

UNITED STATES SPACE FORCE WRITTEN STATEMENT

BEFORE THE

SENATE ARMED SERVICES SUBCOMMITTEE ON STRATEGIC FORCES

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VISION AND PRIORITIES FOR THE UNITED STATES SPACE FORCE

STATEMENT OF:

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BY THE COMMITTEE ON ARMED SERVICES

UNITED STATES SENATE

SENSITIVE BUT UNCLASSIFIED

Introduction

Chairman King, Ranking Member Fischer, distinguished members of the subcommittee, thank you for your continued support and for the opportunity to discuss my vision and priorities for the United States Space Force. For the last five months, I have had the privilege of serving as the Chief of Space Operations and leading the Guardians of the Space Force. They are, without a doubt, the brightest and boldest America has to offer. The Space Force is the world's preeminent space warfighting entity because of them. We must maintain that status so that the threats we face in, to, and from space are never able to undermine American prosperity and security. Space capabilities shape the modern way of war and the human way of life. Without space, the Joint Force's ability to project power and execute operations will be severely degraded.

The Space Force develops and trains Guardians, designs and acquires space systems, and provides those personnel and systems to the Joint Force. In accordance with the strategic direction provided in the National Defense Strategy and the Department of the Air Force Operational Imperatives, we will develop a resilient space order of battle able to protect U.S. space capabilities and defend the Joint Force from space-enabled targeting and attack. Should competition turn to conflict, the Space Force will be prepared to rapidly transition to a wartime posture against a peer adversary with the appropriate systems, training, and sustainment to fight and win a long-term conflict.

To do this, I will prioritize three key efforts: (1) fielding combat-ready forces (2) amplifying the Guardian Spirit, and (3) partnering to win. Our adversaries seek to supersede our advantages in space. We cannot let that happen. Through these three efforts, the Space Force will develop a competitive mindset and warfighting culture. We will outpace and outcompete our adversaries. We will preserve stability in space.

Threat Picture & Operational Environment

Congested Space Domain

Our efforts to maintain stability in space must account for the increasing number of objects that congest the domain. In 2022, space launch providers around the world conducted a record 177 launches, a 31% increase from 2021. Those launches put 2,215 payloads into orbit, a 29% increase from 2021. Increasing launch cadence and payloads in orbit expands demand for space domain awareness (SDA) capabilities covering all orbital regimes. The Space Force's SDA unit, Space Delta 2, currently tracks approximately 47,900 objects in space, a 16% growth in objects from 2021 to 2022. Of those objects, 7,100 are active payloads, a 37% increase from 2021 to 2022. Expended rocket bodies, inactive satellites, and debris further congest the environment.

Proliferated mega constellations numbering in the hundreds or thousands of satellites account for a growing percentage of launches and active payloads on orbit. Of the 177 launches last year, 41 deployed satellites for mega constellations representing a 51% increase from 2021. Those 41 missions put over 2000 payloads into orbit. Six were rideshare missions which launched satellites for a wide variety of government and private sector space entities.

These new satellites must be effectively tracked to alert operators to prevent collisions that could generate more debris. The orbital debris problem continued to worsen in 2022. Seven spacecraft broke apart in orbit creating over 600 new pieces of debris, including one Chinese rocket body accounting for over 530. The International Space Station had 1,486 reportable conjunctions with space debris or spacecraft in 2022, a 233% increase from 2021. The increase was largely due to the Russian anti-satellite test in November 2021 which created 1500 pieces of trackable debris, caused over half of the conjunctions, and forced the ISS to maneuver twice to dodge debris.

In addition to the rocket that broke apart in orbit, the Chinese government allowed uncontrolled reentries of two additional rocket bodies into Earth's atmosphere last year, while refusing to share specific trajectory information. The Chinese and Russian governments' disregard for the safety and sustainability of space could lead to debris generation and loss of human life. We are committed to setting an example of professional behavior to ensure the space domain remains secure, stable, and accessible while the U.S. government works to lead efforts to develop norms of responsible behavior in space.

