Military Use of Outer Space: A U.S. Perspective*

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United States Space Missions

The United States (U.S.) Department of Defense (DoD)—the Executive Branch agency responsible for the U.S. Armed Services—has five core space missions which guide U.S. space operations. The first of these missions is Situational Space Awareness, which concerns the collection of information to help commanders gather as much information as possible from all available sources. This does not occur in a vacuum, however; the DoD relies heavily on allied and commercial partners to provide situational awareness on U.S. and partner nation space objects.

The second DoD core space mission is Battle Management Command and Control. These are the tools used to give commanders real-time information so they can make on-the-spot tactical decisions. The mechanisms used to execute this mission include satellite communication and GPS technology, for example that can feed data to aircraft and maritime assets, providing

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* The thoughts and opinions expressed herein are solely those of the author and do not necessarily reflect the official position of the United States Air Force or the Department of Defense.
commanders invaluable information to assist in their tactical decision-making.

The third DoD core space mission is Support. How do we actually get space objects into orbit? There are several support systems involved in the process, including space lift, which is the delivery of satellites, payloads, and other materials into space to effectuate space missions; and space operations, which is what occurs once space objects are in orbit. We have to track our objects to ensure they remain healthy and conduct maintenance if they break. Support also includes the reconstitution of space objects. If a satellite being utilized for one of our mission sets becomes disabled, we must have alternative means to be able to accomplish the mission. We have plans and operation orders that guide how the United States will operate in the event our space capabilities are degraded or destroyed.

The fourth core mission is the stalwart mission—Space Support to Operations. This mission includes the support we provide to land operations as well as naval and cyber operations via space. This is accomplished primarily through space borne intelligence, surveillance, and reconnaissance operations. It also includes missile warnings; satellite communication; positioning, navigation, and timing (PNT); and environmental monitoring.

The final DoD core space mission is Space Control, which can be divided into two subets. The first is Offensive Space Control and is defined as the actions the U.S. may take in order to ensure our adversaries do not negatively affect U.S. space assets. There are five means for accomplishing Offensive Space Control, affectionately referred to as the “Five Ds.” They include deception, disruption, degradation, denial, or destruction of hostile space capabilities. On the opposite front is Defensive Space Control, which includes the passive and active acts taken to protect space objects from maneuvering a satellite into a different position or installing additional firewalls to protect the integrity of a satellite.

As mentioned at the outset, these five missions constitute the five core charges of U.S. space operations. Any space-based U.S. activity can be characterized into one or more of these categories.

Sources of U.S. Space Law

Turning now to the sources of U.S. space law and policy. As with all space law, U.S. space law is grounded in several international treaties to include the Outer Space Treaty, the Liability Convention, the Rescue Agreement, and the Registration Convention. Domestically, the overarching
U.S. space doctrine is Joint Publication (JP) 3-14, *Space Operations*. This publication outlines how joint space operations will be conducted, including the command and control structure as well as how the DoD interacts with other government agencies. In addition to JP 3-14, DoD Directive 3100.10, *Space Policy*, summarizes the roles and responsibilities of the respective combatant commands and military departments with respect to how each contributes to space operations.

Additional sources of U.S. space policy include the *National Space Strategy* and Space Policy Directives, which are all Executive-level White House space policy declarations. The current White House administration has placed renewed focus on U.S. space capabilities. Most apparent was the issuance of Space Policy Directive-4 in October 2018, which directed the establishment of a sixth branch to the Armed Services, the U.S. Space Force.

Finally, we have several federal regulations affecting U.S. space law and policy, including those related to PNT and the U.S.’s commitment to provide free GPS to all citizens, as well as, regulations concerning commercial remote sensing and the declaration that we must, to the greatest extent possible, team with commercial partners to use remote sensing.

**Space Law and Permissible and Impermissible Space Activities**

In accordance with the Outer Space Treaty, the exploration and use of outer space is the province of all mankind and there is a recognition that outer space will be used for peaceful purposes, which has been interpreted as non-aggressive actions. That does not mean there can be no military uses of space, only that such uses shall be non-aggressive. Non-aggressive military uses include intelligence collection, military ballistic early warning systems, satellite communications, and GPS-based navigation.

Additionally, international law prohibits the militarization of the Moon and other celestial bodies to include the building of bases or forts on the Moon and the conducting of weapons testing or execution of military movements and maneuvers. Finally, with respect to the use of outer space, no weapons of mass destruction can be placed or stationed in outer space, however that does not prohibit the transiting of weapons through space, for example, in the case of an intercontinental ballistic missile, that maneuvers through space but does not stay in the Earth’s orbit.

As Article 3 of the Outer Space Treaty notes, international law applies to activities conducted in outer space. But what might that look like? For example, you have Article 2(4) of UN Charter which states that all Charter
members “shall refrain in their international relations from the threat or use of force….” Additionally, Article 51 of the Charter acknowledges States’ inherent right of self-defense. What would be considered “force” in outer space enough to trigger Article 51 protections?

And what if a conflict were to occur in space? The Law of War would undoubtedly apply but how? At this juncture, we do not necessarily have the answers to these questions, but they are important thoughts to consider as States continue to improve their space capabilities.