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SENATE COMMITEE ON ARMED SERVICES
SUBCOMMITTEE ON READINESS,
UNITED STATES SENATE

DEPARTMENT OF THE AIR FORCE
UNITED STATES SPACE FORCE

PRESENTATION TO COMMITTEE ON ARMED SERVICES
SUBCOMMITTEE ON READINESS
UNITED STATES SENATE

SUBJECT: Current Readiness of the Joint Force

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Introduction

The United States Space Force underpins our nation's strength within the Joint Force, economy, and society. In our first five years, we have validated the importance of the Space Force as a stand-alone service and made remarkable progress in building an agile, mission-focused organization that grasps the magnitude of the threat. We have established our identity, developed doctrine, and taken significant steps to integrate space power into joint operations. We are now comprised of more than 15,000 officers, enlisted, and civilian personnel and are integrated with other components, the Intelligence Community (IC), allies, and commercial partners, maintaining maximum readiness and securing our advantage in space.

The world's use of space is growing at a phenomenal rate, demonstrated by a 488% growth of spacecraft launches and 400% increase of active spacecraft in orbit since the establishment of the service in 2019. As the access to and use of space grows, the strategic landscape in space is becoming increasingly complex and perilous, even compared to other warfighting domains. Unfortunately, what were once theoretical threats are now daily occurrences. I have observed various actors in space maneuvering satellites on orbit to monitor our assets, engaging in testing orbital warfare capabilities, and employing new tactics to counter our advantage. Our competitors are jamming GPS signals, spoofing satellite communications, and developing advanced anti-satellite weapons. These actions create an increasingly hostile environment for the space capabilities essential to our security and prosperity and put at risk the continued superiority to which we have become accustomed.

To meet these challenges, the Space Force must accelerate our transformation by embracing a culture of "Competitive Endurance." This theory of success drives the ability to deter adversaries from extending conflict into the space domain, and should deterrence fail, enables the Joint Force to achieve space superiority while preserving the long-term safety, security, and sustainability of space for operational use. This approach prioritizes: 1) deterring attacks against U.S. interests; 2) preventing the use of space to attack our homeland or the Joint Force; and 3) avoiding operational surprise. Destruction of assets in space can create harmful and long-lasting debris that significantly reduce the effectiveness of the Joint Force to prevail in conflict and degrades civilian and commercial use of the space domain for generations to come. For this reason, the Space Force's concept of space superiority seeks to protect U.S. interests without jeopardizing the future of the space domain.

The demand for our capabilities far exceeds our current force structure. Achieving our mission will require a focused warrior ethos, enhancing deterrence by acquiring the necessary resources and latest technology to match our threat and building stronger partnerships with the IC, commercial sector, and our allies worldwide.

Despite being responsible for the largest warfighting domain while providing critical capabilities to enhance warfighting in all other domains, the Space Force provides this warfighting capability at only 3% of the Department of Defense's budget. We have the smallest budget and the smallest force. With the committee's and our partners' leadership, we can overcome emerging challenges by leveraging the latest technology, acquiring what we need, and developing only what we must.

Evolving Threat Landscape

The U.S. faces a rapidly evolving and increasingly complex threat landscape in space. Across the globe, nations are aggressively pursuing advanced military capabilities, seeking to challenge the established balance of power and exploit the space domain for strategic advantage. These advancements, coupled with a growing convergence of capabilities and intent among potential adversaries, present a significant challenge to U.S. interests.

We are witnessing a proliferation of new technologies and operational concepts designed to disrupt, degrade, and deny access to our space-based capabilities. Adversary forces are increasingly integrating space-enabled capabilities into their operations, recognizing the strategic importance of the space domain for command and control, intelligence gathering, navigation, and precision strike. Alarmingly, the development and deployment of counterspace weapons, including a new satellite designed to potentially carry a nuclear weapon with that could create long-lasting debris fields, poses an unprecedented threat to the safety, security, and sustainability of the space environment, society, economy, and the stability of peace.

Adding to this complexity is the growing convergence of capabilities and intent among nations and non-state actors. Strategic partnerships, technology transfer, and shared operational concepts are creating a more challenging and unpredictable security environment. The Space Force must adapt its strategies, policies, and capabilities to address this evolving threat landscape and ensure the continued safety, security, and sustainability of the space domain for all.

