

Chapter 3

Current Space Law And Policy

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Space policy defines the overarching goals and principles of the US space program. International and domestic laws and regulations, national interests, and security objectives shape the US space program. This chapter examines the international and domestic legal parameters within which the United States conducts its space programs and outlines the basic tenets of US space policy. The laws governing the utilization of the space domain remain largely unchanged since the former Soviet Union and the United States entered the “space race” in the 1950s. This is of growing concern as the number of nations seeking access to space increases. Space policy formulation is a critical element of the US national planning process, as it governs all aspects of the US role in space. Furthermore, fiscal considerations both shape and constrain space policy. This chapter details Department of Defense (DOD), Army, Navy, and Air Force space policies, derived from the National Space Policy. It concludes with an analysis of the doctrinal principles that guide the conduct of military space activities.

International Space Law

The term *space law* refers to a body of law drawn from a variety of sources and consisting of two basic types of law governing space-related activities: international and domestic. The former refers to rights and obligations the United States has agreed to through multilateral or bilateral international treaties and agreements. The latter refers to domestic legislation by Congress and regulations promulgated by executive agencies of the US government.

Table 3-1, at the end of this chapter, summarizes key international treaties and agreements that affect the scope and character of US military space activities. The primary international forum for the development of laws and principles governing outer space is the United Nations Office for Outer Space Affairs (UNOOSA).¹ Though the term *outer space* has been used since 1967, the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space has not established the definition or delimitation of outer space, but rather leaves the definition to the member states. In recent years, this has repeatedly been a topic for discussion at each session. Jerry Sellers offers this definition from *Understanding Space*: “For awarding astronaut wings, NASA defines space at an altitude of 92.6 km (57.5 mi). For our purposes, space begins where satellites can maintain orbit—about 130 km (81 mi).”² Listed below are some of the more important basic principles and rules from the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, which was signed on 27 January 1967.³

International law applies to outer space. Such law includes the United Nations Charter, which requires all UN members to settle disputes by peaceful means and prohibits the threat to use, or actual use of, force against the territorial integrity or political independence of another state. The charter also recognizes a state's inherent right to act in individual or collective self-defense.

Outer space, the moon, and other celestial bodies are not subject to appropriation by claim of sovereignty, use, or occupation, or any other means. In 1976 eight equatorial countries claimed sovereignty over the geostationary orbital arc above their territory. Most other countries, including all major space powers, rejected the claim.

Outer space is free for use by all countries. This principle relates to the nonappropriation principle and is analogous to the right of innocent passage on the high seas.

Outer space will be used for peaceful purposes only. Most Western nations, including the United States, equate peaceful purposes with nonaggressive ones. Consequently, all nonaggressive military use of space is permissible, except for specific prohibitions of certain activities noted elsewhere in this section.

Astronauts are "peaceful envoys of mankind." If forced to make an emergency landing, they should not be harmed or held hostage, and they must be returned to the launching country as soon as possible. Upon request, the spacecraft also should be returned if possible, and the launching country will pay the costs involved.

Objects launched into space must be registered with the UN. Basic orbital parameters, launch origin, launch date, and a brief explanation of the purpose of the satellite are required, although the UN set no time limit for providing this information.

A country retains jurisdiction and control over its registered space objects. This rule applies regardless of the condition of the objects.

A country is responsible for regulating, and is ultimately liable for, the outer space activities of its citizens. In outer space, liability for damage is based on fault; therefore, assessing blame for objects colliding would be extremely difficult. The launching country is absolutely liable for damage caused on Earth.

Nuclear weapons tests and other nuclear explosions in outer space are prohibited. Before this prohibition, the United States conducted two atmospheric nuclear detonation tests. In 1958 the United States exploded three small nuclear devices in outer space in Project Argus.⁴ The purpose of these tests was to assess the impact of an electromagnetic pulse caused by high-altitude nuclear explosions on radio transmissions and radar operations and to increase understanding of the geomagnetic field and the behavior of charged particles within.⁵ In 1962 the United States planned to conduct further experiments with the ionosphere in Project Starfish. This project involved one device below the limit of outer space and two larger devices "at several hundred kilometers height."⁶ Only one missile actually reached its projected altitude; the other two resulted in launch failures. The High-Frequency Active Auroral Research Program (HAARP) found this projection of the results: "In this experiment the inner Van Allen Belt will be practically destroyed for a period of time; particles from the belt will be transported to the atmosphere. It is anticipated that the earth's magnetic field will be disturbed over long distances for several hours, preventing radio communication. The explosion of the inner radiation belt will create an artificial dome of polar light that will be visible from Los Angeles."⁷ The actual successful test did expand the belt formed by the Argus experiment.

Nuclear weapons and other weapons of mass destruction (such as chemical and biological weapons) may not be placed into orbit, installed on celestial bodies, or stationed in space in any other manner.

