desired WMD threat reduction outcomes over the next decade. If confirmed, I look forward to receiving the results of this review, which will inform my recommendations on potential changes to the DoD CTR Program's statutory authorities, programs, and funding.

94. What is your vision for the evolution of the CTR program as it transitions away from Russia to countries outside the former Soviet Union?

ANSWER: The DoD CTR Program ended its work in Russia in 2014; it now reduces WMD threats in over 30 countries globally, including in several former Soviet states. Russia's sophisticated and growing WMD program, highlighted by its increasingly brazen use of chemical weapons in violation of the Chemical Weapons Convention, continues to threaten neighbors in Eastern Europe and Eurasia. DoD CTR's engagements have helped many regional partners to develop core nonproliferation capabilities and understanding, and I expect DoD CTR to continue to work with key partners to mature those capabilities. The DoD CTR Program has also expanded into the Indo-Pacific region, largely to counter biological threats and the proliferation of WMD-applicable goods transiting through the region to countries like Iran, Syria, and the DPRK. In the future, I expect the DoD CTR Program to continue operating in that region.

95. In your view, what should be the relationship between the CTR Program and DOD's Chemical and Biological Defense Program, with regard to a focus on reducing biological threats?

ANSWER: My understanding is that the Chemical and Biological Defense Program (CBDP) is under the jurisdiction of the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (ASD/(NCB)), who reports to the Under Secretary of Defense for Acquisition and Sustainment (A&S). My understanding of the relationship between the DoD Cooperative Threat Reduction (CTR) Program and CBDP is that CBDP focuses on developing the tools and other capabilities needed to counter chemical and biological threats, and the DoD CTR Program works to provide some of those tools to partner nations in order to support their ability to prevent, detect, and report biological threats. If confirmed, I will work with the ASD(NCB) to continue coordinating those two efforts' biosecurity and biodefense activities, achieving program efficiencies and improving the Department's overall biological threat response capabilities.

For years, the CTR program has been working with host nations and their scientists to safely and securely operate high containment facilities handling dangerous pathogens.

96. What are your views on the progress being made by this effort?

ANSWER: My understanding is that the DoD CTR Program's partners have benefited from the assistance the DoD CTR Program has provided them over the years to help consolidate and reduce collections of pathogens, improve laboratory operations, and adopt internationally-recognized biosafety and biosecurity practices.

97. How could the CTR program's work in this regard be integrated into a whole-of-government approach to a national biodefense strategy?

ANSWER: The Department of Defense plays a critical role in implementing the National Biodefense Strategy, and the DoD CTR Program is one resource out of many that the

Department leverages in its biodefense efforts. My understanding is that the DoD CTR Program routinely coordinates and deconflicts with other U.S. Government departments and agencies to avoid duplication and leverage potential synergies. If confirmed, I would encourage the DoD CTR Program to continue such coordination.

98. If confirmed, how would you integrate your efforts vis-à-vis the CTR program with the work of the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs?

ANSWER: My understanding is that the DoD CTR Program is managed by three DoD entities, including the Deputy Assistant Secretary of Defense (DASD) for Nuclear and CWMD (N/CWMD) Policy office, which issues and oversees strategic policy guidance; the DASD for Threat Reduction and Arms Control office in ASD(NCB), which provides programmatic oversight; and the Defense Threat Reduction Agency, which executes activities. Only the N/CWMD Policy office would fall under my responsibility, if I am confirmed. If confirmed, I would continue to encourage the three DoD entities to coordinate and cooperate in overseeing and implementing the DoD CTR Program.

Chemical and Biological Defense

The office of the ASD(SP) is responsible for the Chemical and Biological Defense Program of the Defense Department.

99. What do you believe are the principal challenges in chemical and biological defense, and if confirmed, what would be your priorities for the DOD Chemical and Biological Defense Program?

ANSWER: The ASD for Space Policy will coordinate with the Chemical and Biological Defense Program (CBDP) but is not responsible for, nor does it have oversight of, the CBDP. That responsibility is vested within the Office of the Under Secretary of Defense for Acquisition and Sustainment -- specifically, the ASD for Nuclear, Chemical, and Biological Defense Programs (ASD/NCB), the Hon. Deborah Rosenblum. If confirmed, I look forward to working with ASD Rosenblum as she leads the DoD's research, development, and acquisition of capabilities to protect the warfighter in defending against current and emerging chemical and biological threats.

