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BY THE SUBCOMMITTEE ON READINESS  
UNITED STATES HOUSE OF REPRESENTATIVES

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UNITED STATES SPACE FORCE

PRESENTATION TO THE  
SUBCOMMITTEE ON READINESS  
UNITED STATES HOUSE OF REPRESENTATIVES

SUBJECT: Fiscal Year 2023 U.S. Space Force Budget Request for Military Readiness

STATEMENT OF: General David D. Thompson, Vice Chief of Space Operations  
United States Space Force

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## **INTRODUCTION**

Chairman Garamendi, Ranking Member Waltz, distinguished members of the subcommittee, thank you for the opportunity to testify on the current status of, and future plans for, the readiness of the U.S. Space Force. On behalf of the Secretary of the Air Force and the Chief of Space Operations, I appreciate this subcommittee's strong support as we work to build and sustain the ready space forces our nation requires.

Space remains vital to our way of life, and over the past two decades, the space domain has shifted from a benign to a contested environment, where our potential adversaries are increasingly active and disruptive. To better protect our national interests, in December 2019 Congress established the Space Force with an explicit mandate to: (1) provide the United States freedom of operation in, from, and to space, and (2) conduct prompt and sustained space operations.

That said, our competitors continue to aggressively pursue and field space and counter space capabilities that threaten the United States' national security and the joint force. U.S. strategic competitors continue to demonstrate a precipitous rise in both capability and willingness to contest the space domain and threaten U.S. operations and assets. Russia's ASAT test in November 2021 was yet another aggressive and dangerous act that threatened not only U.S. freedom of operation, but that of everyone who operates in space. As a result, to support integrated deterrence, the Space Force's lean and agile force needs to be prepared to respond as necessary to defeat aggression. In order to retain and improve U.S. advantages in the space domain, we must field a more resilient, effective and ready force.

The Space Force must be able to do three things to be effective. First, it must be able to maintain sufficient awareness of the space domain to make operationally relevant decisions on tactically relevant timelines. Second, it must be able to protect and defend U.S. space capabilities and deny our competitors the ability to use their space capabilities to attack the joint force or U.S. interests. Finally, it must be able to continuously accomplish joint force-enabling space missions like missile warning, precision navigation and satellite communications even as potential adversaries take aggressive actions to deny them.

Readiness is simply ensuring our forces have the tools, training and manpower to accomplish these critical functions. Because the Space Force is responsible for accomplishing these functions in an increasingly complex, congested, and contested environment, we needed to revise our force design, our readiness standards and test and training infrastructure to ensure our forces are prepared for the challenges they face today and those they are likely to face in the future.

## **DELIVERING SPACE FORCE READINESS**

### **More Resilient and Effective Space Capabilities**

The Space Force recognizes the imperative to maintain our technological advantage in space and deter the potential targeting of on-orbit assets. Our legacy systems were designed to operate in a relatively benign environment and are largely defenseless against the array of weapons that our competitors are developing and fielding. By transitioning away from and/or hardening legacy systems, we can reduce the benefits an adversary might seek through an attack in space and thereby strengthen integrated deterrence.

Additionally, there is an increasing need to protect the joint force from space-enabled targeting and

attack. While our ability to do this will require efforts in all domains, space capabilities will be a necessary element of this effort.

The President's Fiscal Year (FY) 2023 budget request demonstrates the DoD and Space Force commitment to a bold, analytically informed shift to field a more robust, resilient architecture inclusive of proliferated constellations. Such resilience is achieved through architectural design, defensive systems, cyber protection, robust Space Domain Awareness, and measured investment in space control. More specifically, we advance resilient space capabilities by working closely with others to foster architectures that combine space capabilities with complementary ones from other domains, such as terrestrial communications, Position, Navigating, Timing (PNT), and Intelligence, Surveillance, Reconnaissance (ISR) capabilities, in modular open system architecture approaches that create future flexibility.

The Space Force will continue to work closely with our Joint, Service, DoD and Intelligence Community partners, as well as our allied and commercial partners, to develop and deliver a digital engineering ecosystem that enables the Space Force to rapidly mature innovative concepts into integrated solutions and deliver warfighting capabilities faster.