Personnel

The Space Force is committed to building the most agile and capable force necessary to meet the evolving demands of the space domain. We will remain ahead of strategic competitors by developing Guardians with a strong warrior ethos, intently focused on the threat. This requires a sustained commitment to preparing our force by developing a talent management system that optimizes the skills and expertise of our Guardians. Over the next 5 to 15 years, the Space Force will require continued resources to meet the Joint Force's evolving needs.

Recently enacted legislation with the Space Force Personnel Management Act is a critical enabler for growth, allowing the Space Force to transfer space missions currently residing in the Air Force Reserve. This will result in approximately 300 full-time Reserve space professionals transferring into the Space Force in FY25, with part-time Reserve professionals beginning to transfer in FY26. As our Service grows, we must also ensure our training pipeline can accommodate increased throughput, providing our Guardians in and out of uniform with the skills and expertise necessary to operate in a highly contested and dynamic space environment.

Additionally, the Space Force is actively building Service Components to provide dedicated space capabilities and expertise to the Combatant Commands, further increasing our operational footprint.

The Space Force is committed to optimizing its workforce through innovative development programs for officer, enlisted, and civilian Guardians. We have established clear delineations of roles, responsibilities, and duties for each personnel category, ensuring a cohesive and efficient

force. We have implemented a new integrated Officer Training Course (OTC) for officer accessions, focusing on space, intelligence, and cyber operations. We are also developing Space Force-specific enlisted development programs, incorporating fully qualified promotions and codifying our foundational warfighting capabilities into our functional career fields. For our civilian Guardians, we have launched the Guardian Civilian Optimization for Space (GCO-S) course, providing a foundational understanding of our mission, values, and operations.

The Space Force is currently exceeding its FY25 recruiting goal and has proudly met its goals every year since inception. This success is the product of effectively conveying a strong value proposition to young people ready to serve their country. Our recruits have continued to boast high Armed Services Vocational Aptitude Battery (ASVAB) scores over the last five years, a testament to our uncompromising standards.

Assured Access to Space

In an era of rapid technological advancement and evolving security threats, the Space Force needs an agile space architecture to appropriately address the unpredictable challenges we face. The launch complex remains the foundation of our assured access to space. However, this access is not a static concept but rather a dynamic and evolving necessity. While the Space Force currently utilizes a robust and innovative commercial launch market to provide a full spectrum of launch services, we recognize the need to continuously adapt our approach to address the complexities of an increasingly contested space environment.

To foster innovation and reduce cost, the National Security Space Launch (NSSL) program established a dual-lane approach that assures access to space for missions that require the highest reliability and provides opportunities for emerging launch providers to compete for more risk-tolerant missions. The Space Force must continue to diversify launch providers, increase launch sites, and invest in range facilities, including payload processing capacity, all while actively monitoring the launch supply chain.

Expanding options for launch locations ensures that in the event of natural or man-made disasters, access to space is never compromised. Creating a more resilient space architecture through proliferation, disaggregation, and orbital diversity is a national security imperative. By expanding options for Launch Service Providers, we reduce our vulnerability to any single point of failure. Further, actively fostering a vibrant commercial space sector enhances our nation's economic competitiveness and technological edge, ensuring we maintain a robust industrial base capable of supporting our national security needs.

Commercial and Allied Space Strategy

The Space Force recognizes that partnerships are essential to maintaining the competitive edge in space. Therefore, the commercial space sector and our allies are not merely an adjunct to national security space activities but are fundamental drivers of innovation, capability, and capacity. The rapid growth of this sector presents a unique opportunity to seamlessly integrate commercial and allied capabilities, establishing a hybrid space architecture. A hybrid architecture enables military and commercial systems to operate in concert, which significantly increases resiliency through

added capacity, redundancy, and proliferation. This integration is foundational to our ability to meet the growing demand for capability at a cost we can afford and at the speed required as well as reduce vulnerabilities and deny potential adversaries the benefits of attacking U.S., allied, and partner space systems. The U.S. Space Force Commercial Space Strategy published on 8 April 2024 guides the integration of commercial space solutions to leverage American business and industrial strength to counter threats to our advantages in space and ensure American's get the most of their tax dollars.