A country may not test any kind of weapon, nor establish military bases, installations, or fortifications, nor conduct military maneuvers on celestial bodies. The use of military personnel for scientific research or other peaceful purposes is permissible.

Interfering with national technical means of verification is prohibited provided such systems are operating in accordance with generally recognized principles of international law and are in fact being used to verify provisions of specific treaties.

The United States adheres to the premise in international law that any act not specifically prohibited is permissible. Thus, even though the list (see table 3-1 at the end of the chapter) of prohibited acts is sizable, there are few legal restrictions on the use of space for nonaggressive military purposes. As a result, international law implicitly permits the performance of such traditional military functions as surveillance, reconnaissance, navigation, meteorology, and communications. It permits the deployment of military space stations along with testing and deployment in Earth orbit of nonnuclear weapon systems. This includes antisatellite weapons, space-to-ground conventional weapons, the use of space for individual and collective self-defense, and any conceivable activity not specifically prohibited or otherwise constrained.

Another widely accepted premise is that treaties usually regulate activities between signatories only during peacetime. This rule holds true unless a treaty expressly states that its provisions apply or become operative during hostilities, or the signatories can deduce this from the nature of the treaty itself. In other words, countries presume that armed conflict will result in the suspension or termination of a treaty's provisions. Good examples are treaties whose purpose is to disarm or limit quantities of arms maintained by the signatories. Therefore, during hostilities, the scope of permissible military space activities may broaden significantly.

In the past, the only significant competitor to the United States was the former Soviet Union. Today, several nations have entered the space domain and have national legislation governing their space-related activities. Those countries include Argentina, Australia, Canada, Finland, France, Germany, Hungary, Indonesia, Japan, New Zealand, Philippines, Republic of Korea, Russian Federation, Slovakia, Sweden, South Africa, Tunisia, Ukraine, the United Kingdom, and the United States.⁸

Domestic Space Law

Domestic law has always shaped military space activities via the spending authorization and budget appropriation process. For example, in the mid-1980s, Congress deleted funding for further testing of the Air Force's direct-ascent antisatellite (ASAT) weapon, and the program was cancelled for lack of funds. In addition, a number of laws not designed solely to address space have applicability. For instance, under the Communications Act of 1934 (amended by the Telecommunications Act of 1996), the president has the authority to gain control of private communications assets owned by US corporations during times of crisis.⁹ Since the 1960s, this authority has included both the ground and space segments of domestically owned communications satellites.

The Reagan administration placed emphasis on the creation of a third sector of space activity, commercial space, in addition to the traditional military and civil sectors. Congress passed the Commercial Space Launch Act of 1984 to facilitate the development of a commercial launch industry in the United States. From a DOD perspective, the

importance of this legislation lay in its authorization for commercial customers to use DOD launch facilities on a reimbursable basis.¹⁰ DOD is now overseeing commercial operations from its facilities and placing commercial payloads in the launch queue. The intertwining of the commercial space industry and DOD space programs whenever possible provides a benefit to both parties.

The Commercial Space Act of 1998 furthered this policy of getting the government out of the launch business and required a DOD study of the projected launch services through 2007.¹¹ It also called on the DOD to identify the “technical, structural, and legal impediments associated with making launch sites or test ranges in the United States viable and competitive.” It also required the government to purchase space transportation services instead of building and operating its own vehicles, required NASA to privatize the space shuttle, and allowed excess intercontinental ballistic missiles (ICBM) to be used as low-cost space boosters. An amendment to the act was proposed in 2003, but it did not pass the House of Representatives. Results of the study mandated by the act are pending.

National Space Policy

A nation’s space policy is extremely important, especially as it relates to space law and space doctrine. In order to understand present US space policy and attempt to predict its future, an examination of its evolution is necessary. While policy provides space goals and a national framework, national interests and national security objectives actually shape the policy. This framework will lead towards building and meeting future US requirements and subsequent national space strategies.

Early Policy

The launch of *Sputnik I* on 4 October 1957 had an immediate and dramatic impact on the formulation of US space policy. Although the military had expressed an interest in space technology as early as the mid-1940s, a viable program failed to emerge for several reasons: intense interservice rivalry, military preoccupation with the development of ballistic missiles, and national leadership that did not initially appreciate the strategic and international implications of emerging satellite technology. Once national leadership gained this appreciation, it became committed to an open and purely scientific space program.

