THE SECRETARY OF DEFENSE
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JUL 0 9 1999

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
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GENERAL COUNSEL OF THE DEPARMENT OF DEFENSE
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ASSISTANTS TO THE SECRETARY OF DEFENSE
DIRECTORS OF DEFENSE AGENCIES

SUBJECT: Department of Defense Space Policy

Introduction

For over forty years, the United States has led the world in the national security uses of outer space. The last major revision of DoD Space Policy, however, was in 1987 during the Cold War. Major changes have taken place since that time which warrant a significant update to reflect new priorities and the nation's evolving space policies and guidance. The increasing importance of space activities to the security and defense of the United States requires a comprehensive and coherent space policy. Such a policy is necessary to maintain the nation's leadership role in space into the next century and achieve U.S. national security objectives. Accordingly, DoD Space Policy is updated by this memorandum and the issuance of DoD Directive 3100.aa, "Space Policy."

Objectives of this Update

This update accomplishes several important objectives. Specifically, it does the following:

1. Incorporates new policies and guidance promulgated since the last update. This includes the National Space Policy issued by the President in 1996.

2. Addresses the major changes that have taken place since the last update. This includes: 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.

3. Establishes a comprehensive policy framework for the conduct of space and space-related activities. This framework will help to articulate the need for capabilities, guide the allocation of resources, and direct programmatic activities.

Themes of this Update

National Interest. Space is a medium like the land, sea, and air within which military activities will be conducted to achieve U.S. national security objectives. The ability to access and utilize space is a vital national interest because many of the activities conducted in the medium are critical to U.S. national security and economic well-being. The globally interdependent information- and knowledge-based economy as well as information-based military operations make the information lines of communication to, in, through, and from space essential to the exercise of U.S. power.

Strategic Enabler. Space power is as important to the nation as land, sea, and air power. It is a strategic enabler of the National Military Strategy and Joint Vision 2010. Space forces support the execution of strategy and the realization of doctrine by enabling information superiority through domination of the collection, generation, and dissemination of information. The command, control, communications, intelligence, surveillance, and reconnaissance (C3ISR) capabilities provided by space forces are necessary to maintain military readiness, enable implementation of the operational concepts of dominant maneuver, precision engagement, focused logistics, and full dimensional protection, and support the planning and conduct of military operations.

Information Superiority. Space forces provide significant capabilities to help integrate and deliver C3ISR support to U.S. military forces and, if directed, deny such support to an adversary. They help enable Combatant Commanders and operational forces to synthesize information and dictate the timing and tempo of operations. Achieving space and information superiority will help to counter an adversary's ability to command and control its forces. Access to and use of space will help enable the United States to establish and sustain the battlespace dominance and information superiority necessary to achieve success in military operations.

Deterrence. Space forces are integral to the deterrent posture of the U.S. armed forces. They help to ensure that preparations for and initiation of hostile actions will be discovered in a timely manner. Effective use of space forces will support the credible threat of force and its application in response to aggression. Space forces thus may introduce an element of uncertainty into the minds of potential adversaries about whether they can achieve their aims. Space forces are critical to the ability of the United States to ensure the costs of the threat or use of force against our interests are unacceptable to potential aggressors. The deterrence of aggression and the defense of the United States and its allies will be strengthened by ensuring that an adversary can not obtain an asymmetric advantage by countering our space capabilities or using space systems or services for hostile purposes.

Defense. Space forces contribute to the overall effectiveness of U.S. military forces in the event deterrence fails. The high technology force multipliers provided by space systems

enhance the combat power of military forces. The capability to control space, if directed, will contribute to achieving the full dimensional protection, battlespace dominance, and information superiority necessary for success in military operations. Similarly, the ability to perform space force application in the future could add a new dimension to U.S. military power. Space forces thus will enable the United States to compel an adversary to cease and desist from the pursuit of its aims through the use of necessary and proportional force.

Freedom of Space. Ensuring the freedom of space and protecting U.S. national security interests in the medium are priorities for space and space-related activities. U.S. space systems are national property afforded the right of passage through and operations in space without interference. In this regard, space is much like the high seas and international airspace. The political, military, and economic value of the nation's activities in space, however, may provide a motive for an adversary to counter U.S. space assets. Purposeful interference with U.S. space systems will be viewed as an infringement on our sovereign rights. The U.S. may take all appropriate self-defense measures, including, if directed by the National Command Authorities, the use of force, to respond to such an infringement on our rights.