### **Force Design**

A key element of readiness are the capabilities inherent in the systems the Space Force uses to execute its missions. The Space Force, primarily through the Space Warfighting Analysis Center (SWAC), executes a force design process intended to assess future capabilities through the lens of operational need, counter-space threat, and cost. The process also postures us to make programmatic decisions based on a clearer understanding of the warfighting needs, current capabilities, current/future budget, counter-space threat projections, and technology opportunities/limitations. This year, our force design efforts include studies into Space Data Transport, Tactical ISR and space-based support to active missile defense to bolster our defense posture and establish optimal structure.

### **Readiness and Training**

When measured against readiness standards established for a benign environment, most space units rate as effective. However, when evaluated against their ability to continue mission against a determined adversary, most units rate as ineffective. However, the Space Force has developed a new Space Force Generation (SPAFORGEN) model that primarily focuses on employed-in-place (EiP) forces and transitions away from the current construct, which was not designed for the contested space domain. In essence, we needed to develop a construct that allows Guardians to meet day-to-day mission requirements, while having the time to conduct readiness activities to meet future challenges.

Utilizing our SPAFORGEN model, Guardians cycle through phases to increase individual and overall force readiness: (1) Prepare phase; (2) Ready phase; and (3) Commit phase. Both the Prepare and Ready phases afford Guardians the training necessary to develop the tools, skills and capabilities necessary for mission execution in a contested domain against a thinking adversary. This includes both operational procedures and high-end training to certify forces for contested operations in the space domain.

In August 2021, the Space Force activated the Space Training and Readiness Command (STARCOM) to prepare space forces to prevail in competition and conflict through innovative education, training, doctrine, and testing. As we move forward, STARCOM will continue to increase space-related content

and engagement for Guardians in Basic Military Training (BMT); Non-Commissioned Officer Academy; United States Air Force Academy; Officer Training School (OTS); and Reserve Officer Training Corps.

### **Operational Test and Training Infrastructure**

There are substantial organizational, training and equipping challenges that face the USSF's ability to ensure our systems and operators are ready for full spectrum operations in a contested space domain. Our ability to establish, assess, and maintain readiness for a contested space environment is minimal because a full spectrum Operational Test and Training Infrastructure (OTTI) does not currently exist for the USSF. In short, current systems, processes, and test and training activities are designed around procedural currency and system proficiency for a benign environment, not a warfighting domain. However, none of these challenges are insurmountable and the path forward is clear. We must equip our Guardians with a capable, sustainable, adaptive, and collaborative architecture to conduct realistic test and evaluation, full-spectrum training, and tactics development to ensure they are effective in conflict.

OTTI is an "umbrella" term, not an acquisition program, describing a collection of distributed, enterprise-wide test and training systems and processes, effectively integrated and synchronized to establish and sustain combat readiness across the spectrum of conflict. Some examples of elements within OTTI include the National Space Test and Training Complex (NSTTC), Standardized Space Trainer (SST), Virtual Space Range (VSR), and Distributed Mission Operations Center-Space (DMOC-S).

OTTI systems include the following elements such as live ranges, a Common Synthetic Test & Training Environment, Validated/Verified/Accredited digital models, high-fidelity simulators, multi-level security networks; and professional threat replication (red teams). OTTI is never static. It is continuously maintained and upgraded based on new requirements as informed by evolving friendly and adversary capabilities.

OTTI functions include integrated Test and Evaluation (T&E), Initial Qualification Training, Mission Qualification Training, Continuation Training, Advanced Training, and Tactics Development. These activities are not mutually exclusive; thus one activity can share benefits and inform others, but they can also occur independently of each other through the deconfliction of systems and resources.

The development and fielding of the OTTI is one of the most crucial aspects of enhancing Space Force readiness in order to meet the dynamic and emerging threats in the space domain. Without it, Guardians will not have defendable systems, proven tactics and the ability to practice execution of their mission against a thinking adversary. The OTTI is a force multiplier that will allow Guardians to maintain the nation's strategic advantage in space.

