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THE SENATE ARMED SERVICES COMMITTEE

STATEMENT OF

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BEFORE THE

SUBCOMMITTEE ON STRATEGIC FORCES
SENATE ARMED SERVICES COMMITTEE

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Chairman Fischer, Ranking Member Heinrich, and distinguished members of the subcommittee, it is a pleasure to appear before you along with General Jay Raymond, Commander of Air Force Space Command and U.S. Strategic Command Joint Force Space Component Commander; Lieutenant General John Thompson, Commander, Space and Missile Systems Center; and Ms. Cristina Chaplain, Director, Acquisition and Sourcing Management at the Government Accountability Office. I serve as the Assistant Secretary of Defense for Homeland Defense and Global Security. In this capacity I oversee and guide the development and implementation of the Department of Defense's strategy and policy to achieve its space mission.

Space is integral to the U.S. way of life and the U.S. way of war. Although United States space systems have historically maintained a technological advantage over those of our potential adversaries, those potential adversaries are now advancing their space capabilities and actively developing ways to deny our use of space in a crisis or conflict. Without change, the United States is at risk of losing its comparative advantage in space. A loss of freedom to operate in space would undermine our Nation's prosperity and would erode the ability of the joint force to deter aggression, to defend the homeland from attack, and to project power abroad.

While the U.S. would prefer that the space domain remain free of conflict, we must recognize rising challenges, and be prepared to meet and overcome them. The Department must accelerate, and is accelerating, its response to the changing dynamics of space. We are adapting our organizations, policies, doctrine, and capabilities to more effectively deter aggression and protect our interests.

Earlier this month the Department provided Congress with a legislative proposal for the establishment of the United States Space Force as a new branch of our armed forces. If authorized, the Space Force would transform our approach to space, increasing our responsiveness in this warfighting domain. The proposal maximizes warfighting capacity and advocacy for space, while minimizing bureaucracy and potential risks. Establishing a sixth branch of our military with dedicated leadership will unify, focus, and accelerate the development of space doctrine, capabilities, and expertise to outpace future threats; institutionalize advocacy of space priorities; and further build space warfighting culture.

The Department looks forward to working closely with this committee and all of Congress on ensuring we maintain our freedom of operation in space in order to support our national security and our economic prosperity.

**NATIONAL SECURITY STRATEGY & NATIONAL DEFENSE STRATEGY**

The Department's approach to space is aligned and nested within our broader national strategies. Space is a warfighting domain, and just as in air, land, sea, and cyberspace, the Department of Defense must ensure it is prepared to address threats to our national security in the space domain.

The National Security Strategy and the National Defense Strategy recognize space as a priority domain and an operating area from which capabilities are employed and forces are enabled, and recognizes the potential for conflict to extend into space. These strategies direct that we compete as necessary to deter potential adversaries and, when necessary, win any conflict that begins in or extends into space. Our ability to operate and leverage space to advance scientific knowledge, promote prosperity, and secure the freedoms of our citizens and allies and partners must remain unimpeded. We will compete, we will deter, and, if called upon to fight, we will win.

The National Security Strategy, published in December 2017, provides a plan to (1) protect the American people, the homeland, and the American way of life; (2) promote American prosperity; (3) preserve peace through strength; and (4) advance American influence. Each aspect of this plan is fortified and supported by the advantages our nation gains from space capabilities.

Our 2018 National Defense Strategy (NDS) charts the course for how DoD will contribute to each of the National Security Strategy's four national interests. Under the NDS, long-term strategic competitions with China and Russia are the principal priorities for the Department, and because of the magnitude of the threats they pose to U.S. security and prosperity today, and the potential for those threats to increase in the future, require both sustained focus and investment. Space is a key arena in which this competition is occurring. Addressing the challenges posed to our preeminence as a space power is fundamental to our efforts.

To meet the challenge of great power competition, the Department is broadly pursuing three lines of effort – increasing the lethality of our forces, strengthening our alliances and

partnerships, and reforming the Department to ensure affordability and delivery of capabilities at the speed of relevance. These approaches are as applicable to the space domain as they are to any other Department endeavor.

**STRATEGIC ENVIRONMENT**

Space underpins the U.S. way of life and U.S. way of war. Space provides an unparalleled vantage point and medium for rapid, global information collection and dissemination. Space-based capabilities facilitate the flow of people and goods worldwide, while guiding military forces to their positions and weapons to their targets. Satellites enable individuals worldwide to communicate from remote corners of the globe and allow national authorities to command and control forces in multiple theaters simultaneously. Small businesses and multinational corporations alike rely on space-based imagery and other sensing to plan their daily operations, while military commanders understand the security environment through information gathered by intelligence, surveillance, and reconnaissance satellites.