Integration. Space capabilities and applications will be integrated into the strategy, doctrines, concepts of operations, education, training, exercises, and operations and contingency plans of U.S. military forces. Space force structure, missions, capabilities, and applications will be incorporated into Professional Military Education as well as Joint and Service training and exercises to ensure appropriately educated and trained personnel are provided to all levels of military staffs and forces. A space-literate military with the necessary understanding of space operations and the ability to exploit fully space applications is critical to achieve national security objectives.

Defense-Intelligence Cooperation. Management of national security space activities will focus on improving the coordination and, as appropriate, integration of defense and Intelligence Community space activities. An integrated national security space architecture will minimize unnecessary duplication, achieve efficiencies in acquisition and future operations, and thereby improve support to military operations.

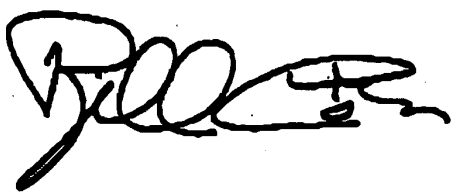
Intersector Cooperation. The establishment of partnerships between the defense space sector and the intelligence, civil, and commercial space sectors will enable the leveraging of scarce resources and reduce the cost of acquiring, operating, and supporting operational space force capabilities. Such partnerships will help to free scarce resources to focus defense investments on areas where there are limited incentives for the U.S. intelligence, civil, or commercial space sectors to pursue as well as sustain a robust U.S. space industrial base.

International Cooperation. Space forces provide a national advantage to the United States and are an important element within coalition strategy where America can contribute unique capabilities for international security. Although the U.S. will maintain the ability to act independently, coalition military operations are increasingly the norm. Deploying forces in cooperation with those of other countries increases the importance of interoperability. Space systems are capable of performing missions that place a premium on interoperability by providing access to common user systems, processes, and information. They enable military

forces to operate in a combined environment in a more efficient and effective manner. Space forces enhance forward presence by providing the means to support commitments while minimizing risk to U.S. personnel. Integrating space capabilities into combined operations through cooperative activities will strengthen the defense relationships and alliance structures that help to underpin U.S. national security.

Purposes of the Document

DoD Directive 3100.aa, "Space Policy," establishes policy and assigns responsibilities for space and space-related activities. It implements PDD-NSC-49/NSTC-8, "National Space Policy" and supersedes the February 4, 1987, Secretary of Defense Memorandum, "Department of Defense Space Policy," and DoD Directive 3500.1, "Defense Space Council."



Attachments:
a/s

cc: Director of Central Intelligence

Department of Defense

DIRECTIVE

NUMBER 3100.10

July 9, 1999

ASD(C3I)

SUBJECT: Space Policy

References: (a) PDD-NSC-49/NSTC-8, "National Space Policy (U)," September 14, 1996
(b) Secretary of Defense Memorandum, "Department of Defense Space Policy" (U), February 4, 1987 (hereby canceled)
(c) DoD Directive 3500.1, "Defense Space Council," December 29, 1988 (hereby canceled)
(d) The White House, "A National Security Strategy for a New Century," October 1998
(e) through (nn), see enclosure 1

1. PURPOSE

This Directive:

1.1. Establishes policy and assigns responsibilities for space and space-related matters within the Department of Defense.

1.2. Implements reference (a), supersedes references (b) and (c), and supports and amplifies references (a) and (d) through (nn).

1.3. Authorizes publication of additional DoD issuances consistent with this Directive and references (a) and (d) through (nn).

2. APPLICABILITY AND SCOPE

2.1. This Directive applies to the Office of the Secretary of Defense, the Military Departments (including the Coast Guard when it is operating as a Military Service in

the Department of the Navy), the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Inspector General of the Department of Defense, the Defense Agencies, and the DoD Field Activities (hereafter referred to collectively as "the DoD Components"). The term "Military Services," as used herein, refers to the Army, the Navy, the Air Force, and the Marine Corps.

2.2. The scope of this Directive includes the policy, requirements generation, planning, financial management, research, development, testing, evaluation, acquisition, education, training, doctrine, exercise, operation, employment, and oversight of space and space-related activities within the Department of Defense.

3. DEFINITIONS

Terms used in this Directive are defined in enclosure 2.