The emergence of *Sputnik I* transposed this line of thought. Besides clearly demonstrating that the Soviets had the missile technology to deliver payloads at global ranges, *Sputnik* led to a much wider appreciation of orbital possibilities. The result was the first official US government statement that space was of military significance. This statement, issued on 26 March 1958 by Pres. Dwight D. Eisenhower’s Science Advisory Committee, declared that the development of space technology and the maintenance of national prestige were important for the defense of the United States.¹²

The first official national space policy was the National Aeronautics and Space Act of 1958. This act stated that the policy of the United States was to devote space activities to peaceful purposes for the benefit of all humankind. It mandated separate civilian and national-security space programs and created a new agency, the National Aeronautics and Space Administration (NASA), to direct and control all US space activities,

except those “peculiar to or primarily associated with the development of weapons systems, military operations, or the defense of the United States.” The Department of Defense was to be responsible for these latter activities.¹³

The National Aeronautics and Space Act of 1958 established a mechanism for coordinating and integrating military and civilian research and development. It encouraged significant international cooperation in space and called for preserving the role of the United States as a leader in space technology and its application. Thus, the policy framework for a viable space program was in place. The principles enunciated by the act became basic tenets of the US space program. These tenets included peaceful focus on the use of space, separation of civilian and military space activities, emphasis on international cooperation, and preservation of a space role. All presidential space directives issued since 1958 have reaffirmed these basic tenets.

A space program of substance still did not exist however, and the Eisenhower administration’s approach to implementing the new space policy was conservative, cautious, and constrained. The government consistently disapproved of the early DOD and NASA plans for manned space flight programs. Instead the administration preferred to concentrate on unmanned, largely scientific missions and to proceed with those missions at a measured pace. It was left to subsequent administrations to give the policy substance.

Intervening Years

Two presidential announcements, one by John F. Kennedy on 25 March 1961 and the second by Richard M. Nixon on 7 March 1970, were instrumental in providing the focus for the US space program. As the *Army Space Reference Text* notes,

The Kennedy statement came during a period of intense national introspection. The Soviet Union launched and successfully recovered the world’s first cosmonaut. Although Yuri Gagarin spent just 89 minutes in orbit, his accomplishment electrified the world. This caused the United States to question its scientific and engineering skills as well as its entire educational system. The American response articulated by President Kennedy as a national challenge to land a man on the Moon and return him safely to Earth defined US space goals for the remainder of the decade.¹⁴

Prestige and international leadership were clearly the main objectives of the Kennedy space program. However, the generous funding that accompanied the Apollo program had important collateral benefits as well. It permitted the buildup of US space technology and the establishment of an across-the-board space capability that included planetary exploration, scientific endeavors, commercial applications, and military support systems.

President Johnson’s years in office saw the commencement of work on nuclear ASATs and the cancellation of the DynaSoar (Dynamic Ascent and Soaring) Flight program. This program, which began in 1958, was a 35-foot glider with a small delta wing and was to be boosted into orbit by a *Titan III* rocket. The program was determined to be unnecessary in light of NASA’s manned spacecraft program.

According to the *Army Space Reference Text*, “as the 1960s drew to a close, a combination of factors including domestic unrest, an unpopular foreign war and inflationary pressures forced the nation to reassess the importance of the space program. Against this backdrop, President Nixon made his long-awaited space policy announcement in March 1970. His announcement was a carefully considered and worded statement that

was clearly aware of political realities and the mood of Congress and the public.”¹⁵ In part, it stated that “space expenditures must take their proper place within a rigorous system of national priorities. . . . Operations in space from here on in must become a normal and regular part of national life. Therefore, they must be planned in conjunction with all of the other undertakings important to us.”¹⁶

The *Army Space Reference Text* continues, “Although spectacular lunar and planetary voyages continued until 1975 as a result of budgetary decisions made during the 1960s, the Nixon administration considered the space program of intermediate priority and could not justify increased investment or the initiation of large new projects. Space was viewed as a medium for exploiting and extending the previously realized technological and scientific gains. The emphasis was on practical space applications” to benefit American society.¹⁷

During the Nixon years, the space world saw three notable events:

- On 5 January 1972, Nixon approved the development of the space shuttle.
- The National Aeronautics and Space Council (started by the Space Act of 1958) was inactivated.
- The Gemini B/Manned Orbiting Laboratory (MOL) was shelved due to lack of urgency and funding.

Within the DOD, this accentuation on practicality translated into reduced emphasis on manned spaceflight but led to the initial operating capability for many of the space missions performed today. The Defense Satellite Communications System, Defense Support Program, Defense Meteorological Satellite Program (DMSP), and the Navy’s Transit Navigation Satellite Program (later to evolve as the global positioning system) were all initial versions of the systems developed and fielded during this period.

One major new space initiative undertaken during the 1970s eventually had far greater impact on the national space program than planners had originally envisioned—the Space Transportation System (STS), or space shuttle. The shuttle’s goal was routine and low-cost access to orbit for both civil and military sectors. However, as development progressed, the program experienced large cost and schedule overruns. These problems caused the US space program to lose much of its early momentum, as the high costs would adversely affect other space-development efforts, both civil and military. In addition, schedule slippage meant a complete absence of American astronauts in space for the remainder of the decade.