100. In your view, how could the Chemical and Biological Defense Program be better coordinated and integrated with efforts of the CTR program focused on reducing biological threats?

ANSWER: The Defense Threat Reduction Agency executes program development responsibilities of DoD's Cooperative Threat Reduction program as guided by the OUSD(Policy) to support threat reduction efforts in partnership with likeminded allies and partners. The Chemical and Biological Defense Program was created to develop capabilities for the warfighter to fight and win in a chemical or biological contest environment. If

confirmed, I would work closely with the ASD(NCB) to ensure these programs are coordinated and integrated.

During the first year of the COVID pandemic, the Joint Program Office (JPO) for Chemical and Biological Defense obligated more than \$24 billion in interagency funding to develop, procure, and distribute COVID vaccines and therapeutics.

101. From your perspective, how could the JPO's successful processes in this regard be applied in other contexts?

ANSWER: The Department of Defense supported national level efforts to develop, procure, and distribute COVID-19 vaccines and therapeutics through the USG-led Operation Warp Speed. If confirmed, my responsibilities as ASD(SP) will include developing strategies and policies to enable the Joint Force to train and operate in a biologically contaminated environment. I understand the Department is conducting a Biodefense Posture Review (BPR) where Policy and A&S are co-leading a DoD-wide effort to examine this very question (among other issues). If confirmed, I look forward to updating the Committee as the Department completes the BPR.

102. Is there a continuing role for the JPO in regard to COVID? If so, what would you envision that role to be?

ANSWER: The ASD for NCB, under the USD for A&S, has oversight of the Joint Program Executive Office for Chemical Biological Radiological and Nuclear Defense (JPEO-CBRND), including their role in supporting the Department's support to the COVID response. If confirmed, my responsibilities as ASD for Space Policy would not include oversight of the Department's role in the ongoing COVID response.

Chemical Demilitarization

DOD Directive 5160.05E establishes DOD policy that "the Department of Defense shall be in full compliance" with the Chemical Weapons Convention (CWC) and the Biological Weapons Convention (BWC). In 2006, the Department announced that the United States would not meet the extended deadline of April 2012 for destruction of its chemical weapons stockpile, as required under the CWC. That deadline was then adjusted to December 31, 2023.

103. Do you agree that the DOD and the U.S. Government should be in full compliance with the terms and obligations of the CWC and the BWC, including the deadline for destruction of the U.S. chemical weapons stockpile under the CWC?

ANSWER: I completely agree that United States should be in full compliance with our obligations under the CWC and BWC. While, if confirmed, I will not have direct oversight of this issue, I look forward to working with my colleagues in OUSD(A&S) who oversee DoD treaty compliance and the destruction of the remaining U.S. stockpile.

104. If confirmed, what specific steps would you take to ensure that the United States completes destruction of the U.S. chemical weapons stockpile, without sacrificing safety or security, and as close in time as practicable to the December 31, 2023 deadline?

ANSWER: I understand that, if confirmed, I will not have direct oversight of the program to destroy the remaining U.S. stockpile of chemical weapons. However, I will commit to working closely with OUSD(A&S), which has responsibility for oversight and execution of the program, on any areas where my future responsibilities and theirs overlap or intersect. As I understand it, we are on track to eliminate our remaining chemical weapons stockpile by December 31, 2023.

Proliferation Security Initiative

The Proliferation Security Initiative (PSI) is an international effort to identify and interdict WMD and related materials.

105. If confirmed, would you recommend that the PSI program be discontinued, sustained, or enhanced? Please explain your answer.

ANSWER: The PSI remains an essential tool in the U.S. and global effort to counter the proliferation of WMD. It provides States with a framework for strengthening WMD interdiction capabilities and builds political will for counterproliferation efforts. If I am confirmed, I will advocate to sustain DoD's role in PSI and, in cooperation with the Department of State, advance its momentum throughout the world.

Relationship Between Cyber and Information Operations

In the Defense Department, CYBERCOM is focused on technical cyber missions and skills, while different organizations are responsible for information operations, psychological and deception operations, and electronic warfare. In addition, there are concerns that DOD's focus on tactical and operational support to deployed forces has resulted in neglect of strategic-level information operations.

106. What are your views as to whether CYBERCOM should be assigned responsibility for information operations in addition to cyber operations?