4. POLICY

It is DoD policy that:

4.1. Space is a medium like the land, sea, and air within which military activities shall be conducted to achieve U.S. national security objectives. The ability to access and utilize space is a vital national interest because many of the activities conducted in the medium are critical to U.S. national security and economic well-being.

4.2. Ensuring the freedom of space and protecting U.S. national security interests in the medium are priorities for space and space-related activities. U.S. space systems are national property afforded the right of passage through and operations in space without interference, in accordance with reference (a).

4.2.1. Purposeful interference with U.S. space systems will be viewed as an infringement on our sovereign rights. The U.S. may take all appropriate self-defense measures, including, if directed by the National Command Authorities (NCA), the use of force, to respond to such an infringement on U.S. rights.

4.3. The primary DoD goal for space and space-related activities is to provide operational space force capabilities to ensure that the United States has the space power to achieve its national security objectives, in accordance with reference (d). Contributing goals include sustaining a robust U.S. space industry and a strong, forward-looking technology base.

4.3.1. Space activities shall contribute to the achievement of U.S. national security objectives, in accordance with reference (a), by:

4.3.1.1. Providing support for the United States' inherent right of self-defense and defense commitments to allies and friends.

4.3.1.2. Assuring mission capability and access to space.

4.3.1.3. Deterring, warning, and, if necessary, defending against enemy attack.

4.3.1.4. Ensuring that hostile forces cannot prevent the United States' use of space.

4.3.1.5. Ensuring the United States' ability to conduct military and intelligence space and space-related activities.

4.3.1.6. Enhancing the operational effectiveness of U.S. and allied forces.

4.3.1.7. Countering, if necessary, space systems and services used for hostile purposes.

4.3.1.8. Satisfying military and intelligence requirements during peace and crisis as well as through all levels of conflict.

4.3.1.9. Supporting the activities of national policy-makers, the Intelligence Community, the NCA, Combatant Commanders and the Military Services, other Federal officials, and continuity of Government operations.

4.4. Mission Areas. Capabilities necessary to conduct the space support, force enhancement, space control, and force application mission areas shall be assured and integrated into an operational space force structure that is sufficiently robust, ready, secure, survivable, resilient, and interoperable to meet the needs of the NCA, Combatant Commanders, Military Services, and intelligence users across the conflict spectrum.

4.5. Assured Mission Support. The availability of critical space capabilities necessary for executing national security missions shall be assured, in accordance with references (a) and (e) through (h). Such support shall be considered and implemented at all stages of requirements generation, system planning, development, acquisition,

operation, and support. Assured mission capability shall be assessed and taken into account in determining tradeoffs among cost, performance, resilience, lifetime, protection, survivability, and related factors. Access to space, robust satellite control, effective surveillance of space, timely constellation replenishment/reconstitution, space system protection, and related information assurance, access to critical electromagnetic frequencies, critical asset protection, critical infrastructure protection, force protection, and continuity of operations shall be ensured to satisfy the needs of the NCA, Combatant Commanders, Military Services, and the intelligence users across the conflict spectrum.

4.6. Planning. Planning for space and space-related activities shall focus on improving the conduct of national security space operations, assuring mission support, and enhancing support to military operations and other national security objectives. Such planning shall also identify missions, functions, and tasks that could be performed more efficiently and effectively by space forces than terrestrial alternatives.

4.6.1. Long-range planning objectives for space capabilities are to:

4.6.1.1. Ensure U.S. leadership through revolutionary technological approaches in critical areas.

4.6.1.2. Develop a responsive, customer-focused architecture that simplifies operations and use.

4.6.1.3. Ensure civil and commercial capabilities are used to the maximum extent feasible and practical (including the use of allied and friendly capabilities, as appropriate), consistent with national security requirements.

4.6.1.4. Provide assured, cost-effective, responsive access to space.

4.6.1.5. Contribute to a comprehensive command, control, communications, intelligence, surveillance, and reconnaissance architecture that integrates space, airborne, land, and maritime assets.

4.6.1.6. Ensure space systems are seamlessly integrated within a globally accessible and secure information infrastructure.

4.6.1.7. Provide appropriate national security space services and information to the intelligence, civil, commercial, scientific, and international communities.

4.6.1.8. Provide space control capabilities consistent with Presidential policy as well as U.S. and applicable international law.

4.6.1.9. Protect national security space systems to ensure mission execution.

4.6.1.10. Explore force application concepts, doctrine, and technologies consistent with Presidential policy as well as U.S. and applicable international law.