### **Force Presentation to Combatant Commands**

Pursuant to law, the Space Force retains responsibility to organize, train, and equip space forces. To that end, the Space Force will generate and present ready space forces to the appropriate Combatant Command for high-end engagement against a thinking adversary, while maintaining the required steady-state support of space activities.

Our SPACEFORGEN model will ensure that forces presented to Combatant Commands are able to execute missions and tasks, and are equipped to make appropriate recommendations on the effective

employment, task organization, and command relationship of space forces. Unlike the previous force generation model, the new approach packages forces into optimized capabilities based force elements and standardizes the way we present forces to the Combatant Commanders. Additionally, our new SPACEFORGEN model allows the Space Force to retain capabilities to accomplish Service responsibilities such as high-end training, reconstitution, upgrade, and retrofit of systems.

### **Unit/Mission Transfers**

In accordance with existing statute and congressional intent, the DoD intends to transfer fully mission-capable space operational units, support equipment, property, and related resources from other services to the Space Force with no mission degradation or adverse personnel impact. Across the Future Years Defense Program, the Space Force is prepared to accept transfer of 15 units, 319 military billets, 259 civilian billets, and \$2.5 billion in budgetary authority.

Specific to FY 2022, the Space Force is incorporating the Navy Narrowband Satellite System and Army Wideband Payload Operations. To ensure mission continuity, the DoD is offering civilians and military personnel assigned to such units the opportunity to volunteer to transfer with the unit to the Space Force. The Space Force has established a selection board, including service liaisons, to oversee individual personnel transfers.

Looking forward, and in accordance with Title 10, United States Code, Section 9086, the DoD will transfer the Space Development Agency (SDA) no later than October 01, 2022. In the coming months, SDA plans to transfer offices and operations centers in the National Capital Region and other areas around the country, along with 45 military and 67 civilian personnel billets and its associated budget resources.

### **Integration with Allies and Partners**

Allies and Partners represent a comparative advantage for the U.S. Our strategic competitors do not have the potential for establishing the coalitions and cooperation that the U.S. can establish. This is especially true in the space domain. The Space Force continuously engages with our allied and partner spacefaring nations to guarantee shared military, civil, and industrial success in space. Especially as our competitors continue to demonstrate reckless and dangerous actions within the space domain, it remains imperative to deepen our existing ties with allies and partners to maintain space stability. These partnerships not only enhance our space capabilities, but also strengthen the resiliency of our space missions, thereby enhancing the joint force's readiness to meet challenges imposed on the space domain.

In February 2022, the United States, Australia, Canada, France, Germany, New Zealand, and the United Kingdom jointly released the "*Combined Space Operations (CSpO) Vision 2031*," highlighting guiding principles to improve space cooperation, coordination, and interoperability. The Space Force and its allied counterparts, as responsible space actors, understand the importance of combined and coordinated military space activity, and we will continue to foster strong relationships, coordinated military operations, and transparency to promote responsible behavior in space.

Additionally, Security Cooperation and Service authorities enable the Space Force to build upon existing and new allied, partner, civil, and commercial relationships, and capability areas, allowing us to preserve America's freedom of action in space, enable Joint Force lethality and effectiveness, and provide

independent options in, from, and to space. This includes our support for “*Allied By Design*,” a program that established over 58 cooperative partnerships with billions in allied investments and over 400 space foreign-military sales in execution.

### **Weapon System Sustainment**

Space Force Weapon System Sustainment (SWSS) directly supports the Space Force’s ability to sustain the day-to-day system readiness of over 50 mission-critical space capabilities, to include Space Domain Awareness, Missile Warning/Missile Defense, Space Control, and Satellite Communication. However, our requirements continue to grow due to increasing costs for hardware/software maintenance requirements and maintaining aging infrastructure. The President’s FY 2023 budget request includes increased SWSS requirements to support Space Based Infrared System Programs, Ground Based Radars, and Space Domain Awareness.

