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Performing the Duties of Assistant Secretary of Defense for Space Policy
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Introduction

Chairman King, Ranking Member Fischer, and distinguished Members of the Subcommittee, thank you for the opportunity to testify before you today on space security in an era of strategic competition. It is an honor to appear beside my distinguished colleagues on this panel.

When Congress passed the National Defense Authorization Act (NDAA) for Fiscal Year 2020, which established the U.S. Space Force (USSF) as a new branch of the Armed Forces, Congress also included Section 955, which required that one of the Assistant Secretaries of Defense would be the Assistant Secretary of Defense for Space Policy. As established by Section 955, the principal duty of the Assistant Secretary of Defense (ASD) for Space Policy "shall be the overall supervision of policy of the Department of Defense for space warfighting."

I am a 34-year career civil servant. For the past seven years, I have served as the Principal Director for Space Policy, and in that position, I am currently also performing the duties of the ASD for Space Policy. It is in that capacity that I appear before you today to address the space policy, space security, and related considerations of deterrence facing our nation in this era of destabilizing challenges from Russia and undeniable strategic competition with China.

Characteristics of Strategic Competition

As the Interim National Security Strategic Guidance states, the United States faces "a world of rising nationalism, receding democracy, growing rivalry with China, Russia, and other authoritarian states, and a technological revolution that is reshaping every aspect of our lives." The Interim Guidance describes China as "the only competitor potentially capable of combining its economic, diplomatic, military, and technological power to mount a sustained challenge to a stable and open international system."

More than just a competition between specific states, this is a competition between democratic systems of governance and authoritarian systems of governance. Authoritarian governments are working to reframe the current system in ways that reflect their authoritarian values, erode democratic norms and respect for human rights, and build relationships among states based on subservience rather than genuine partnerships or alliances among equals. We see their deliberate attempts to erode the rules-based international order, which has enabled all nations to develop and prosper for over 70 years, and has built the foundation for how countries interact at sea, in the air, and increasingly in space.

Competition between states promoting these different systems is playing out across the globe and in all domains. As noted however in the Interim Guidance, the fact of strategic competition between systems "does not, and should not, preclude working with China when it is in our

national interest to do so." At the same time, we must never lose sight of the fact that there is no moral equivalence between these two systems, and the competition between them is fundamental. We must continue to recognize that the open efforts by authoritarian states to undermine international laws, rules, and norms are antithetical to our security, our prosperity, and our continued advancement across all domains, including space.

Importance of Space Security

As we consider the growing challenges of space security, it is essential that we bear in mind the context of this strategic competition. Space security is not just about space itself. Instead, space security is about the benefits that space-based capabilities contribute to our modern economy, our democratic society, our military power, and our way of life – and space security is about the growing ability of others to deny those benefits, as well as to leverage the power of their own space-based capabilities to their own competitive advantage.

This subcommittee needs no reminder of how vital space is to the nation. On the other hand, most people have very little appreciation for how much of their daily life is intertwined with space, and how much of our national security power is based on an assumption of assured access to and use of space. Thus, it is worth considering the leading role of the United States, for more than 60 years, in exploring and using space to the benefit of humanity while simultaneously ensuring the safety, stability, sustainability, and security of space activities and the space environment.

DoD, together with our civil agency counterparts at the National Aeronautics and Space Administration and the National Oceanic and Atmospheric Administration, has been at the forefront of advancing the role of space in modern society. More recently, public-private partnerships and purely commercial ventures have taken ever-increasing and leading roles in expanding access to and use of space, and in transforming activities within and services delivered from space. According to research by Bryce Space Technologies, by 2019, the annual global space economy had grown to $366 billion. That figure includes the investments that governments and industries are making in new space capabilities, such as satellites, ground networks, and user equipment, and revenues they are generating through services they deliver from space, like broadband, television, radio, global navigation, and Earth imaging. It does not begin to capture the space-enabled activity rippling throughout other sectors of the economy – finance, transportation, agriculture, forestry, mining, manufacturing, health care, education, scientific research, and more. All these sectors use space-based capabilities to reduce costs, increase productivity, and improve the quality and delivery of their products and services to consumers.