Carter Administration Space Policy

Pres. Jimmy Carter’s administration conducted a series of interdepartmental studies to address the malaise that had befallen the nation’s space effort. The studies addressed apparent fragmentation and possible redundancy among civil and national security sectors of the US space program. The administration also sought to develop a coherent recommendation for a new national space policy. These efforts resulted in two 1978 Presidential Directives (PD): PD-37, *National Space Policy*, and PD-42, *Civil Space Policy*.

PD-37 reaffirmed the basic policy principles contained in the National Aeronautics and Space Act of 1958. It identified the broad objectives of the US space program, including the specific guidelines governing civil and national security space activities.

PD-37 was important from a military perspective because it contained the initial tentative indications that a shift was occurring in the national security establishment's view on space. Traditionally, the military had seen space as a force enhancer, or an environment in which to deploy systems to increase the effectiveness of land, sea, and air forces. Although the focus of the Carter policy was clearly on restricting the use of weapons in space, PD-37 reflected an appreciation of the importance of space systems to national survival, a recognition of the Soviet threat to those systems, and a willingness to push ahead with development of an antisatellite capability in the absence of verifiable and comprehensive international agreements restricting such systems. In other words, the administration was beginning to view space as a potential war-fighting medium.

PD-42 was directed exclusively at the civil space sector to guide US efforts over the next decade. However, it was devoid of any long-term space goals, expecting the nation to pursue a balanced evolutionary strategy of space applications, space science, and exploration activities. The absence of a more visionary policy reflected the continuing developmental problems with the shuttle and the resulting commitment of larger-than-expected resources.

Reagan Administration Space Policy

Pres. Ronald Reagan's administration published comprehensive space policy statements in 1982 and 1988. The first policy statement, pronounced on 4 July 1982 and embodied in National Security Decision Directive (NSDD) 42, reaffirmed the basic tenets of previous (Carter) US space policy. It also placed considerable emphasis on the STS as the primary space launch system for both national security and civil government missions. In addition, it introduced the basic goals of promoting and expanding the investment and involvement of the private sector in space. Space-related activities comprise a third element of US space operations, which complement the national security and civil sectors.

The single statement of national policy from this period that most influenced military space activities and illuminated the transition to a potential space war-fighting framework is NSDD-85, dated 25 March 1983. Within this document, President Reagan stated his long-term objective to eliminate the threat of nuclear-armed ballistic missiles through the creation of strategic defensive forces. This NSDD coincided with the establishment of the Strategic Defense Initiative Organization (SDIO) and represented a significant step in the evolution of US space policy. Since 1958, the United States had, for a variety of reasons, refrained from crossing an imaginary line from space systems designed to operate as force enhancers to establishing a war-fighting capability in space. The ASAT initiative of the Carter administration was a narrow response to a specific Soviet threat. However, the Strategic Defense Initiative program represented a significant expansion in DOD's assigned role in the space arena.

The second comprehensive national space policy incorporated the results of a number of developments that had occurred since 1982, notably the US commitment in 1984 to build a space station and the space shuttle *Challenger*. For the first time, the national space program viewed the commercial space sector as equal to the traditional national security and civil space sectors. Moreover, the new policy dramatically retreated from its previous dependence on the STS and injected new life into expendable launch vehicle programs. In the national security sector, this policy was the first to

address space control and force application at length, further developing the transition to war-fighting capabilities in space.

In 1988, the last year of the Reagan presidency, Congress passed a law allowing creation of a National Space Council (NSPC), a cabinet-level organization designed to coordinate national policy among the three space sectors. The incoming administration would officially establish and very effectively use the NSPC.

G. H. W. Bush Administration Space Policy

Released in November 1989 as National Security Directive (NSD) 30, and updated in a 5 September 1990 supplement, the Bush administration's national space policy retained the goals and emphasis of the final Reagan administration policy. The Bush policy resulted from an NSPC review to clarify, strengthen, and streamline space policy, and has been further enhanced by a series of National Space Policy Directives (NSPD) on various topics. Areas most affected by the body of Bush policy documentation included:

- US commercial space policy guidelines.
- Provision of a framework for the National Space Launch Strategy.
- LANDSAT Remote-Sensing Strategy.
- Space Exploration Initiative.
- Space-Based Global Change Observation System, a key component of the nation's overall approach to global stewardship and one of the nation's highest priority science programs.

The policy reaffirmed the organization of US space activities into three complementary sectors: civil, national security, and commercial.¹⁸ The three sectors coordinate their activities to ensure maximum information exchange and minimum duplication of effort.

The Bush policy proceeded to detail specific policy, implementing guidelines and actions for each of the three space sectors and intersector activities. The civil sector was to engage in all manners of space-related scientific research, develop space-related technologies for government and commercial applications, and establish a permanent manned presence in space. NASA remained the lead civil space agency, with NASA and the Departments of Defense, Commerce, and Transportation working cooperatively with the commercial sector to make government facilities and hardware available on a reimbursable basis.

