HOUSE ARMED SERVICES SUBCOMMITTEE ON STRATEGIC FORCES
HOUSE SCIENCE, SPACE, AND TECHNOLOGY SUBCOMMITTEE ON SPACE

STATEMENT OF

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COMMANDER

UNITED STATES STRATEGIC COMMAND

BEFORE THE

HOUSE ARMED SERVICES

STRATEGIC FORCES SUBCOMMITTEE

AND

HOUSE SCIENCE, SPACE, AND TECHNOLOGY

SPACE SUBCOMMITTEE

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INTRODUCTION

USSTRATCOM is a global warfighting command, setting the conditions across the globe as the ultimate guarantor of national and Allied security. Our forces and capabilities underpin and enable all Joint Force operations.

USSTRATCOM forces are globally-dispersed from the depths of the ocean, on land, in the air, and into space, with a matching breadth of mission areas. Nearly 162,000 Soldiers, Sailors, Airmen, Marines, and Civilians are responsible for Strategic Deterrence, Nuclear Operations, Space Operations, Joint Electromagnetic Spectrum Operations, Global Strike, Missile Defense, and Analysis and Targeting. These critical mission areas are an integral part of our combat operations, which enables warfighters across all domains to preserve the peace and when called upon, dominate in conflict and win.

USSTRATCOM conducts strategic planning, warfighting operations, aids the President's nuclear response decision-making process, provides global situational awareness to the National leadership and combatant commands, and, when necessary, is prepared to deliver a decisive response in all domains.

The focus of USSTRATCOM remains to deter strategic attack on the United States and its Allies. We stand ready to respond to threats anywhere, anytime across the globe. We acknowledge that we cannot do this alone and must continually work towards enhancing our alliances and partnerships, in all areas.

Today, deterrence is more than just our nuclear capabilities. Deterrence requires integrated planning for all capabilities, across all domains, including space. This enables synchronized operations and decisive responses to adversary aggression anytime, anywhere. We must make the concept of integration operational for all domain warfighting throughout the Department of Defense.

In particular, we must normalize space as a warfighting domain. There is no war in space. There is only war, and war can extend into any domain. To fight wars in these domains we must develop the appropriate rules of engagement that allow for rapid response and delegate authority to the appropriate level to operate more quickly.

GLOBAL SECURITY ENVIRONMENT

Space was once an exclusive frontier accessible to few. Today, the barriers to entry into space are relatively low. Technology advancements and access to, through, and from space enable

participation by almost any nation with the will. Although our ability to operate within the space domain is not an issue today, congestion and threatening activities are becoming increasing concerns.

Not all are committed to the responsible and sustainable use of space. Russia and China continue to strengthen its military space capabilities and pursue counterspace capabilities to limit and prevent U.S. access to space systems, which are critical for modern military engagement. We anticipate that Russian and Chinese counterspace systems will be able to hold U.S. satellites in every orbital regime at risk within the foreseeable future. Iran and North Korea have and are pursuing counterspace weapons, but not as aggressively and not as advanced (limited to GPS and SATCOM jammers).

These adversary trends present challenges to the safety, stability, and sustainability of U.S. space operations. Adversaries believe they can erode the U.S.'s economic and strategic advantage by disrupting and/or destroying U.S. (and our Allies and Partners) satellites providing space-based capabilities essential to our economic vitality and national security. The U.S., specifically USSTRATCOM in coordination with the Intelligence Community, is responsible for detecting, assessing, and if necessary defending against threats to U.S. Government (USG) satellites.

SPACE SITUATIONAL AWARENESS

Space Situational Awareness (SSA) is the foundation upon which USSTRATCOM maintains spaceflight safety, provides warning, and assesses intentions of adversary actions towards U.S., Allies, and Partner satellites. There is a fundamental need to perform surveillance and reconnaissance to understand the space environment and support decision-making by many – not just the military. Space surveillance and reconnaissance, coupled with foundational and operational intelligence, forms our SSA operating picture. SSA provides decision makers indications and warning of hazards and threats: natural and manmade; non-hostile or hostile. SSA also underpins efforts to preserve, protect, and defend assets in space to include manned spaceflight and activities supporting safe management of space traffic – fostering access to, and responsible use of, space for all.

The Department tracks over 20,000 objects in space and that number is growing annually – over 600 new satellites estimated in 2019, many difficult to track, including cube-sats and micro-sats. It is imperative the Department continues to maintain exquisite SSA given the defense implications for the nation. Currently, the Department publishes a catalog of these space objects

and makes potential collision notifications for global users free of charge. We will see an increase in tracked objects as more nations pursue space capabilities and we improve our ability to detect and identify smaller objects. As the number of space objects increases, our current advisory activities and architecture will become inadequate. At the same time, the contested nature of operations in space is increasing the demand on Department resources for protecting and defending U.S. and Allied space assets.

SSA MILITARY REQUIREMENTS

Maintaining the benefits afforded to the U.S. by space is a cornerstone of our national security, however, an evolving strategic environment increasingly challenges U.S. space advantages. As part of the requirement to meet this challenge, USSTRATCOM currently conducts SSA operations for:

- USG, U.S. commercial space capabilities, and services used for national and homeland security purposes;
- U.S. civil space capabilities and operations, particularly human space flight activities; and
- Non-U.S. commercial and civil space entities as appropriate.

In addition to safety of flight, we specifically conduct SSA operations to support:

- Awareness of adversary use of space and their potential impacts to terrestrial or space services.
- Attribution necessary for deterrence, or dissuasion, of adversary threats or execution of harmful space actions.
- Denial or prevention of adversary capabilities which might impact space services or terrestrial operations when deterrence fails.
- Assured delivery of communication; position, navigation, and timing; intelligence, surveillance, and reconnaissance (ISR); missile warning; and weather in support of diplomatic, informational, military, and economic national objectives.
- Implementation and verification of international treaties and agreements.