Our nation's interests in space are expanding. New investments and new technology are fueling opportunities for an expanding ecosystem of space systems and services. Advanced technologies are revolutionizing accessibility to space and space-derived capabilities at dramatically reduced costs. Technology continues to progress rapidly in areas such as 3-D printing, artificial intelligence, and machine learning, while advances in electronics are enabling ever-smaller form factors. Space system developers are leveraging all of these trends. Many of yesterday's cutting-edge technologies are mere commodities today, greatly reducing the economic barriers to entry into space. Significant amounts of private financing is pouring into commercial space, fueling a growing space industry. We are witnessing advances in high-throughput communication satellites and the development of commercial plans for mega-constellations offering new capabilities in low-Earth orbit. The commercial sector, enabled by traditional aerospace companies as well as entrepreneurs and venture capitalists, is driving down the cost of access to space through the development of re-usable launch vehicles and other techniques. These developments together are planting the seeds from which future economic and commercial opportunities may grow.

This growth demonstrates that space is no longer the purview of only superpowers or even a handful of nations; participation in space activities is growing more diverse. Space-derived information services such as imagery, weather, communications, and intelligence,

traditionally reserved to the governments of just a few space-faring nations, are becoming more attainable to non-State entities, companies, and individuals. This presents new challenges for the Department as new States, non-State actors, and commercial entities, both foreign and domestic, are able to provide services and capabilities once only available to the U.S. Government and a few other space-faring nations. The pace of technological expansion and growing accessibility are forcing our military to think and plan differently, as potential adversaries leverage increased capabilities to observe our force movements, track our activities, and communicate with their own forces at efficiencies, data rates, and levels of security not previously available.

The United States also faces serious and growing challenges to its freedom to operate in space. China and Russia have studied how the U.S. joint force operates and have embarked on major efforts to develop, test, and field counter-space capabilities in order to destroy or disrupt U.S. and allied space capabilities in a crisis or conflict. These strategic competitors view space as an area where they could weaken our advantages and cause cascading impacts on our sea, air, land, and cyber systems that rely on space-based capabilities. Both have reorganized their militaries in 2015, emphasizing the importance of space operations, and making denial of space advantages are key components of their strategy. As a result, the United States no longer enjoys the freedom to develop and leverage space systems without deliberate regard to other nations' counterspace capabilities.

These same countries, recognizing the value of space capabilities, are also expanding their use of space to support the lethality and effectiveness of their military forces in other domains. As noted in a recent Defense Intelligence Agency report "Both [China and Russia] have developed robust and capable space services, including space-based intelligence, surveillance, and reconnaissance. Moreover, they are making improvements to existing systems, including space launch vehicles and satellite navigation constellations. These capabilities provide their militaries with the ability to command and control their forces worldwide and also with enhanced situational awareness, enabling them to monitor, track, and target U.S. and allied forces."[1]

These emerging threats, in and from space, place our nation's security at ever-increasing risk and drive the U.S. imperative to strengthen its space posture and integration and synchronization of combat power across multiple domains. This includes both the ability to

[1] Challenges to Security in Space, Defense Intelligence Agency, February 2019

assure and defend our space-based capabilities from attack and the ability to protect our terrestrial forces from space-enabled attacks.

## SPACE STRATEGY AND POSTURE

This new environment highlights the role of space in changing the character of warfare and presents new challenges and opportunities to military space forces. No longer do space systems simply support terrestrial forces to fight and win wars; actions in space also will directly contribute to the outcome of future crises or conflicts. In order to preserve peace and deter aggression, the Department of Defense (DoD) must adapt. The DoD must be prepared to assure freedom of operation in space, to deter attacks, and, when necessary, to defeat space and counterspace threats to the national security interests of the United States and its allies and partners.