All combatant commanders currently have some responsibility and authority related to information operations, including Commander, U.S. Cyber Command (USCYBERCOM). I recognize, however, that there is a particularly important need to ensure the effective integration of information operations capabilities in the digital domain. If confirmed, I will support continued efforts to integrate these capabilities across the Department and empower USCYBERCOM to operate most effectively against threats from overseas. I understand that the Office of Cyber Policy will serve as the OSD Policy lead for both cyber and electronic warfare issues.

107. What changes do you think are necessary to improve the DOD’s ability to detect and counter information operations, both defensively and offensively?

It is critical that the Department continue to harness the insights gained from its intelligence and information collection to inform whole-of-government efforts to detect and counter foreign information operations, and support the conduct of DoD operations, when appropriate. If confirmed, I will work with the Principal Information Operations Advisor (PIOA) and other key DoD stakeholders to identify and remedy any policy, organizational, authority, capabilities, or other gaps or challenges that can improve the Department’s ability to detect and counter foreign information operations.

108. What are your views on the recommendations of the Defense Science Board Task Force on Cyber Deterrence?

ANSWER: I generally agree with the Task Force on the need to develop appropriate guidance for the development of a broad range of offensive cyber options, but I recognize the significant complexity in terms of the relationship between offensive cyber capabilities and strategic deterrence. If confirmed, I will support the implementation of the Secretary’s vision of integrated deterrence and work to appropriately incorporate current and new cyber capabilities with space and other capabilities to provide, as Secretary Austin has stated, “the right mix of technology, operational concepts and capabilities – all woven together and networked in a way that is credible, flexible and so formidable that it will give any adversary pause.”

109. In your view, how effective has the extant “whole-of-government” approach been in combatting hostile information operations directed against the United States, its allies, and interests?

Following the Russian Government’s efforts to influence and interfere in the 2016 U.S. election, the U.S. Government recognized the increasingly critical need to combat hostile foreign information operations directed against the United States and its interests. I look forward to supporting the Department of Defense’s important role in these whole-of-government efforts to secure and defend U.S. elections, which I understand have matured considerably in the recent years. I will also support the Department’s role in broader efforts to combat foreign information operations as appropriate, with a recognition of the key role of U.S. domestic agencies in many of these efforts.

Dual Hatting of Commander, CYBERCOM

110. In your view, should the arrangement whereby the Commander, CYBERCOM is “dual-hatted” as the Director of the National Security Agency (NSA) be maintained, modified, or ended? Please explain your answer.

ANSWER: It is my understanding that the Secretary of Defense and the Chairman of the Joint Chiefs of Staff may not terminate the dual-hat arrangement without jointly certifying to Congress that the specific conditions established in the National Defense Authorization Act

for Fiscal Years 2017 and 2020 have been met. If confirmed, I will work closely with USCYBERCOM, the Joint Staff, and other key stakeholders to ensure that any recommendation to the Secretary of Defense and the Chairman of the Joint Chiefs of Staff concerning the “dual-hat” arrangement is guided by the nature of the domain and the national security and the operational effectiveness of the Department of Defense, and comports with statutory requirements. I understand the Department’s superiority in the cyber domain depends on maintaining speed, agility, and a unified effort across the spectrum of cyber activities, and I am committed to ensuring that any decision regarding the “dual-hat” arrangement protects our national security interests and furthers the Department’s success in cyberspace.

Development of Cyber Capabilities

CYBERCOM has depended heavily to date on NSA for technology, equipment, capabilities, concepts of operations, and tactics, techniques, and procedures.

111. In your view, is DOD properly organized and resourced to provide a broad base of innovation and capability development in the cyber domain? Please explain your answer.

ANSWER: It is my understanding that the Department is undertaking substantial efforts to ensure that it is well-positioned to develop and acquire innovative offensive and defensive cyber capabilities. These efforts include, for example, the Defense Innovation Unit’s outreach with leading commercial cybersecurity firms and United States Cyber Command’s commercial outreach, coordination with Intelligence Community partners, and acquisition activities that support innovation and capability development. These efforts will mature as the Department’s science, technology, and acquisition enterprises evolve to support United States Cyber Command’s operational needs. If confirmed, I will work with the appropriate principal staff assistants and component heads to ensure that the Department leverages opportunities to improve the organization and resourcing of such activities as they emerge.