According to the Bush policy, the United States would conduct those activities in space that are necessary to national defense. Such activities contribute to security objectives by: (1) deterring or, if necessary, defending against enemy attack; (2) assuring that enemy forces cannot prevent our use of space; (3) negating, if necessary, hostile space systems; and (4) enhancing operations of US and allied forces. In order to accomplish these objectives, DOD would develop, operate, and maintain a robust space force structure capable of satisfying the mission requirements of space support, force enhancement, space control, and force application.¹⁹

Primarily directed at the civil and national security sectors, several policy requirements applied across sector divisions. These included such things as continuing the technology development and operational capabilities of remote-sensing systems, space

transportation systems, and space-based communications systems and the need to minimize space debris.

Clinton Administration Space Policy

A repositioning of priorities in the Clinton administration was reflected by the decision in August 1993 to merge various White House science and technology councils into one National Science and Technology Council (NSTC), which would do most of the day-to-day work through permanent or ad hoc interagency working groups. The National Space Council was absorbed into the new NSTC, along with the National Critical Materials Council and the Federal Coordinating Council for Science, Engineering, and Technology.

The White House structure for articulating national policy for science and technology was put in place by the Presidential Review Directive (PRD)/NSTC series and the Presidential Decision Directive (PDD)/NSTC series as established by PDD/NSTC 1. Within four months during the summer of 1994, three additional policies were established articulating Clinton's space policy.

PDD/NSTC 2, "US Polar-Orbiting Operational Environmental Satellite Systems" (May 1994). PDD/NSTC 2 called for the Departments of Commerce and Defense "to integrate their programs into a single, converged, national polar-orbiting operational environmental weather satellite system."²⁰ This began occurring in 1997. The DMSP satellite program merged with the National Oceanic Atmospheric Administration (NOAA) satellite program in May 1998. The new system formed by the merger of the two programs was known as the Polar-Orbiting Environmental Satellite (POES) System.

PDD/NSTC 3, "LANDSAT Remote-Sensing Strategy" (May 1994). PDD/NSTC 3, replacing Bush's NSPD 5, assured the continuity of LANDSAT-type data of the same quality and reduced the risk of data gap, that is, loss of Earth-sensing data due to a lack of LANDSAT.

PDD/NSTC 4, "National Space Transportation Policy" (August 1994). PDD/NSTC 4 superseded all previous policies for US space transportation and "established national policy, guidelines, and implementation actions for the conduct of national space transportation programs."²¹ It also allocated space transportation responsibilities among federal civil and military agencies.

PDD/NSTC 8, "National Space Policy" (May 1996). In September 1996, the Clinton administration released its National Space Policy (dated May 1996), which had five goals:

- Gain knowledge by exploration (1989).
- Maintain national security (1989).
- Enhance competitiveness and capabilities (new).
- Get private sector investment (1989).
- Promote international cooperation (1989).

These goals were very similar to those established in 1978 by President Carter, and their heritage went back as far as the 1958 National Aeronautics and Space Act under Eisenhower. For each major area of space covered in the 1996 National Space Policy (civil, defense, intelligence, commercial, and intersector), a set of guidelines similar to the ones in the 1989 National Space Policy was established.

G. W. Bush Administration Space Policy

President Bush declared his desire to restructure our defense and deterrence capabilities to correspond to emerging threats in NSPD-23, *National Missile Defense*. It stated that the deployment of missile defenses was an essential component of this broader effort.²²

At the outset, the president directed his administration to examine the full range of available technologies and basing modes for missile defenses that could protect the United States, our deployed forces, and our friends and allies. Our policy was to develop and deploy, at the earliest possible date, ballistic missile defenses drawing on the best technologies available.

In August 2002 the administration proposed an evolutionary way ahead for the deployment of missile defenses. The capabilities planned for operational use in 2004 and 2005 included ground-based interceptors, sea-based interceptors, additional Patriot (PAC-3) units, and sensors based on land, at sea, and in space. In addition, the United States worked with allies to upgrade key early-warning radars as part of our capabilities. The Department of Defense began to implement this approach and moved forward with plans to deploy a set of initial missile defense capabilities beginning in 2004.

The US government began a broad review of US space policies in 2002 in order to adjust to the domestic and international developments in recent years that had affected US space capabilities. One important component of this review focused on the relationship between the United States government and the commercial remote-sensing industry. The last policy covering this area had been issued in 1994. Since that time, there had been significant changes to this critical area of US national and economic security. A new commercial remote-sensing space policy was the first product of the ongoing National Space Policy Review.