By incorporating commercial solutions, we enhance our existing capabilities, such as Satellite Communications (SATCOM) and Satellite Operations (SATOPS). We can deploy cutting-edge capabilities faster and maintain an advantage over our adversaries by utilizing an approach that takes advantage of the private sector's ability to deliver advanced technology and services more quickly than traditional government programs. For example, The VICTUS NOX program demonstrated the remarkable agility of the commercial space sector. A satellite was transported to the launch site in just 58 hours and was ready for launch a mere 27 hours later—fully tested, fueled, and prepared to fly. The industry's responsiveness was so swift that they were ready to launch even before favorable conditions on Earth allowed.

The commercial sector offers solutions to enhance our capacity, resilience, and responsiveness in each area. We will prioritize the integration of commercial solutions in key mission areas such as SATCOM, Space Domain Awareness (SDA), Space Access, Mobility and Logistics (SAML), Tactical Surveillance, Reconnaissance, and Tracking (TacSRT), and Space-Based Environmental Monitoring (SBEM), to name a few. The Space Force is committed to fostering a strong and enduring relationship with the commercial space sector. We will prioritize transparency, streamline our acquisition processes, and work collaboratively with industry to ensure their success is inextricably linked to ours.

The Space Force is also committed to become "allied by design," leveraging the strengths of our allies and coalition partners. This commitment extends to all phases of our organize, train, and equip (OT&E) activities, fostering collaboration from the earliest stages of concept development to the execution of combined operations. This new approach prioritizes burden and cost sharing, opening up options to fight more effectively today and fight differently in the future.

We will move beyond outdated paradigms and embrace a new era of partnership, characterized by cooperative capability development, enhanced interoperability, and expanded operational cooperation. This means actively pursuing joint capability development initiatives, sharing expertise, pooling resources, and accelerating the fielding of critical space capabilities. We will review data sharing agreements and security paradigms, prioritizing the development of scalable architectures and open standards that enable seamless integration of allied and partner systems while ensuring compliance with statute and policy.

Furthermore, we will deepen operational coordination and liaison with our allies, conducting joint exercises, sharing space situational awareness data, and ensuring a unified response to threats in space. We will actively support the development of our allies' space capabilities through professional education and training programs, technology transfer initiatives, and

collaborative research and development efforts. Transitioning to a hybrid space architecture including commercial and allied partners enables us to leverage a more resilient and robust space enterprise.

Operational Test and Training Infrastructure

To ensure our continued superiority in space, our Guardians must be the best-trained, best-equipped, and the most prepared space warfighters on the planet. Achieving this goal necessitates the use of realistic and challenging training environments that authentically mirror the complexities of modern battlespaces. Our Operational Test and Training Infrastructure (OTTI) has been meticulously crafted to fulfill this vital mission.

OTTI is more than a single program or facility; it is an extensive, enterprise-wide framework integrating live and synthetic training systems and processes. It includes dynamic live training ranges, sophisticated modeling and simulation tools, simulated adversary forces, and secure networks. Each component synergistically combines to forge a holistic and immersive training environment that effectively spans the entire spectrum of potential conflict.

Central to the OTTI is the National Space Test and Training Complex (NSTTC). This state-of-the-art facility will endow our Guardians with unparalleled training capabilities across a myriad of domains, such as orbital, electromagnetic, cyber, and digital environments. This sophisticated complex will enable us to realistically simulate the myriad of threats our Guardians might face, preparing the Joint Force for the current and future complexities of warfare.

Missile Warning and Missile Defense

The Space Force is steadfastly committed to safeguarding our homeland and allies against increasingly sophisticated missile threats through a comprehensive and integrated missile defense strategy. Avoiding operational surprise requires the Space Force to maintain constant awareness of the battlespace, supplemented by a robust capability to produce indications and warnings accurately. This foundational principle recognizes that the initial step in missile warning and defense is the ability to detect and track threats; effectively, one cannot neutralize an undetectable threat. We are leveraging our existing space-based assets while simultaneously developing new capabilities to adapt to the evolving threat landscape.

Therefore, we must deploy advanced maneuverable satellites with state-of-the-art sensors. This technology combines optics and electronics to detect, track, and identify targets. This emphasis aligns with USSPACECOM's urgent operational needs to enable agile space operations and establish sophisticated space systems capable of sustained maneuverability.