4.6.1.11. Promote a trained, space-literate national security workforce able to utilize fully space capabilities for the full spectrum of national security operations.

4.6.2. Architectures. An integrated national security space architecture, including space, ground, and communications link segments, as well as user interfaces and equipment, shall be developed to the maximum extent feasible. Such an integrated architecture shall address defense and intelligence missions and activities to eliminate unnecessary vertical stove-piping of programs, minimize unnecessary duplication of missions and functions, achieve efficiencies in acquisition and future operations, provide strategies for transitioning from existing architectures, and thereby improve support to military operations and other national security objectives.

4.6.2.1. Space architectures shall be structured to take full advantage, as appropriate, of defense, intelligence, civil, commercial, allied, and friendly space capabilities. Such architectures shall also include, as appropriate, system, operational, and technical architecture descriptions. Joint technical standards drawn from widely accepted commercial standards, consistent with national security requirements, shall provide the basis for new system integration where appropriate. Appropriate interoperability and standards mandates shall be observed to enable the interoperability of space services.

4.6.2.2. Space architectures should be designed for appropriate levels of mission optimization, availability, and survivability in all aspects of on-orbit configurations and associated infrastructure. Planning shall emphasize the need for responsiveness and the elimination of vulnerabilities that could prevent mission accomplishment.

4.7. Augmentation. Requirements, arrangements, and procedures, including cost sharing and reciprocity arrangements, for augmentation of the space force structure by civil, commercial, allied, and friendly space systems shall be identified in

coordination with the Director of Central Intelligence, as appropriate, and shall be planned and implemented in accordance with reference (a).

4.8. Mobilization and Preparedness. Space forces and their supporting industrial base shall be integrated into the defense mobilization planning process. Specific programs, facilities, and personnel shall be identified and incorporated into relevant critical assets and items lists, in accordance with references (e), (g), (i) and (j).

4.9. Support to Commercial Space Activities. Stable and predictable U.S. private sector access to appropriate DoD space-related hardware, facilities, and data shall be facilitated consistent with national security requirements, in accordance with references (a) and (k). The U.S. Government's right to use such hardware, facilities, and data on a priority basis to meet national security and critical civil sector requirements shall be preserved.

4.10. Translating Operational Needs into Programs. Space programs and activities shall be responsive to mission area shortfalls, validated operational needs, and operational requirements. Requirements, resources, and acquisition activities, where applicable, shall be documented in the requirements generation system, the acquisition management system, and the planning, programming, and budgeting system. Space shall be considered as a medium for conducting any operation where mission success and effectiveness would be enhanced relative to other media.

4.10.1. Cost as an Independent Variable. Cost, as an independent variable, shall be applied in all architecture development processes to ensure requiring organizations understand cost drivers and weigh all requirements against their associated costs.

4.10.2. Acquisition. Acquisition strategies shall usually include: an overview of the system's capabilities and concept of operations desired for the full system; a flexible overall architecture, which includes a process for change; an emphasis on open systems design, flexible technology insertion, and rigorous technology demonstrations; rapid achievement of incremental capability in response to time-phased statements of operational requirements; and close and frequent communications with users. At program initiation, the acquisition strategy submitted for the cognizant acquisition authority's approval shall describe whether an evolutionary approach is appropriate, and, if so, how the program manager will implement the approach. Progression to an additional level of capability beyond the first increment requires the cognizant acquisition authority's approval and shall be based on a review of evolving requirements and technology development.

4.10.3. Preference for Commercial Acquisition. Lengthy mission specifications shall be balanced against opportunities for technology insertion, taking into consideration commercial-off-the-shelf solutions for national security items, non-developmental items, and national security adaptations of commercial items. Acquisition of national security-unique systems shall not be authorized, in general, unless suitable and adaptable commercial alternatives are not available. Such cooperation should be based on the principles of reciprocity and tangible mutual benefits and should be pursued in a manner that reasonably protects and balances U.S. national security and economic interests.

4.10.4. Science and Technology. Leading-edge technologies that address identified mission area deficiencies shall be investigated. Investments for such technology shall feature a suitable mix of theoretical research and scientific exploration and applications which support the joint vision for military operations and other national security objectives.

4.10.5. Demonstration and Experimentation. Technology applications that address mission area deficiencies shall be demonstrated. Such demonstrations shall involve both the developmental and operational elements of the DoD Components and shall be pursued to identify the value of emerging technology to the warfighter and the national security community.