112. Please describe your understanding of the relationship between the ASD(SP) and the Department of Defense Chief Information Officer, particularly with respect to DOD’s cyber mission.

ANSWER: My understanding of DoD’s cyber mission is that it is a highly federated domain requiring collaboration among many officials representing OSD offices, Defense Agencies, Combatant Commands, Military Departments and other organizations. The ASD for Space Policy is responsible for broad cyber policy and strategy matters while the DoD Chief Information Officer is responsible for maintaining and strengthening important technical capabilities such as cybersecurity; national security systems; and command, control, and communication systems. With regard to the relationship of these two officials, I believe close collaboration on key issues such as the cybersecurity of the Department of Defense Information Network (DoDIN) and the Defense Industrial Base, defending the nation, modernizing cryptographic encryption, and strengthening the Department’s electromagnetic spectrum enterprise, are crucial to succeeding in the cyber mission area.

113. Please describe your understanding of the relationship between the ASD(SP) and the Commander of U.S. Cyber Command (CYBERCOM).

ANSWER: I understand the ASD(SP) has responsibilities for representing the Secretary of Defense and the Under Secretary of Defense for Policy in both interagency and international fora relating to cyberspace, including those pertaining to USCYBERCOM missions and responsibilities. I also understand that ASD(SP) participates in and advises on the planning, programming, budgeting, and execution (PPBE) processes, including as they relate to cyberspace items pursuant to USCYBERCOM's Enhanced Budget Control. Furthermore, the ASD(SP) provides policy oversight for military programs, activities, authorities, and associated cyberspace operations forces, including those of USCYBERCOM. The Commander, USCYBERCOM reports directly to the Secretary of Defense for operations.

114. Please describe your understanding of the relationship between the ASD(SP) and the Principal Cyber Advisors of the Military Departments.

ANSWER: It is my understanding that the ASD(SP), dual-hatted as the Principal Cyber Advisor to the Secretary of Defense, is responsible for ensuring the overall integration of activities that support the Department's cyber operations and overseeing United States Cyber Command. In such a role, the ASD(SP) works with and through the military departments, combatant commands, and combat support agencies to ensure the integration of research and development, acquisition, intelligence, resourcing, and operational activities and the adequacy of forces, capabilities, and support provided to United States Cyber Command. The ASD(SP) therefore works closely with the Principal Cyber Advisors of the Military Departments, ensuring alignment between the Service-specific activities that they superintend and the priorities and requirements of the broader cyber operations community, as established in the Department's cyber strategy.

Cyber Operations

The Fiscal Year 2019 National Defense Authorization Act affirmed the authority of the Secretary of Defense to conduct military activities and operations in cyberspace. Also in 2018, National Security Presidential Memorandum-13 (NSPM-13), set forth the process for reviewing and approving military cyber operations.

115. What is your view of the impact of these two developments on cyber operations within the Department of Defense?

ANSWER: It is my understanding that these developments have made a very positive contribution to national security by enabling the Department of Defense to perform effectively its mission to disrupt malicious cyber threats overseas before they reach our networks. I appreciate the progress that the Department has made since 2018, including with the help of Congress to clarify the Secretary of Defense's authority to conduct cyberspace operations.

116. Please describe your views on NSPM-13. Do you have any recommendations for modifications to NSPM-13?

ANSWER: It is my understanding that the existing policy framework for approving offensive cyber operations has resulted in well-coordinated, risk-managed, and timely DoD cyber operations. If confirmed, I will work to ensure continued transparency and collaboration with interagency partners consistent with the existing coordination process outlined in NSPM-13 or successor guidance. I look forward to supporting any additional steps that would aid the Department's efforts to conduct cyber operations in accordance with our assigned missions at the speed of relevance.

The September 2018 DOD Cyber Strategy charges DOD to “defend forward, shape the day-to-day competition, and prepare for war” to compete, deter, and win in the cyber domain.

117. What role do you envision for DOD and the Cyber Mission Force in defending the nation from an attack in cyberspace?

ANSWER: The Department of Defense brings a number of capabilities and authorities to bear in defending the nation from an attack in cyberspace. The Cyber Mission Force (CMF) conducts “defend forward” operations to disrupt malicious cyber activity at its source. There are several ways that the Department and its CMF can “defend forward” in cyberspace, including: 1) generating insights about threats outside U.S. networks; 2) improving the defenses of interagency, industry, and international partners by sharing DoD's unique insights on threat actors; and 3) disrupting adversary cyber actors, when necessary. Additionally, another department or agency may request DoD provide defense support of civil authorities should a cyber-incident exceed that department's or agency's capacity and/or capability.