### *Policy and Strategy*

In addition to the National Security Strategy and the National Defense Strategy, the Department's efforts for Space are guided by the National Strategy for Space, which was signed by the President in March 2018. The National Strategy for Space builds on the other strategies by emphasizing peace through strength, and maintaining U.S. leadership, preeminence, and freedom of operation in the space domain. The space strategy encompasses all aspects of our nation's space interest. It is composed of a strategic framework and implementation plan outlining four key strategic objectives. The first is to strengthen the safety, stability, and sustainability of space activities. The second is to deter and, when necessary, defeat adversary space and counterspace threats used for purposes hostile to the national security interests of the United States and its allies and partners. The third is to maintain U.S. commercial industry as the leading provider of traditional and innovative space technologies, goods, and services on the international space market while limiting potential adversaries' access to critical technologies and capabilities. The fourth is to maintain and extend U.S. human presence and robotic exploration beyond Earth to transform knowledge of ourselves, our planet, our solar system, and our universe. The implementation plan describes four lines of effort: mission assurance; deterrence and warfighting; organizational support; and creating conducive domestic and international environments for U.S. space objectives. The lines of effort represent the key

priorities of the strategy and, along with the supporting tasks, describe the ways and means necessary to achieve our strategic objectives.

The first line of effort focuses on mission assurance. We are accelerating the transformation of our space architecture by deliberately moving systems from the research and development phase to the actual fielding of capabilities. As a result, our space systems will be more resilient and more defendable. We are also looking to expand the ability to reconstitute space capabilities to reestablish lost functionality and we are exploring on-orbit satellite servicing capabilities. Fundamental to our strategy is our mission to deter, prepare for, and, if directed, prevail in any conflict, in any environment, against any threat.

The second line of effort focuses on deterrence and warfighting. Our strategy recognizes that – due to actions by our competitors and potential adversaries – the space domain is not a sanctuary. This line of effort seeks to develop options to deter potential adversaries from aggression, including extending conflict into space. It entails a refocus of strategic guidance and doctrine; operational plans, authorities, capabilities, and culture; and rules of engagement to prepare most effectively for space as a warfighting domain.

The third and fourth lines of effort focus on organizational support and fostering a conducive environment. We will pursue improved foundational capabilities, structures, security classification guidance, and processes in order to enable more effective space operations and will foster a conducive environment both at home and abroad. Domestically, this includes streamlining the regulatory environment to leverage and support U.S. industry more effectively, taking into account national security and public safety. Internationally, this includes promoting burden-sharing and marshalling cooperation against threatening adversary actions.

The United States does not fight alone. Cooperation and partnership in the space domain are essential, just as cooperation and partnership benefit our military on land and sea and in the air and in cyberspace. Our defense strategy depends on sustaining and building international alliances and partnerships. The work in this area is critical to advance our common and shared strategic and operational interests of deterrence and lethality. U.S. allies and partners provide an asymmetrical advantage that no competitor can match. We are developing partnerships with the aim to develop and deploy more capable, more assured space architectures and, where appropriate and mutually beneficial, develop a combined operational capacity.

For several years we have had a Combined Space Operations (CSpO) initiative including the United States, United Kingdom, Canada, Australia, and New Zealand. CSpO is identifying operational and programmatic cooperation opportunities, as well as common approaches to understanding and addressing threats in space. Last month we invited France and Germany to join this initiative. In 2018, our annual Schriever Wargame, examining conflict extending to space ten years into the future included robust participation from all the CSpO partners, plus France, Germany and Japan. As a result of wargames such as Schriever, our allies have come to understand the real and significant threats to their space infrastructure and are galvanized along with the U.S. to ensure our collective freedom of action in space.

We will leverage past successes and achieve new ones, such as cost-sharing agreements, hosting U.S. national security payloads on foreign systems, and data-sharing arrangements to bolster shared space situational awareness. The Department of Defense, working with the Department of State, strengthens our leadership and international relationship through participation in international governing bodies and with multilateral and bilateral arrangements.

To achieve these strategic objectives and secure our vital interest of unfettered access to and freedom to operate in space, the Department must fundamentally transform its approach to space from a support function to a warfighting domain – one in which we are prepared for a domain of competition and potential conflict. Space superiority is something to be gained and maintained, and cannot be taken for granted in future crisis or conflict.

*Posture and Organization*

The President's $14 billion budget request for space in Fiscal Year 2020, outlined in Major Force Program-12, puts the Department on a course to build a more lethal force. It advances the lines of effort captured in the *National Strategy for Space* and integrates space into a multi-domain approach designed to deter potential adversaries and defeat hostile activity should deterrence fail. This request, sustains our on-going space operations and support to the joint force while developing and fielding critical capabilities.