4.10.6. Research and Development. Commercial systems and technologies shall be leveraged and exploited whenever possible. Research and development investments shall focus on unique national security requirements which have no known potential, or insufficient potential, for civil or commercial sector exploitation or which require protection from disclosure. Forecasts of long-term needs shall guide investments using sound business criteria to ensure they have reasonable internal rates of return compared with alternatives.

4.10.7. Test and Evaluation. Test and evaluation programs shall be structured to provide essential information to decision-makers, assess attainment of technical performance parameters, and determine whether systems are operationally effective, suitable, and survivable for intended use. Operational test and evaluation activities shall plan and conduct operational tests, report results, and provide evaluations of effectiveness and suitability.

4.10.8. Modeling and Simulation. Models and simulations shall be used to reduce the time, resources, and risks of the acquisition process and increase the quality of the systems being acquired. Space capabilities and applications shall be integrated

into campaign-level and other models and simulations. Models and simulations shall focus on demonstrating the military worth and other value of both friendly and adversary space capabilities and applications to mission accomplishment.

4.10.9. Sustainment. Production procurement decisions for space systems shall be based on careful analysis of the advantages of multi-year procurements and high order quantity buys against the disadvantage of technology obsolescence, threat changes, and cost to store and maintain launch readiness of satellites. For a given satellite program, such sustainment acquisitions shall store no more than the number of satellites authorized for the particular constellation plus adequate attrition reserves. Production rate decisions shall be based on retention of critical industrial base and space system readiness maintenance.

4.10.10. Partnerships with Industry. Partnerships with industry shall be pursued to research, develop, acquire, and sustain space systems and associated infrastructure.

4.10.11. Outsourcing and Privatization. Opportunities to outsource or privatize space and space-related functions and tasks, which could be performed more efficiently and effectively by the private sector, shall be investigated aggressively, consistent with the need to protect national security and public safety. Clear lines of accountability to Combatant Commanders shall be demonstrated and documented in the employment of such resources.

4.10.12. Electromagnetic Spectrum Management. Assured access to the electromagnetic spectrum is a critical factor in spacecraft system design, acquisition, and operations and shall be an important consideration in the development and procurement of a space system. Electromagnetic spectrum for space systems, once chosen, shall be legally authorized for use in accordance with references (l) and (m) as well as national and applicable international policies.

4.11. Operations. Space capabilities shall be operated and employed to: assure access to and use of space; deter and, if necessary, defend against hostile actions; ensure that hostile forces cannot prevent U.S. use of space; ensure the United States' ability to conduct military and intelligence space and space-related activities; enhance the operational effectiveness of U.S., allied, and friendly forces; and counter, when directed, space systems and services used for hostile purposes.

4.11.1. Integration. Space capabilities and applications shall be integrated into the strategy, doctrine, concepts of operations, education, training, exercises, and operations and contingency plans of U.S. military forces. Space support to the lowest appropriate level, including the lowest tactical level, shall be emphasized and optimized to ensure that all echelons of command understand and exploit fully the operational advantages which space systems provide, understand their operational limitations, and effectively use space capabilities for joint and combined operations.

4.11.2. Education, Training, and Exercises. Information about space force structure, missions, capabilities, and applications shall be incorporated into Professional Military Education as well as Joint and Service training and exercises to provide appropriately educated and trained personnel to all levels of joint and component military staffs and forces. Space missions and capabilities, the ability to operate under foreign surveillance or against an adversary enhanced by space capabilities, and the ability to compensate for capability loss shall be integrated into appropriate Joint and Service exercises.

4.11.3. National Guard and Reserve Forces. A total force approach shall be used in structuring and resourcing space force capabilities and ensuring interoperability among active, National Guard, and Reserve forces.

4.11.4. Military Personnel-in-Space. The unique capabilities that can be derived from the presence of humans in space may be utilized to the extent feasible and practical to perform in-space research, development, testing, and evaluation as well as enhance existing and future national security space missions. This may include exploration of military roles for humans in space focusing on unique or cost-effective contributions to operational missions.

4.11.5. Space Debris. The creation of space debris shall be minimized, in accordance with reference (a). Design and operation of space tests, experiments, and systems shall strive to minimize or reduce the accumulation of such debris consistent with mission requirements and cost effectiveness.