118. In what ways is this role distinct from those of the homeland security and law enforcement communities?

ANSWER: The homeland security and law enforcement communities lead the U.S. Government efforts to respond to malicious cyber activity that is principally criminal in nature, such as ransomware. The Department may play a supporting role in countering such criminal activity, including by sharing information with the homeland security and law enforcement communities.

119. How will the “defend forward, shape the day-to-day competition, and prepare for war” concepts deter and disrupt Russia and China in cyberspace?

ANSWER: China and Russia are conducting persistent malicious cyber campaigns to erode U.S. military advantages, threaten our infrastructure, and undermine our economic prosperity. I believe the Department must effectively counter these campaigns by taking proactive action to: generate insights about the adversary's cyber operations and capabilities;

enable its interagency, industry, and international partners to create better defenses; and acting, when necessary, to disrupt adversary cyber actors and to halt malicious activities.

120. In your view, how well postured is the DOD to meet the goals outlined in the 2018 DOD Cyber Strategy?

ANSWER: It is my understanding that the Department has made substantial progress toward meeting the objectives of the 2018 DoD Cyber Strategy, including through growth in cyber resources and manpower and an increase in the maturity and capabilities of U.S. Cyber Command. If confirmed, I look forward to building on those successes by further improving the Department's ability to compete and win in cyberspace and overseeing the upcoming Cyber Posture Review.

121. What actions do you think need to be taken in the DOD to address any gaps with the 2018 DOD Cyber Strategy?

ANSWER: If confirmed, I look forward to working closely with my team and other DoD components to identify any gaps in strategy implementation and to develop a plan of action for closing those gaps.

122. What are your views on Hunt Forward missions and their contribution to the 2018 Cyber Strategy?

ANSWER: I support USCYBERCOM's execution of Hunt Forward Operations (HFOs). It is my understanding that HFOs are an important component of DoD's efforts to implement the 2018 DoD Cyber Strategy. HFOs are a prime example of USCYBERCOM "defending forward" by conducting defensive cyber operations on the networks of allies and partners outside of the DoD Information Network (DoDIN). I understand HFOs have been an essential element of shaping day-to-day competition and allow U.S. Cyber Mission Forces to hone their defensive skills by conducting real-world defensive cyber operations on unfamiliar networks and through exposure to adversary tactics, techniques, and procedures. As such, HFOs are critical to preparing U.S. forces to better defend the DoDIN in future conflict.

Cyber Posture Review

DOD is conducting a mandatory cyber posture review. The Committee believes that the previous posture review was a success largely because the Principal Cyber Adviser and supporting cross functional team tracked implementation tasks and progress, and reported regularly to senior leaders.

123. What are your plans for conducting the cyber posture review, gap analysis, and oversight of implementation?

ANSWER: I look forward to carrying out, if confirmed, a comprehensive posture review of the Department's cyber enterprise. I would expect a posture review will inform development of the Department's cyber strategy and subsequent implementation efforts by revealing the

most critical posture, policy, and process gaps across the Department's cyber enterprise. If confirmed, I will ensure that my team and I work closely with the appropriate principal staff assistants and component heads in the execution of such a posture review and during concerted implementation efforts.

Cyber Security

The ASD(SP) serves as the Principal Cyber Advisor (PCA) to the Secretary of Defense and has primary responsibility for DOD cyber policy.

124. What qualifications do you possess for performing the duties of the PCA?

ANSWER: As a former principal director and acting DASD at the Pentagon, director of defense policy and strategy on the National Security Council staff, senior engineer at RAND (a Federally Funded Research and Development Center), Chief of Government Relations at the Aerospace Corporation (also a Federally Funded Research and Development Center), and a United States Navy Reserve Captain, I have substantial experience in the development of defense policy and programs. As a Senior Engineer at RAND, I led a team for the Chief Information Officer at the Federal Emergency Management Agency (FEMA) to examine FEMA cyber maturity and develop tools and recommendations to improve that maturity. At Aerospace I have directed and organized technical briefings on cybersecurity threats to satellites. My education, engineering experience, and previous roles in the national security community have introduced me to a number of policy, technology, and programmatic issues relevant to cyberspace operations, including at the intersection of space, nuclear, and cyber forces and operations. If confirmed, I will work to ensure effective execution of my responsibilities relevant to cyber operations, policy, and programs. I also have substantial experience in convening and collaborating with partners across the defense community and participating in decision-making processes and reforms for complex defense issues. If confirmed, I expect that this experience will inform my advice to the Department's senior leadership and enable my partnerships with appropriate combatant commanders, component heads, and principal staff assistants.