When Iran launched over 300 missiles and drones at Israel in April and October 2024, it was the Space Force that provided the first line of defense. Guardians, operating missile warning systems, detected the launches in real-time, providing critical early warning data that enabled U.S., Israeli, and allied forces to intercept many of the incoming threats. Crews of Guardians worked tirelessly, analyzing data, validating tracks, and relaying information to those in harm's way—all within a matter of minutes. Their efforts were instrumental in minimizing casualties and damage.

Iran’s recent missile attacks against Israel underscore the critical importance of space-based missile warning and the need for continued investment in advanced detection capabilities. The Space Force's ability to provide timely and accurate warning data is essential not only for Homeland Defense but also for enabling the Joint Force's ability to effectively respond to threats. Investing in maneuverable satellites equipped with state-of-the-art sensors will enhance our ability to detect and track emerging threats, ensuring we can maintain constant awareness of the battlespace, provide timely warnings, and ultimately, deny our adversaries the element of surprise. These capabilities assist to deliver on the Presidents Golden Dome for America Initiative and highlight the central role space-based capabilities will play in bringing that effort to fruition.

Service Component Activation

The Space Force has activated seven Service Components within Combatant Commands (CCMDs) to seamlessly integrate space power into joint military operations. These component field commands (C-FLDCOMs), led by a Commander, Space Forces (COMSPACEFOR), serve as the primary mechanism for providing combatant commanders (CCDRs) with dedicated space expertise, ensuring space effects are fully integrated into joint plans and operations.

These Service Components are fundamental building blocks of the Joint Force, serving as the CCMD’s dedicated subordinate command focused solely on the space domain. COMSPACEFOR provides the CCDR with direct access to space expertise, ensuring they are fully informed of all Space Force issues, activities, and capabilities relevant to their warfighting priorities, requirements, and resources.

Ground-Based Infrastructure

The Space Force relies heavily on its facilities and infrastructure to execute its missions. FSRM priorities include essential upgrades to power systems, electrical systems, heating and cooling, water systems, fire suppression, roofs, and dormitories. MILCON priorities focus on increasing capacity and reducing risk to the mission, with an emphasis on mission beddown, energy resilience, assured access to space, security improvements, and supporting Combatant Command requirements in the Indo-Pacific and in defense of the homeland.

However, the MILCON and FSRM portfolio faces significant repair backlog and deferred maintenance challenges, posing a growing risk to our operational readiness. We remain committed to sustaining existing infrastructure and improving the quality of life for our Guardians, Airmen, and their families.

Conclusion

The Space Force has proven vital to safeguarding our nation in its first five years. We deliver effects that increase Joint Force lethality and effectiveness; as well as forces designed to protect the Joint Force from space-enabled attack. Space Superiority is an indispensable prerequisite to the success of the Joint Force. However, the Space Force must grow to continue to contest and win against our adversaries.

We must continue investing in transforming our force from our current posture to a dominant

warfighting force capable of deterring and, if necessary, defeating our adversaries. We must prioritize essential modernization and timely and predictable funding is crucial to avoid delays in fielding critical capabilities.

Competitive Endurance is the bedrock for the ability to deter, and if necessary, defeat adversaries, preventing them from extending conflict into the space domain and enabling the Joint Force to achieve space superiority while preserving the long-term safety, security, and sustainability of space for continued operational use and freedom of maneuver. Continued integration into the Joint Force and establishing enduring partnerships with the commercial sector and our allies around the world will allow us to overcome resource constraints and build a resilient, hybrid space architecture forging the Competitive Endurance we need.

Guardian development is an essential requirement for Competitive Endurance and our culture must be purpose-built to meet the unique needs of the Space Force. Our Guardians are dedicated professionals who understand the gravity of the threats we face. We must ensure they have the training, resources, and unwavering commitment necessary to continue to serve and face these threats head-on.

The strategic choices we make today may shape whether space remains a safe for peaceful use and progress or becomes a battleground for future conflict. The Space Force is committed to ensuring a future where space remains a source of American strength and a foundation for global security. However, achieving this vision requires a shared commitment to providing the Space Force with the resources and support necessary to meet the growing challenges of the space domain.