The fundamental goal of the US commercial remote-sensing space policy was “to advance and protect U.S. national security and foreign policy interests by maintaining the nation’s leadership in remote-sensing space activities, and by sustaining and enhancing the U.S. remote sensing industry. Doing so will also foster economic growth, contribute to environmental stewardship, and enable scientific and technological excellence.”²³

To support this goal, the policy declared that the US government would do the following:

- Rely to the maximum practical extent on US commercial remote-sensing space capabilities for filling imagery and geospatial needs for military, intelligence, foreign policy, homeland security, and civil users;
- Focus US government remote-sensing space systems on meeting needs that cannot be effectively, affordably, and reliably satisfied by commercial providers because of economic factors, civil mission needs, national security concerns, or foreign policy concerns;
- Develop a long-term, sustainable relationship between the US government and the US commercial remote-sensing space industry;
- Provide a timely and responsive regulatory environment for licensing the operations and exports of commercial remote-sensing space systems; and
- Enable US industry to compete successfully as a provider of remote-sensing space capabilities for foreign governments and foreign commercial users, while ensuring

appropriate measures are implemented to protect US national security and foreign policy interests.²⁴

Current National Space Policy

The most current National Space Policy was signed in August 2006 and supersedes all previous policies. This policy recognizes the advantages that space has given the United States for nearly five decades, and it also recognizes the vulnerabilities of space and the need to protect our interests in this vital medium: “Those who effectively utilize space will enjoy added prosperity and security and will hold a substantial advantage over those who do not. Freedom of action in space is as important to the United States as air power and sea power. In order to increase knowledge, discovery, economic prosperity, and to enhance the national security, the United States must have robust, effective, and efficient space capabilities.”²⁵ Solidifying US resolve to support international treaties regarding the use of space (see table 3-1 at the end of the chapter), the principles of the current space policy mirror those treaties.

The fundamental goals of this policy are to:

- Strengthen the nation’s space leadership and ensure that space capabilities are available in time to further US national security, homeland security, and foreign policy objectives;
- Enable unhindered US operations in and through space to defend our interests there;
- Implement and sustain an innovative human and robotic exploration program with the objective of extending human presence across the solar system;
- Increase the benefits of civil exploration, scientific discovery, and environmental activities;
- Enable a dynamic, globally competitive domestic commercial space sector in order to promote innovation, strengthen US leadership, and protect national, homeland, and economic security;
- Enable a robust science and technology base supporting national security, homeland security, and civil space activities; and
- Encourage international cooperation with foreign nations and/or consortia on space activities that are of mutual benefit and that further the peaceful exploration and use of space, as well as to advance national security, homeland security, and foreign policy objectives.²⁶

In general, the National Space Policy takes into account not only the engagement of the US military in activities worldwide for the past 15 years, but also recognizes the need to retain space superiority in the face of other nations’ advancements in the space realm. The current policy clearly defines the roles of the secretary of defense and the director of national intelligence to achieve the military goals of the policy. It also provides guidelines for civil space activities by specifying the roles of the secretaries of commerce and interior and the administrator of NASA.

The utility of space has been proven both militarily and in the civil sector. Space assets have been crucial in recent years to domestic and international disaster relief

efforts. The Bush administration clearly understood the need for space, and its policy emphasized the importance placed on this domain.

Department of Defense Space Policy

Though a new National Space Policy took effect in 2006, the current DOD Space Policy is dated 1999. On 9 July 1999 the secretary of defense released the most current revision to the DOD Space Policy; the previous one is dated 1987. This DOD Space Policy incorporates new policies and guidance promulgated since 1987 and includes the National Space Policy issued by President Clinton in October 1998. It sets the freedom of space as a vital area and establishes definitions of the four mission areas using the terms *space combat*, *combat support*, *service support*, and *space as a medium*—just like air, sea, and land.

Major changes address the transformation of the international security environment; the promulgation of new national security and national military strategies; changes in the resources allocated to national defense; changes in force structure; lessons learned from the operational employment of space forces; the global spread of space systems, technology, and information; advances in military and information technologies; the growth of commercial space activities; enhanced intersector cooperation; and increased international cooperation.

In addition, the DOD Space Policy establishes a comprehensive policy framework for the conduct of space and space-related activities. US Space Command is listed as the point of contact for DOD military space. The DOD policy also calls for integrating space into military operations doctrine. The DOD Space Policy is published as DOD Directive 3100.10, *Space Policy*, dated 9 July 1999.²⁷

Army Space Policy

The Army space policy was approved in April 2003 and can be found in Field Manual (FM) 3-14, *Space Support to Army Operations*, which describes the Army's commitment to space capabilities:

The Army space policy clearly indicates the commitment to develop and use space, including the following:

- Operating space systems
- Providing space forces
- Developing and using equipment for space operations
- Executing terrestrial-based space control
- Providing appropriate doctrine and tactics, techniques, and procedures

The Army space policy confirms that Army access to, and use of, space capabilities is essential to operational success. Army space and space-related activities enhance operational support to warfighters and contribute to successful execution of Army missions.