Contested Space Domain

Space is undeniably a contested warfighting domain. China and Russia both define space in such a manner. China, our pacing challenge, is the most immediate threat in, to, and from space for which the Space Force must maintain technological advantage and readiness to defend vital national security interests. Russia, while less capable, remains an acute threat that is developing asymmetric counterspace systems meant to neutralize American satellites. Both states recognize the advantage space provides the United States. Both expect space to be key to future warfare by enabling long-range precision strike. Both seek information superiority through disabling an adversary's space communication and navigation systems. They are intent on targeting perceived U.S. vulnerabilities and eliminating American advantage in the space domain.

In 2015, the People's Liberation Army (PLA) created the Strategic Support Force which integrates space, cyberspace, and electronic warfare operations. China continues to aggressively invest in technology meant to disrupt, degrade, and destroy our space capabilities. Those technologies are key to their plan for a fully modernized, world class military able to project power globally and for achieving their "Space Dream" to become the foremost global space power by 2045.

China has a range of operational counterspace capabilities, including terrestrial lasers to disrupt and degrade satellite sensors, electronic warfare jammers targeting GPS and SATCOM, and anti-satellite missiles. They are testing on-orbit satellite systems which could be weaponized as they have already shown the capability to physically control and move other satellites. Their cyber capabilities are extensive and dangerous. They are likely pursuing anti-satellite systems able to destroy satellites in geosynchronous orbit. In July of 2021, the Chinese government successfully completed the first test of fractional orbital launch of an ICBM with a hypersonic glide vehicle, which traveled over 24,800 miles demonstrating a new method to hold at risk and to attack the United States.

Over the last six months, China conducted 35 launches adding advanced communications and intelligence, surveillance, and reconnaissance (ISR) satellites to their orbital architecture. Of China's over 700 operational satellites in orbit, 347 are PLA ISR platforms providing optical, radar, and radio-frequency capabilities which track the Joint Force worldwide. Their ISR satellites work in conjunction with positioning, navigation, and timing (PNT) and SATCOM satellites to enable Chinese kill-chains and long-range precision guided attack. These space capabilities allow China to monitor, track, target and attack U.S. forces in conflict.

Russia is testing and fielding orbital anti-satellite systems, extensive cyber capabilities, and terrestrial anti-satellite missiles, jammers, and lasers. They are also likely developing an air launch anti-satellite missile. Russia's ISR satellites are highly advanced, providing geospatial and signals intelligence capabilities, but are limited in number relative to the United States and China. Their ISR, PNT, and communications satellites provide the basis for space-enabled targeting and attack that must be taken seriously despite Russia's performance in Ukraine and lack of follow-through on threats to space capabilities.

The Space Force will protect the Joint Force from threats of Russian and Chinese action. The Space Force must deter aggression and, if necessary, defeat adversaries. We will do so responsibly and sustainably. We will execute my priorities with the pacing challenge, China, at the forefront of our minds.

The Vital Role of the Space Force

Congress established the Space Force to protect U.S. interests in space. This charge has two components. First, we must protect U.S. space capabilities so that the Nation has unfettered access to the domain. Second, we must defend the Joint Force and the Nation from space-enabled attack. Space superiority is the ability to accomplish both at a time and place of our choosing. Military services are organized around domains – air, land, and sea – because contesting a domain with military force is a complex endeavor that requires institutional specialization. Space superiority requires a similar level of specialization. This mission is why the Space Force exists and an operational outcome clearly in Guardians’ purview.

My lines of effort are designed to achieve this vision by providing the forces, personnel, and partnerships required for the Space Force to preserve U.S. space superiority for the foreseeable future.

Line of Effort 1 – Field Combat-ready Forces

My first priority is to build resilient, ready, combat-credible space forces. A resilient force can withstand, fight through, and recover from hostile attacks. A ready force has the training, equipment, and sustainment required to accomplish any mission in competition and high-intensity conflict. A combat-credible force has power to deter by providing the ability to conduct full-spectrum operations in a prompt and sustained manner against any adversary. Space forces must be all three, resilient, ready, and combat-credible, if they are going to outcompete adversaries, deter aggressors, and defeat the Nation’s enemies.

Resilient

We are accelerating the pivot towards resilient satellite constellations, ground stations, networks, and data links. We are conducting transformational force design analysis based on current and future threats, operational needs, and costs so that we can deliver resilient, effective systems and architecture. Force design will be informed by extensive wargaming and prototyping to deliver combat and cost-effective platforms. Satellite constellations must be proliferated, disaggregated, and distributed. The Space Development Agency’s Proliferated Warfighter Space Architecture provides a prime example of those efforts.