125. What is your understanding of the role of the PCA in supporting the Deputy Secretary and Secretary of Defense and in overseeing CYBERCOM?

ANSWER: As I understand it, the Principal Cyber Advisor to the Secretary of Defense is responsible for: advising the Department's senior leadership on matters relevant to cyber operations, forces, policies, and programs; driving implementation of the Department's cyber strategy; and overseeing United States Cyber Command in a manner analogous to that of the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict and United States Special Operations Command. The Principal Cyber Advisor is not in the chain of command but serves a critical role in overseeing and aligning United States Cyber Command, its operations, and supporting activities within the Military Services and the Intelligence Community in partnership with the relevant principal staff assistants.

126. What is your understanding of the relationship between the PCA and the Principal Information Operations Advisor (PIOA), between the cyber mission and the IO mission, and between the DOD components assigned to execute the two missions?

ANSWER: As I understand it, the Principal Cyber Advisor to the Secretary of Defense and the Principal Information Operations Advisor work closely to ensure that forces, programs, processes, and policies germane to different facets of information warfare interoperate effectively. If confirmed, I will work closely with the Principal Information Operations Advisor to mature the Department's ability to execute these missions, especially where information is delivered through cyber means or is used to pronounce the effect of cyber operations.

The cyber and information operations missions have significant overlap and synergies to the extent that cyber operations can be used to deliver information as part of information operations. Information operations can also enable or pronounce the effects of cyber operations.

The components and forces responsible for each of these missions span the combatant commands, the Services, and the Intelligence Community. Depending on the organization in question, these components and forces may be the same; others exhibit split responsibilities and functions across the cyber and information operations missions.

127. What is your view of the appropriate relationship and division of responsibility between the Commander, NORTHCOM and the Commander, CYBERCOM with respect to cyber support to civil authorities?

ANSWER: I understand that Commander, USNORTHCOM and Commander, USCYBERCOM, have significant roles to play in protecting the Nation from malicious cyber activity. If confirmed, I will work with my Joint Staff colleagues to ensure that the Department approaches homeland cybersecurity and resilience with a command and control structure optimized for the cyber threats we are facing.

128. If confirmed, what would you see as your role vis-à-vis the newly established National Cyber Director?

ANSWER: I see the Department of Defense supporting the National Cyber Director's efforts to coordinate cybersecurity strategy across the government and partner with our commercial and international partners to increase national cybersecurity and resilience.

129. In your view, what role should the NCD play in the planning, conduct, and oversight of DOD cyber operations?

ANSWER: It is my understanding that the Secretary of Defense is granted sole authority, direction, and control over DoD operations, including cyber operations that are executed in accordance with the authority granted by the President. If confirmed, I will collaborate with the NCD on the development of national cyber strategy, policy, and campaigns, and will

work closely with the NCD to integrate DoD cyber operations into whole-of-government cyber planning. However, the establishment of the NCD does not modify the authority or responsibilities of the Secretary for the planning, conduct, and execution of DoD cyber operations.

Ransomware

The United States has been rocked by a series of significant ransomware attacks affecting critical infrastructure and organizations. Attacks such as these have been facilitated or conducted by large, sophisticated criminal enterprises that are permitted to operate in the countries in which they are principally located. Significant ransomware attacks could cause substantial damage to critical infrastructure in peacetime or in a future crisis or conflict, and therefore pose a clear national security threat. United States Cyber Command is among the few government organizations with the capabilities to directly diminish this threat and thereby establish a degree of deterrence.

130. What are your views on the foreign-based ransomware threat from large criminal organizations?

ANSWER: The United States has been subjected to an increasing number of serious ransomware attacks facilitated by criminal organizations located in countries whose governments have created permissive environments for ransomware actors to operate. President Biden, and Administration officials at various levels, have conveyed that such ransomware attacks are not acceptable.