It is clear that the national space policy, DoD space policy, and Army space policy reflect the critical importance of space for current and future U.S. military operations. Space is already an integral part of Army operations and will continue to contribute to the increasing effectiveness of the Army and joint land warfighting dominance. The Army's use of space and its effort to further develop space capabilities for land warfare has been very effective. The intent of this doctrine is to capture and codify the elements of that success and provide the basis for continuing success.²⁸

Navy Space Policy

The US Navy defines its space policy in Secretary of the Navy (SECNAV) Instruction 5400.39C, *Department of the Navy Space Policy*. The policy was approved in 2004, and the implementation plan was sent to the force in May 2005. The policy describes the role of the Department of the Navy (DON) in integrating space capabilities into the Navy:

The United States Navy and Marine Corps must maintain their ability to tactically exploit the capabilities provided by space systems and participate in all appropriate aspects of the changed NSS [National Security Space] environment in order to function as an integrated member of the Nation's joint warfighting team. Consequently, the DON must continually reassess its approach and investment to ensure that naval forces receive the maximum benefit of space-based capabilities. The DON will: (1) integrate the essential capabilities provided by space systems at every appropriate level throughout the naval force; and (2) shape the outcome of joint deliberations on future space system capabilities to ensure the combat effectiveness of naval forces.²⁹

Air Force Space Policy

The earliest recorded statement of Air Force policy regarding space occurred on 15 January 1948, when Gen Hoyt S. Vandenberg stated, "The USAF, as the service dealing primarily with air weapons, especially strategic, has logical responsibility for the satellite."³⁰ As reflected in General Vandenberg's statement, Air Force leaders have traditionally viewed space as an atmosphere in which the Air Force would have principal mission responsibilities. This view was perhaps best articulated by former Air Force chief of staff Gen Thomas D. White, when he coined the term *aerospace* during testimony before the House Committee on Science and Astronautics in February 1959: "Since there is no dividing line, no natural barrier separating these two areas (air and space), there can be no operational boundary between them. Thus, air and space comprise a single continuous operational field in which the Air Force must continue to function. The area is aerospace."³¹

Because of this early positioning, the Air Force assumed the predominant space role within DOD. Air Force space policy has evolved as that role expanded. However, the policy was not formally documented until 1988. In late 1987 and early 1988, the Air Force convened the Blue Ribbon Panel, a senior-level working group comprised of both space and aviation professionals who evaluated whether the service should continue to seek the leadership role for DOD space activities, and if so, how best to proceed.

The panel strongly affirmed the desirability of operating in space to accomplish Air Force missions and achieve wider national security objectives. It also developed a list of recommendations for making the most effective use of the space arena in future Air Force operations. On 2 December 1988, the Air Force formally adopted the Blue Ribbon Panel's fundamental assumptions and codified them in a new space policy document. With only a few minor modifications to accommodate organizational change within the service, this document remains the current statement of comprehensive Air Force space policy. The tenets of that policy are discussed below.

Space power will be as decisive in future combat as airpower is today. This long-term vision recognizes the inherent advantages that space operations bring to military endeavors and looks forward to a time when technology, experience, and widespread acceptance allow the United States to make full use of those advantages.

The United States must be prepared for the evolution of space power from combat support to the full spectrum of military capabilities. The Air Force believes that space is a

military operating arena just as land, sea, and air are. Expansion of the space-control and force-application mission areas is necessary and desirable to take full advantage of space for effective accomplishment of national security objectives.

The Air Force will make a solid corporate commitment to integrate space throughout the Air Force. To use space effectively, the Air Force must fully institutionalize space operations. There can be no separation of a “space Air Force” and an “aviation Air Force.” Combat power is greatest and most effective when operations in the two mediums are closely integrated. In an effort to accomplish this integration, the Air Force became devoted to incorporating space into its doctrine; normalizing space responsibilities within the Air Staff; instituting personnel cross-flow measures to expand space expertise throughout the service; encouraging space-related mission solutions and expertise at all major commands and air component commands; and consolidating space system requirements, advocacy, and operations in Air Force Space Command.

The United States, DOD, and Air Force all have a policy for the military space mission areas of space control, force application, force enhancement, and space support, with implementation guidelines for each area. Updated DOD and Air Force space policies are expected shortly in light of the new National Space Policy.

US national space policy has, for the most part, kept pace with the growth of its US space program and is now one of the most well-documented areas of government policy. It clearly articulates goals that are both challenging and within the realm of possibility.