Emphasis must be placed on cybersecurity. Cyber threats must be understood. Networks must be hardened against hostile cyber operations. The Space Force will employ highly trained Guardians implementing modern sensors, software, and analytics to detect and defeat cyber operations against our networks, systems, ground stations, datalinks, and satellites. The Space Force will strive to eliminate legacy information technology to reduce cyber vulnerabilities.

Ready

To enhance our ability to field combat-ready forces, we are experimenting with organizational constructs that strengthen readiness by building tighter connections between operations and acquisitions activities. The 15th Space Surveillance Squadron is an important example of such a unit. This unit combines an operational space domain awareness (SDA) mission under Space Delta 2 and a research and development mission for SDA technologies aligned with the Air Force Research Lab. The combination of operations and acquisitions expertise accelerates technological transfer from engineers and acquirers to warfighters. As experiments like this demonstrate positive results, we will look for innovative ways to apply the lessons we learn across the force.

The Space Force requires new, modern infrastructure to train Guardians, develop tactics, and validate performance. Developing Operational Test and Training Infrastructure (OTTI) will enable Guardians to build readiness to fight and win high-intensity conflict. With this infrastructure, we will aggressively pursue realistic training. Guardians will execute missions with validated tactics and modern weapon systems. We are executing new, large scale training exercises including Space Flag and Black Skies. At these exercises, Guardian aggressor forces function as intelligent, highly capable opponents to force Guardians to account for

our real-world adversaries. Through training, exercises, and orbital experimentation, we will develop, validate, and continuously enhance tactics and operational concepts, thereby creating a force ready for emerging threats.

Combat-Credible

Only a credible Space Force can deter an adversary from extending a conflict into space. A combat-credible force requires actionable intelligence, decisive command and control, fortified networks, maintained equipment, innovative operational concepts, validated tactics, accredited facilities, and continuous sustainment. Neglecting any of these elements jeopardizes a force's ability to conduct prompt and sustained operations against an adversary. My emphasis on combat credibility ensures that we are fielding all the combat and combat support elements required to prevail against an adversary in space.

For Space Force forces to be combat-credible, they must be able to protect space capabilities and defend the Joint Force from space-enabled attack. To perform these missions, we are developing strategies, concepts, and tactics that will allow space forces to conduct prompt and sustained full spectrum operations against an adversary in the emerging threat environment. We are also accelerating the documentation of force designs related to orbital warfare; space domain awareness; battle management command, control, and communication; and other key functional areas. The Space Warfighting Analysis Center plays a role in this effort by providing the modeling and analysis to inform these activities. If the concepts we rely on to protect and defend become stale or outdated, we risk falling behind the adversary. Therefore, we are continuously evaluating the effectiveness of strategies, concepts, and tactics through a Service-wide campaign of learning.

Line of Effort 2 – Amplify the Guardian Spirit

My second priority is to unleash the spirit of creativity, innovation, determination, and patriotism of our talented workforce. Amplifying the Guardian Spirit requires the Space Force to continue to embrace modern talent management processes so that we can recruit the best talent, develop, and retain an elite workforce, and empower Guardians to succeed.

Recruit the Best Talent

The size and requirements of the Space Force present unique recruiting challenges. We receive more applications than we have positions available. Our focus must be selecting the right people who will embrace the Guardian Spirit and dedicate themselves to the accomplishment of our mission. Future Guardians must be recruited from across the United States, from all backgrounds ensuring selection of high-quality people with diverse life experiences that will be critical in solving complex problems and executing difficult missions. The Space Force must outcompete the civilian market for talent by showing how attractive careers as a Guardian are for all people.

The Space Force is implementing innovative recruitment practices to attract talent. We are expanding digital recruiting efforts to include interactions with potential recruits aimed at presenting the value of service in the Space Force, training and educational opportunities, and the importance of STEM. Recruit townhalls allow potential future Guardians to ask questions in preparation for joining the Space Force and successful completion of Basic Military Training. STEM to Space is a targeted outreach effort through which Guardians give presentations to elementary and high school students promoting STEM education and careers. The Space Force recently launched a website to conduct public outreach which provides information on careers, but also provides personal insights and anecdotes from enlisted personnel, officers, and civilians.