Space-based capabilities are no less important to our national security, providing indications and warning of emerging threats and attacks; delivering the positioning, navigation, and timing signals that support rapid and precise global power projection; generating intelligence on operationally relevant timelines; and allowing national decision makers to anticipate risks, de-escalate crises, and simultaneously to command and control forces in multiple theaters around the globe, at both conventional and nuclear levels. These space-based capabilities underpin the

power of the Joint Force across all domains, they are integral to our deterrent capacity, and they have become a military center of gravity.

Threats to Space-based Capabilities

Of course, our strategic competitors also understand the importance of space-based capabilities. China and Russia each reorganized their militaries in 2015, emphasizing the importance of space and counterspace operations. Both have developed robust and capable space services, including satellite navigation, satellite communications, and space-based intelligence, surveillance, and reconnaissance. Each country has also made significant strides over the past two decades in developing counterspace capabilities.

As Secretary Austin has testified, "the growth of Chinese and Russian counterspace arsenals presents the most immediate and serious threats to U.S., allied, and partner space activities." Moreover, Secretary Austin further noted: "Chinese and Russian military doctrines also indicate that they view space as critical to modern warfare and consider the use of counterspace capabilities as both a means of reducing U.S. military effectiveness and for winning future wars."

Notable examples of Chinese and Russian counterspace developments include:

- China has deployed a satellite in geosynchronous orbit (GEO), the Shijian-17, which has a robotic arm that could be used for grappling other satellites in GEO.
- China and Russia have each developed multiple ground-based laser systems of varying power levels that could jam, blind, or damage satellite systems, and they continue to invest in new and improved systems.
- Russia has deployed multiple prototype antisatellite weapons in low Earth orbit (LEO) that could be used kinetically to destroy other satellites in LEO. These weapons include: COSMOS 2504 (SCC 40555), COSMOS 2536 (SCC 44424), and two sets of nested satellites, COSMOS 2519 (SCC 42798) (including COSMOS 2521 (SCC 42919), and COSMOS 2523 (SCC 42986)), and COSMOS 2542 (SCC 44797) (including COSMOS 2543 (SCC 44835)).
- Russia is developing the Nudol, a mobile ground-based missile designed to destroy satellites in low Earth orbit.
- China has operationally deployed the ground-based, kinetic-kill, anti-satellite missile that it used in 2007 in a destructive test that generated more than 3,000 trackable pieces of long-lived space debris and hundreds of thousands of smaller pieces of debris that are potentially lethal to other satellites.

Space and Integrated, Cross-Domain Deterrence

As these developments portend, the United States must now be prepared for conflict to extend to – or even to originate in or from – space. To be clear, such a conflict would not necessarily be a "space war" distinct from "terrestrial war," but would, instead, represent the extension of warfare

into the space domain of human endeavor. The motivations for an armed conflict that includes conflict in space likely would not be driven by competition or conflict over space-based interests, but would stem from the same types of political differences and power struggles among nations that have motivated human conflict in terrestrial domains throughout history. Such an extension of conflict to space would indicate one belligerent's calculation that it could gain military advantage by attacking its adversary's space center of gravity, but it likely would not be a distinct conflict from what might also be transpiring in air, maritime, land, and cyber domains.

Earlier this year, DoD submitted a report to Congress prepared by my office entitled, "Report on Deterrence in Space Pursuant to Section 1611 of the National Defense Authorization Act for Fiscal Year 2020, P.L 116-92." As the Department noted in that report, at its core, deterrence is about persuading an opponent not to take certain actions by altering the opponent's perception of the probability of success and the probability of significant negative consequences. Approaches to deterrence consist of two broad classes: (1) deterrence by denial; and (2) deterrence by cost imposition, including through both military and non-military means.

Within the framework of our national deterrence posture, effective space deterrence has two distinct dimensions. The first and narrower dimension is using the overall tools of U.S. national power to deter attacks against, and other forms of harmful interference with, U.S. space capabilities. The second and broader dimension is using U.S. space capabilities to contribute to deterrence of aggression in any domain.