Summary

According to Air Force Doctrine Document (AFDD) 2-2, *Space Operations*, “Our space forces perform functions that are critical for the joint force—intelligence, surveillance and reconnaissance; command and control; positioning, navigation, and timing; weather services; counterspace; communications; and spacelift. As our reliance on space increases, so too must our ability to integrate space capabilities throughout joint operations. To retain the US military’s asymmetric advantage based on space superiority, our Air Force must fully exploit and defend the space domain.”³²

Our responsibilities in space include a large and growing number of functions that contribute to the defense of the United States. Space operations are important elements of a credible deterrent. They have proven their value in resolving conflicts on terms acceptable to the United States. We consider military operations in space as being among our prime national security responsibilities and conduct these operations according to the letter and spirit of existing treaties and international law. As our space program has matured over a period of nearly four decades, our policy and doctrine have reflected ever increasing roles and responsibilities and have particularly expanded their emphasis on space as a war-fighting medium.

Table 3-1. International treaties, agreements, and conventions that limit military activities in space^a

<i>Agreement</i>	<i>Principle/Constraint</i>
United Nations Charter (1947)	Made applicable to space by the Outer Space Treaty of 1967 Prohibits states from threatening to use, or actually using, force against the territorial integrity or political independence of another state (Article 2[4]). Recognizes a state's inherent right to act in individual or collective self-defense when attacked. Customary international law recognizes a broader right to self-defense, one that does not require a state to wait until it is actually attacked before responding. This right to act preemptively is known as the right of anticipatory self-defense (Article 51).
Limited Test Ban Treaty (1963)	Bans nuclear weapon tests in the atmosphere, in outer space, and underwater. States may not conduct nuclear weapon tests or other nuclear explosions (i.e., peaceful nuclear explosions) in outer space or assist or encourage others to conduct such tests or explosions (Article I).
Outer Space Treaty (1967)	Outer space, including the moon and other celestial bodies, is free for use by all states (Article I). Outer space and celestial bodies are not subject to national appropriation by claim of sovereignty, use, occupation, or other means (Article II). Space activities shall be conducted in accordance with international law, including the UN Charter (Article III). The moon and other celestial bodies are to be used exclusively for peaceful purposes (Article IV). Nuclear weapons and other weapons of mass destruction (such as chemical and biological weapons) may not be placed in orbit, installed on celestial bodies, or stationed in space in any other manner (Article IV). A state may not conduct military maneuvers; establish military bases, fortifications, or installations; or test any type of weapon on celestial bodies. Use of military personnel for scientific research or other peaceful purpose is permitted (Article IV). States are responsible for governmental and private space activities and must supervise and regulate private activities (Article VI). States are internationally liable for damage to another state (and its citizens) caused by its space objects (including privately owned ones) (Article VII). States retain jurisdiction and control over space objects while they are in space or on celestial bodies (Article VIII). States must conduct international consultations before proceeding with activities that would cause potentially harmful interference with activities of other parties (Article IX). States must carry out their use and exploration of space in such a way as to avoid harmful contamination of outer space, the moon, and other celestial bodies, as well as to avoid the introduction of extraterrestrial matter that could adversely affect the environment of the earth (Article IX). Stations, installations, equipment, and space vehicles on the moon and other celestial bodies are open to inspection by other countries on a basis of reciprocity (Article XII).
Agreement on the Rescue and Return of Astronauts and Objects Launched into Outer Space (1968)	Expands on the language of Article V of the Outer Space Treaty, which declares astronauts are to be regarded as "Envoys of Mankind" and be rendered "all possible assistance." Calls for a state in which a spacecraft crashes or a state operating in space that is in a position to assist astronauts in distress to conduct rescue operations (if it is a manned craft) and to speedily return astronauts to the launching state. Hardware need only be returned to the launching state upon request and need not be returned promptly.

Table 3-1. International treaties, agreements, and conventions that limit military activities in space^a (continued)

<i>Agreement</i>	<i>Principle/Constraint</i>
Antiballistic Missile (ABM) Treaty between the United States and USSR (1972)	Prohibits development, testing, or deployment of space-based ABM systems or components (Article V). Prohibits deployment of ABM systems or components except as authorized in the treaty (Article I). Prohibits interference with the national technical means a party uses to verify compliance with the treaty (Article XII).
Liability Convention (1972)	A launching state is absolutely liable for damage by its space object to people or property on the earth or in its atmosphere (Article II). Liability for damage caused elsewhere than on Earth to another state's space object, or to persons or property on board such a space object, is determined by fault (Article III).
Convention on Registration (1974)	Requires a party to maintain a registry of objects it launches into Earth orbit or beyond (Article II). Information of each registered object must be furnished to the UN as soon as practical, including basic orbital parameters and general function of the object (Article IV).
Environmental Modification Convention (1980)	Prohibits military or other hostile use of environmental modification techniques as a means of destruction, damage, or injury to any other state if such use has widespread, long-lasting, or severe effects (Article I).

^a The texts and information on these treaties and agreements can be found at www.un.org. See the section on international law—treaties at <http://untreaty.un.org/English/treaty.asp>. Another great reference is the Archimedes Space Law and Policy Library at <http://www.permanent.com/archimedes/LawLibrary.html>.

Notes

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