These requirements dictate the need for systems that can provide surveillance and reconnaissance over a large volume of space; for an ever-increasing number of space objects (active satellites and inert debris); and, more important, a level of speed and precision necessary to support warfighting operations. There is unprecedented growth in manned and unmanned

spaceflight. Our adversaries are making significant and rapid investments in military space programs. Meanwhile, our space warfighters are called on to preserve U.S. freedom of action in the space domain by detecting, identifying, tracking, characterizing, and predicting the motion of objects that are increasing in number and decreasing in size. The Department requires dedicated and supplemental systems that can provide persistent awareness of objects which pose a threat to high value capabilities (U.S. and Allied) and support actions to include executing protective measures against active threats, detecting and identifying launches, predicting re-entry, resolving anomalies, and attributing hostile actions.

The Department provides SSA data and services to space-faring nations, to include military-to-military data sharing, through direct interactions with the Joint Space Operations Center (JSpOC) at Vandenberg, AFB and a public website called 'Space-track.org.' The 'Space-track.org' website provides SSA data for a rudimentary understanding of where manmade objects are in space. The JSpOC interfaces directly with governments and commercial entities to warn and facilitate prevention of collisions in space. Next month, July 2018, we will begin transitioning the JSpOC to the Combined Space Operations Center (CSpOC) to integrate Allied and partner capabilities in specified mission areas to fill capability gaps.

This commercial and government-to-government activity is not an inherently-military function. As of Monday, with President Trump's signing of Space Policy Directive-3, the Administration's position is to transfer a portion of this function to the Department of Commerce in order to free up USSTRATCOM resources to conduct the inherently-military mission of protecting USG satellites and interests in space, while continuing to conduct SSA operations in support of national security objectives. I support this initiative. USSTRATCOM will partner with the Department of Commerce to support its mission to interface with commercial and civil users, as well as the public in general, by providing its SSA generated from reliable data sources. Sources of data will not only come from long-standing U.S. military space surveillance assets, but may also come from allies and other partners – commercial and non-commercial alike.

SSA SHARING AND SERVICES

Title 10 U.S.C § 2274 authorizes the Secretary of Defense to provide SSA services and information to non-USG entities free of charge. Under this statute, USSTRATCOM has led the negotiation, coordination and signing of 16 government level agreements and 68 commercial SSA

agreements. USSTRATCOM provides three tiers of services to the public, allies, and other partners:

- Emergency services: The emergency service includes conjunction[1] data messages to virtually all satellite owners/operators; including Russia and China. This information helps satellite owner/operators avoid collisions in space.
- Basic services: The second level of service, basic services, requires a user account agreement to access information in the 'Space-track.org' website. These services include satellite catalog two-line element sets, reentry assessments, and recent cataloged and decayed objects.
- Advanced services: USSTRATCOM can provide seven advanced services upon request, in addition to basic services, to those nations and commercial partners with signed SSA sharing agreements – satellite anomaly resolution, collision avoidance support, conjunction assessment[2], deorbit and reentry support, end-of-life and disposal support, launch support, and electromagnetic interference investigation.

CAPABILITIES

The current Space Surveillance Network (SSN) is a worldwide "system of systems" of tracking and detection radars, imaging radars, and optical telescopes operated by military, intelligence, and civilian organizations. The ground-based SSN is augmented by imaging satellites to provide critical data on the space domain and environment. A large portion of the capabilities and locations are, for the most part, the result of non-space surveillance requirements (e.g. air and missile warning). In other words, for much of the '80s, '90s, and even early 2000s our SSA capability was primarily the result of leveraging other missions' assets to perform space surveillance activities on a non-interfering basis. Though far from perfect, this resulted in an SSA capability that adequately met our flight safety needs in a benign space environment. Now that space is no longer a sanctuary, we are optimizing our SSA capability to meet the growing challenges of a warfighting domain.

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[1] A conjunction is a close approach between space objects

[2] Conjunction Assessment is the process of predicting and reporting the close approaches between space objects. Conjunction Assessment information may include, but is not limited to, time of closest approach, predicted "miss distance" information, and position uncertainty information on the primary and secondary object. Conjunction Assessment excludes the process of determining and implementing courses of action to avoid on-orbit collisions.

In light of the requirements outlined above, the Air Force and the National Reconnaissance Office (NRO) are developing capabilities (sensors and supporting ground analytic architectures) to deliver on advanced situational awareness capability vital to USSTRATCOM's operations and the protection of our nation's critical on-orbit capability. As part of that advancement, we look forward to the near-term delivery of the first Space Fence, the future launch of the joint, Air Force and NRO, on-orbit indications and warning platform (Silent Barker), and continued investments in deep-space radars (Deep-space Advanced Radar Concept). We continue to refine and upgrade existing ground-based radars, telescopes stationed around the globe and employ the Geosynchronous SSA Program (GSSAP) satellites already on orbit in support of SSA. Additionally, we are increasing our interagency and international collaboration through the National Space Defense Center and the soon to be stood-up CSPoC.

CONCLUSION

USSTRATCOM is committed to strengthening relationships with our USG, Allied, and Commercial partners to ensure the U.S. retains the superiority in space on which our Nation's economic and national security relies. We will continue to provide the critical national SSA capabilities essential to national security and support efforts to transition support functions to the Department of Commerce. I thank the Committees for their continued support as we work through the challenges of operationalizing space and preserving the availability for all of those who chose to use space responsibility and peacefully.