At the Office of the ASD for Space Policy, we are focused on the integration of strategy, policy, plans, and appropriate means in order to develop a total space posture that conveys clearly to our competitors and any potential adversary the inadvisability of attacking U.S. space capabilities or those of our allies and partners. That is a posture which, first and foremost, demonstrates mission assurance of space capabilities commensurate with our reliance on those capabilities to meet strategic and operational objectives, including reliance on those capabilities to enable appropriate responses to any act of aggression against our national interests – or to the interests of our allies and partners – at a time, place, manner, and in a domain of our choosing. To the extent that a potential adversary sees degradation of U.S. space capability as a necessary task in a potential military campaign to achieve a geopolitical objective, a space posture of strong mission assurance can be an important contributor to deterring military aggression in any domain.

Space Strategy

As set forth in the June 2020 Defense Space Strategy – also prepared by my office – DoD is working along four lines of effort to develop the defense space posture we require in this era of strategic competition.

First, we are building a comprehensive military advantage in space. Notable here is the work of the USSF and the Space Development Agency to field assured space capabilities and capabilities that counter hostile use of space, as well as the USSF's efforts to develop the military doctrinal foundations of military spacepower and the associated space warfighting expertise and culture.

Our second line of effort focuses on integrating space into national, joint, and combined operations. Here, the establishment of U.S. Space Command (USSPACECOM) as a new Unified Combatant Command is particularly important to our ability to plan, exercise, and execute joint and combined space operations across the spectrum of conflict, in concert with operations across all domains and in coordination with the other combatant commanders.

Third, we must shape the strategic environment in ways that enhance domain stability and reduce the potential for miscalculations. There is much work to do here, including diplomatic work in partnership with the Department of State, as international views about space as a warfighting domain, and about what constitutes acceptable and unacceptable behavior in the space domain, are nascent or, in some cases, non-existent. We are also working in close partnership with the Department of Commerce and the Intelligence Community to strengthen space domain awareness and to improve our ability to identify and attribute threatening behavior.

Fourth, DoD must enhance space cooperation with commercial entities and with our allies and other international partners, many of whose space capabilities are already integral to collective security. In this regard, we already see important alignment regarding space security in the national space policies that several allies and partners have released. Likewise, through expanded information sharing, increased programmatic collaboration, and the development of combined operations, we are bringing to our activities in the space domain a culture of cooperation that will allow us to leverage the benefits of alliances and partnerships as we have traditionally done in the other domains.

Space Diplomacy

The Office of the ASD for Space Policy also leads DoD's participation in supporting the U.S. Government's space diplomatic initiatives. Here, we partner in advancing productive opportunities and in exposing disingenuous initiatives put forth by others. Notably, in the United Nations General Assembly, Russia and China regularly sponsor a resolution entitled, "No First Placement of Weapons in Outer Space," as part of their efforts, since 2008, to launch negotiations in the Conference on Disarmament on a "Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects." Russia and China depict these initiatives as good faith efforts to advance the objectives of a resolution regarding prevention of an arms race in outer space that was adopted at the United Nations General Assembly's 1978 Special Session on Disarmament. However, these initiatives, which, among other issues, lack the verifiability necessary to be either practicable or acceptable, serve mainly to distract attention from Russian and Chinese efforts, such as those noted previously, to develop and deploy weapons systems – both space-based and ground-based – capable of disrupting, disabling, and destroying systems in space.

In contrast, the United States has focused its multilateral space diplomacy on voluntary, non-binding measures such as transparency and confidence-building measures, best practices guidelines, and technical standards. By working with space operators from around the world, the United States has achieved considerable success in establishing multilateral guidelines regarding debris mitigation and the long-term sustainability of outer space activities. Through such

mechanisms, we have incrementally built common understandings among space operators about shared interests in space, and about what constitutes responsible behaviors in a shared domain. As human activity in space continues to flourish, further efforts in this regard that help us distinguish normal activities from those that might be suspect will be in the interests of DoD and of all space operators.

Conclusion

Mr. Chairman, let me conclude by underscoring that the attention and focus on the space components of our defense posture remains as intense today as it has been for several years. The changes in our nation's approach to space security over the past decade, including the landmark passage of legislation creating the U.S. Space Force, enabling the final structure of U.S. Space Command, and establishing the Assistant Secretary of Defense for Space Policy, all resulted from persistent bipartisan effort and good cooperation between the Executive and Legislative branches of our government.

I am honored to have played a part in those efforts, and I look forward to continuing to work with Congress, our interagency colleagues, U.S. industry, and our international allies and partners in a common cause to secure the advantages of space for our national interests.