Through extremely valuable partnerships with Universities, the Space Force will recruit highly educated Guardians. The Space Force University Partnership Program (UPP) creates a pipeline for future Space Force officers and civilians through ROTC and internship programs. We will recruit from a diverse group of

universities to ensure the strongest possible field of future Guardians and STEM talent including from underrepresented populations. We currently have 14 partner universities. Two of those universities are Historically Black Colleges and Universities (HBCUs) and four are Hispanic Serving Institutions (HSIs).

Our constructive service credit program allows experienced professionals from key fields to direct commission into the Space Force at ranks appropriate to their years of experience. The program is intended to recruit professionals in the cyber, intelligence, and space fields who are already in the workforce allowing them to skip ROTC or attendance at a service academy. The program is currently bringing critical cyber experience from the private sector. The first board served as a pilot program and recruited seven cyber professionals to become Guardians including one at the rank of Lieutenant Colonel, who are now in training or already serving in operational units. The second board will incorporate intelligence professionals and intends to hire 20 personnel. The third board will incorporate space operations professionals. These and all other recruits will bring exceptional talent that will benefit the Space Force and enhance their career long development as Guardians.

Develop and Retain an Elite Work Force

The Space Force will maximize Guardian talent with an innovative, modern talent management system that will train and educate the best workforce. Our approach maximizes opportunities for education and training. We are developing and implementing space centric curriculum for Basic Military Training, Reserve Officer Training Corps, at the U.S. Air Force Academy, and Officer Training School programs to ensure our Guardians are well prepared for entry into the Space Force. Guardians will be provided more opportunities for and are encouraged to pursue advanced STEM degrees. Further, we will mature our relationship with the Johns Hopkins School of Advanced International Studies (SAIS) to provide mid and senior-level professional military education programs.

With Congressional support, we will improve our modern talent management system by integrating the Air Force Reserve space element into the Space Force as a single component. This will strengthen our recruiting and retention efforts by providing unique, flexible career paths. The proposed talent management system update would allow Guardians to transfer between full-time and part-time duty to pursue opportunities outside full-time military service and subsequently return to full-time duty without barriers to reentry or detriment to their career. Part-time Guardians would bring valuable commercial industry experience back to the Space Force. Such opportunities will help us attract highly skilled, technologically inclined people in an increasingly competitive space enterprise talent market. The single service personnel management system will allow Guardians to achieve their potential and drive innovation within the Space Force. The system will also make retaining highly qualified Guardians easier by facilitating flexible career paths. We look forward to working with this committee on this important initiative.

Empower Guardians to Succeed

Amplifying the Guardian Spirit requires leaders at all levels to place the utmost emphasis on taking care of, trusting, and empowering their subordinates. Empowerment requires that Guardians adapt to any situation and develop solutions in line with their commander's intent. Guardians must be confident in their ability to innovate and execute in the absence of orders in high-intensity conflict with or without all requisite capabilities. Guardians must be able to figure out the *how* when a commander only provides the *what* and *why*.

Each new challenge we face will require big ideas thought up by bright, creative Guardians. We are implementing an annual Guardian Field Forum which will showcase exceptional junior officers, non-commissioned officers, and civilians and allow them to share recommendations and innovative ideas with peers and senior Space Force leaders. The Forum will accelerate implementation of new ideas from the ground up and demonstrate each Guardian's ability to implement mission command. The intent of the

Forum is to provide open lines of communication between leaders of all ranks across the Space Force to ensure that we remain at the cutting edge technologically and tactically.

Line of Effort 3 – Partner to Win

My third priority is to strengthen the partnerships the Space Force relies on to accomplish our mission. Success in space requires collaboration. The Space Force will strive to eliminate barriers to collaboration, including over-classification, so the Space Force can build enduring advantages with our partners.

Department of the Air Force

The Space Force maintains our deep relationship with the U.S. Air Force which provides critical support services enabling the Space Force to remain focused only on key mission areas. The Air Force delivers medical, legal, security, engineering, information technology, and public affairs support among a myriad of other functions to the Space Force. For example, the Air Force Research Lab is a critical partner researching and developing cutting-edge satellites, spacecraft, propellants, PNT, SDA, and power collection and beaming technologies.