### **Facilities and Infrastructure Investment**

In FY 2022, the Air Force transferred space-related Facility, Restoration, and Modernization (FSRM) total obligation authority, including critical infrastructure, security, and quality of life improvements, to the Space Force. While the Space Force derives almost all of its support from the Air Force, including, logistics, security, medical services, etc., this transfer executes congressional intent to create an independent service and appropriately aligns responsibility, resources, accountability, and authorities for the Space Force to execute its assigned missions. Additionally, responsibility to prioritize space-related Military Construction projects will shift to the Space Force in FY 2023 as necessary to maintain structure resiliency and readiness.

The President’s FY 2023 budget request incorporates Space Force’s top installation priorities, to include sustaining critical facilities and infrastructure enabling mission systems at launch and command and control post-launch. Ultimately, the Space Force will continue to prioritize projects that reduce overall risk to mission, such as structural, electrical, and power improvements to operational facilities.

## **THE GUARDIAN IDEAL AND PROGRESS TO A DIGITAL SERVICE**

### **Talent Management**

The single most important element contributing to Space Force readiness is the diverse and highly competent Guardian workforce. This lean and agile team of professionals is comprised of military and civilians with the right skills to design, acquire, and operate some of the world’s most complex systems. In September 2021, the Space Force released its *Guardian Ideal*, a foundational and innovative approach to talent management that seeks to elevate, strengthen, and maximize performance. At its core, the *Guardian Ideal* is a social contract between leaders and members based on our values, which are essential in establishing the USSF team-centric culture. More specifically, the *Guardian Ideal* guides how we recruit, train, develop, and employ Guardians as a part of interconnected high-performing teams using a competency-based framework to enhance assessments, tailor, development, and place members based on their strengths within the context of Service requirements.

The Space Force has also established a unique University Partnership Program (UPP) to recruit, educate, and develop a competent and diverse workforce, and engage in world-class research to secure our advantage in space. Through the UPP, developing Science, Technology, Engineering, and Mathematics

(STEM) focused Advanced Academic Degree (AAD) opportunities for all Guardians creates an opportunity to conduct research projects that are mutually beneficial to the school and USSF.

Moving forward, the Space Force will continue to leverage its competency framework and enhanced assessments to improve its ability to recruit, train, and sustain a digitally fluent, and highly technical workforce capable of producing quick-turn innovative solutions to support every aspect of capability development in the USSF.

### **Space Digital Workforce**

Because of its highly technical nature, the Space Force requires a digital workforce that has the digital fluency to rapidly turn data into useful insights to accelerate innovation of operational and business activities. Digital aptitude remains essential to help lead the transformation to becoming an interconnected, innovative, digitally-dominant force in order to deter and defeat threats to space operations. To achieve this goal, the Space Force has provided Digital University access to every Space Force member, including civilians, which incorporates curated digital content designed to establish a foundational level of fluency on modern digital topics.

The Space Force remains on the forefront of digital transformation to meet demand for existing and emerging need. The President's FY 2023 budget request exhibit's this commitment. For example, the Space Force intends to build a cadre of organic software coders to streamline software development and promote the adoption of software technology that will prove instrumental to Space Force operations, testing, and training.

### **THE WAY AHEAD**

The Space Force will continue to prioritize readiness in all capacities. We need to ensure that we field the greatest fighting force, systems, and capabilities necessary to deter potential adversaries from acts of aggression and, if necessary, defeat them in conflict. Our innovative approaches to individual and enterprise-wide readiness will sustain our advantage in space and allow our Nation to pursue groundbreaking civil, military, and commercial capabilities.

As our competitors, particularly The People's Republic of China and Russia, continue to make significant space-related advances that present serious national security challenges, maintaining space readiness has never been more critical. Antisatellite tests, hypersonic and maneuverable missile demonstrations, and a host of other dangerous behaviors require the Space Force to aggressively deploy effective deterrence mechanisms – including a resilient, reliable and effective set of space capabilities.

To reiterate, the Space Force's overall readiness depends wholly on our people, equipment, and training. By retaining the optimal quantity and mix of personnel; fielding and protecting the right systems; and deploying basic, advanced, and continuous full-spectrum training, the Space Force will sustain the resilient, effective and ready force our Nation requires.

Thank you for your continued leadership and support for Space Force and our Guardians, and I look forward to working with this committee.