131. What are your views on the role that the Cyber Mission forces could play in imposing costs on such activities, as one aspect of a larger, whole-of-government response?

ANSWER: The Department of Defense brings to bear unique authorities and capabilities to support whole-of-government efforts to disrupt ransomware actors and defend against ransomware attacks. I understand that U.S. Cyber Command and the National Security Agency are dedicating people, technology, and expertise to generate insights and options to disrupt ransomware threats at the source, before they reach our networks. If confirmed, I will work to ensure that the Department continues to support whole-of-government efforts to counter ransomware threats, including through robust sharing of information that can enable our law enforcement partners as well as the Department of Homeland Security.

Cyber Notifications

Cyber notifications from the Department for sensitive cyber military operations, as required by law, are critical for the committee to perform adequate oversight of these operations.

132. If confirmed, do you commit to providing Congress with timely cyber operations notifications that contain enough information in order for Congress to perform adequate oversight of these operations?

ANSWER: Yes. I understand that DoD officials have worked with Congress to update the format and depth of information in our notifications for sensitive cyber military operations. If confirmed, I commit to provide Congress with the timely information it requires to perform its role.

133. Are there other steps that you will take, if confirmed, to help Congress perform oversight over these critical operations?

ANSWER: If confirmed, I am committed to working to identify steps that would help Congress perform its role in a well-informed manner.

Sexual Harassment

In responding to the 2018 DOD Civilian Employee Workplace and Gender Relations survey, 17.7 percent of female and 5.8 percent of male DOD employees indicated that they had experienced sexual harassment and/or gender discrimination by “someone at work” in the 12 months prior to completing the survey.

134. If confirmed, what actions would you take were you to receive or become aware of a complaint of sexual harassment or discrimination from an employee of the Office of the ASD(SP)?

ANSWER: If confirmed, and if I was to receive or be made aware of a complaint of sexual harassment or discrimination, I would take immediate, serious action by initiating an inquiry to gather all facts, conduct necessary interviews, collect information, and address the complaint within the specified guidelines of Federal statutes and Department of Defense regulations and policies. If confirmed, I would work with USD(P) to make clear to the workforce that they deserve a respectful workplace, that equality and diversity matter, and that I support the Department’s zero tolerance policy.

Congressional Oversight

In order to exercise legislative and oversight responsibilities, it is important that this committee, its subcommittees, and other appropriate committees of Congress receive timely testimony, briefings, reports, records—including documents and electronic communications, and other information from the executive branch.

135. Do you agree, without qualification, if confirmed, and on request, to appear and testify before this committee, its subcommittees, and other appropriate committees of Congress? Please answer with a simple yes or no.

ANSWER: Yes.

136. Do you agree, without qualification, if confirmed, to provide this committee, its subcommittees, other appropriate committees of Congress, and their respective staffs such witnesses and briefers, briefings, reports, records—including documents and electronic communications, and other information, as may be requested of you, and to do so in a timely manner? Please answer with a simple yes or no.

ANSWER: Yes.

137. Do you agree, without qualification, if confirmed, to consult with this committee, its subcommittees, other appropriate committees of Congress, and their respective staffs, regarding your basis for any delay or denial in providing testimony, briefings, reports, records—including documents and electronic communications, and other information requested of you? Please answer with a simple yes or no.

ANSWER: Yes.

138. Do you agree, without qualification, if confirmed, to keep this committee, its subcommittees, other appropriate committees of Congress, and their respective staffs apprised of new information that materially impacts the accuracy of testimony, briefings, reports, records—including documents and electronic communications, and other information you or your organization previously provided? Please answer with a simple yes or no.

ANSWER: Yes.

139. Do you agree, without qualification, if confirmed, and on request, to provide this committee and its subcommittees with records and other information within their oversight jurisdiction, even absent a formal Committee request? Please answer with a simple yes or no.

ANSWER: Yes.

140. Do you agree, without qualification, if confirmed, to respond timely to letters to, and/or inquiries and other requests of you or your organization from individual Senators who are members of this committee? Please answer with a simple yes or no.

ANSWER: Yes.

141. Do you agree, without qualification, if confirmed, to ensure that you and other members of your organization protect from retaliation any military member, federal

employee, or contractor employee who testifies before, or communicates with this committee, its subcommittees, and any other appropriate committee of Congress? Please answer with a simple yes or no.

ANSWER: Yes.