Joint Force

Our partnership with U.S. Space Command remains our most important Joint Force relationship. The commander of U.S. Space Command's mission in the space area of responsibility means that the two organizations are closely entwined. One cannot succeed without the other. U.S. Space Command directs military operations in space and plans to deter or defeat potential adversaries in the domain. The Space Force makes this mission possible by providing weapon systems, equipment, personnel, expertise, and the execution of critical space operations required to accomplish military objectives.

While the Department of the Air Force presents the preponderance of space forces to U.S. Space Command, Guardians are indispensable parts of military operations conducted by every combatant command. In 2022, the Space Force established service components to support U.S. Indo-Pacific Command, U.S. Forces Korea, and U.S. Central Command. Space Force personnel in those joint force commands are already making tangible contributions to operations, training, exercises, and international security cooperation initiatives. Strong relationships with combatant commands are critical to our success. We will use this service component model to strengthen space integration in all the combatant commands.

Allies & Partners

The current geopolitical situation demands international cooperation to deter aggression and defeat adversaries. The U.S. Space Force Campaign Support Plan details how the Space Force will expand, strength, and leverage our global partnerships. Through our allies and partners, we gain economic and national security opportunities in space otherwise impossible. We are engaging with partners to prioritize and resource space capabilities, training, and interoperability. We are building a Regional Space Advisor program to develop Guardians who will establish and grow international partnerships. The Space Force is conducting or pursuing officer exchanges with key allies and partners. We will exchange personnel with an increasing number and diversity of countries over the next several years.

The Space Force is developing and executing training, exercises, and educational courses with allies and partners in mind. Space Training and Readiness Command offers a variety of courses which have had personnel from over 50 countries participate. Allies and partners are also participating in the Schriever Wargame where we identify solutions to shared challenges and Space Flag which provides tactical level training in a virtual battlefield. Educational and training opportunities build our combined space advantage over our mutual adversaries.

Maintaining that advantage requires operation of space systems in a cooperative manner. Recent cooperative efforts include deploying U.S. payloads on Norwegian and Japanese satellites. Our partners provide SATCOM and SDA capabilities which mesh with our own to distribute costs and improve coverage. Concurrently, the Space Force has more than 200 foreign military sales cases with over 60 countries. We will further relationships with spacefaring allies and partners through additional payload sharing opportunities, personnel exchanges, training exercises, professional military education, and security cooperation initiatives. Our allies and partners remain critical to deterring adversaries and defeating our enemies.

Whole of Government

Spacepower is a whole of government endeavor, and we continue to strengthen partnerships with our vital interagency mission partners. We are building relationships with intelligence community partners to ensure national security requirements are met, including important connections with the National Reconnaissance Office. The Space Force is growing relationships with National Aeronautics and Space Administration to support human spaceflight and space exploration missions and with the Department of Commerce to support the transition of commercial and civil space traffic management mission to their Office of Space Commerce. In addition, the Space Force continues its collaboration with the Department of State, both to encourage interoperability and to leverage existing and planned space capabilities of allies and partners.

Commercial Industry

We will build and strengthen partnerships with commercial industry. All commercial partners, from small businesses and startups developing groundbreaking technologies to large defense contractors producing proven capabilities at scale, are critical to Space Force efforts to exploit what we have, to buy what we can, and to only build what we must. Once in place, the National Security Space Launch Phase 3 framework will provide a mechanism for emerging commercial launch providers to compete for national security launch contracts while also maintaining a separate mechanism for launch requirements best served by mature providers with a certified record of mission assurance. This innovative approach protects capacity for the DoD's most technically challenging missions while allowing emerging providers to compete, when ready, for the DoD's more commercial-like missions. We are also using personnel exchanges, training with industry, and reverse industry days will drive integration and a better understanding of each other's requirements. Commercial services will increasingly fill growing requirements and augment military decision making. Commercial partners and services will also be key in pursuit of emerging capabilities including advanced power and propulsion technologies, artificial intelligence and machine learning, and in-space servicing, assembly, and manufacturing. Space Systems Command's Commercial Services Office will provide a means through which to leverage more commercial off the shelf capabilities with speed and agility.

Conclusion

The Space Force is the preeminent military space organization in the world. Our potential adversaries seek to surpass the United States and to challenge our advantage. We cannot and will not allow this to happen. Our Guardians will out work, out innovate, and out compete our adversaries to ensure that we succeed. They will do everything they can to deter conflict and maintain stability in space. Semper Supra!