The current organization of space within the DoD has enabled the United States to maintain its position as the most lethal force in the world. These structures, however, must evolve with the changing environment. No branch of the Armed Forces has been created since the U.S. Air Force was established in 1947 – over 70 years ago. The world has changed

significantly in that time. If authorized by Congress, a new Armed Force dedicated to space will develop space forces prepared to meet emerging security challenges.

The trends and threats we face demand a new approach in order to outpace potential adversaries. This requires an approach that that DoD institutionally elevate space consistent with its role in national security; unify, consolidate, and integrate space forces from across the DoD; increase focus in leadership, expertise, personnel, culture, and capabilities for a distinct domain; accelerate our posture to space as a warfighting domain; and deliver dominant warfighting capacity for space while minimizing bureaucracy and cost.

Space Policy Directive 4 was signed by the President in February 2019, and outlines the policy approach to establishment of the U.S. Space Force. Under the proposal, the U.S. Space Force (USSF) and the U.S. Air Force (USAF) would exist within one Military Department while organizing, training, and equipping their forces for two distinct warfighting domains and mission sets. The Secretary of the Air Force would be responsible for organizing, training, and equipping two separate Military Services: the USSF and USAF, each with a uniformed Military Service Chief with equal membership on the Joint Chiefs of Staff (JCS). This model is similar to how the U.S. Navy and U.S. Marine Corps exist within the Department of the Navy. Additionally, a new Under Secretary of the Air Force for Space, to be known as the Under Secretary for Space, will provide dedicated civilian supervision of the USSF, under the authority, direction, and control of the Secretary of the Air Force.

The vast majority of initial Space Force resources – personnel and budget authority – would be transferred from the existing Military Services. The stand-up of the Space Force would be phased over five years – FY 2020 to FY 2024 – and would require $72 million in FY 2020 to establish the headquarters with approximately 200 people.

Over the following years, as missions are transferred to the Space Force, existing personnel and budget authority will transfer into the Space Force from the existing Military Services. By the end of the transition period, more than 95% of the Space Force annual budget is estimated to consist of resources that will have been transferred from existing DoD budget accounts, along with an estimated 15,000 transferred personnel. Additional resources will be dedicated to building out the Space Force headquarters and establishing and maintaining new support elements such as education, training, doctrine, and personnel management centers.

Once the Space Force is fully established, these additive costs are estimated to be $500 million annually, which would represent approximately 0.07% of the annual DoD budget. The total additional cost growth over the next five years is estimated to be less than $2 billion, or approximately 0.05% of the DoD budget for the same period. Because of the lean implementation and modest total costs, the Future Years Defense Program topline is sufficient to fully fund the U.S. Space Force.

Complementing a military service focused on developing space forces, is a space warfighting command focused on employing the joint force. Consistent with U.S. law, DoD is taking steps to establish a United States Space Command (USSPACECOM) as a unified combatant command focused on planning and executing space warfighting operations to protect U.S. national interests, and those of our allies and partners. Establishing USSPACECOM will bring full-time operational focus to securing the space domain, and will streamline command and control for time-sensitive operations.

Additionally, the DoD has undertaken a series of space acquisition reforms to ensure the joint forces has the capabilities necessary to deter and defeat threats. This includes the Space and Missile Systems Center (SMC), "SMC 2.0" initiatives, which have begun to remove bureaucracy and empower new program executive officers to acquire space capabilities more efficiently and effectively. Rapid acquisition prototyping authorities have been aggressively leveraged with the Space Rapid Capabilities Office, which initiated several new programs in the past year. These acquisition reforms will continue with the establishment of a joint Space Development Agency dedicated to rapidly developing, acquiring, and fielding next-generation military space capabilities. This organization will have a development mindset and will be focused on experimentation, prototyping, and accelerating fielding, as well as leveraging commercial technologies and services. These entities will transition to the Space Force, if authorized by Congress, to strengthen the foundation for space acquisition.

**CONCLUSION**

Space is a warfighting domain – albeit a nascent and evolving one. It is no longer a question of whether the character of warfare is changing, but rather how the United States should strategically re-orient itself to deter aggression and be prepared to fight and win future wars.

The Department has a plan to maintain U.S. leadership in this key domain of competition and potential warfare. The Department asks for your support, including our legislative proposal, so we can move out in this critical domain.

The Department's partnership with Congress is and will remain absolutely critical to our success. To that end, I remain grateful for this committee's strong support and interest in this vital area, and its advocacy to deter aggression and ensure a lethal and effective force with the unmatched ability to prevail in, from, and through the ultimate high ground.