4.11.6. Spacecraft End-of-Life. Spacecraft disposal at the end of mission life shall be planned for programs involving on-orbit operations. Spacecraft disposal shall be accomplished by atmospheric reentry, direct retrieval, or maneuver to a storage orbit to minimize or reduce the impact on future space operations.

4.11.7. Spaceflight Safety. All DoD activities to, in, through, or from space, or aimed above the horizon with the potential to inadvertently and adversely affect satellites or humans in space, shall be conducted in a safe and responsible manner that protects space systems, their mission effectiveness, and humans in space, consistent with national security requirements. Such activities shall be coordinated with U.S. Space Command, as appropriate, for predictive avoidance or deconfliction with U.S., friendly, and other space operations.

4.11.8. Nuclear Power Sources in Space. Space nuclear reactors shall not be used in Earth orbit without the approval of the President or his designee, in accordance with references (a) and (n). Requests for such approval shall take into account public safety, economic considerations, treaty obligations, and U.S. national security and foreign policy interests.

4.12. Intersector Cooperation. Enhanced cooperation with the intelligence, civil, and commercial space sectors shall be pursued to ensure that all U.S. space sectors benefit from the space technologies, facilities, and support services available to the nation. Such cooperation shall share or reduce costs, minimize redundant capabilities, minimize duplication of missions and functions, achieve efficiencies in acquisition and future operations, improve support to military operations, and sustain a robust U.S. space industry and a strong, forward-looking space technology base. Improvement of the coordination and, as appropriate, integration of defense and intelligence space activities shall be a priority. Procedures shall be established for the timely transfer of DoD-developed space technology to the private sector consistent with the need to protect national security, in accordance with reference (a).

4.13. International Cooperation. International cooperation and partnerships in space activities shall be pursued with the United States' allies and friends to the maximum extent feasible, in accordance with reference (a), Section 104(e) of reference (o) and references (p) through (s). Such cooperation shall forge closer security ties with U.S. allies and friends, enhance mutual and collective defense capabilities, and strengthen U.S. economic security. It shall also strengthen alliance structures, improve interoperability between U.S. and allied forces, and enable them to operate in a combined environment in a more efficient and effective manner. Such cooperation shall be based on the principles of reciprocity and tangible, mutual benefit and shall take into consideration U.S. equities from a broad foreign policy perspective. Such cooperation shall be pursued in a manner, which protects both U.S. national security and economic security and is consistent with U.S. arms control, nonproliferation, export control, and foreign policies.

4.14. Intelligence Support. A high priority shall be placed on the collection, analysis, and timely dissemination of intelligence information to support space and space-related policy-making, requirements generation, research, development, testing, evaluation, acquisition, operations, and employment. Requirements for such intelligence support shall be identified, prioritized, and submitted through established processes to produce timely, useful intelligence products, in accordance with reference (t).

4.15. Arms Control and Related Activities. Space and space-related activities shall comply with applicable presidential policies as well as applicable domestic and international law. Space forces planning shall include the provision of appropriate responses to possible breakouts from existing arms control treaties and agreements. The President shall be advised on the military significance of potential space arms control agreements and other related measures being considered for international implementation. Positions and policies regarding arms control and related activities shall preserve the rights of the United States to conduct research, development, testing, and operations in space for military, intelligence, civil, and commercial purposes, in accordance with reference (a).

4.16. Nonproliferation and Export Controls. The Missile Technology Control Regime is the primary tool of U.S. missile nonproliferation policy, in accordance with references (a) and (u). Space systems, technology, and information that could be used in a manner detrimental to U.S. national security interests shall be protected. Measures shall be taken to protect technologies, methodologies, information, and overall system capabilities and vulnerabilities, which sustain advantages in space capabilities and continued technological advancements. Measures shall also be taken to maintain appropriate controls over those technologies, methodologies, information, and capabilities, which could be sold or transferred to foreign recipients. Other countries' practices, U.S. foreign policy objectives, and encouragement of free and fair trade in commercial space activities shall be taken into account when considering whether to enter into space-related agreements.

4.17. Trade in Space Goods and Services. The national security implications of decisions related to the trade of U.S.-manufactured space goods and services, as well as frequency spectrum and landing rights, shall be identified and assessed. Such decisions shall seek to balance concerns about the proliferation of critical technologies and information with national security space applications and the interests of the U.S. space industry and U.S. foreign policy.

4.17.1. The commercial value of intellectual property developed with U.S. Government support shall be protected. Technology transfers resulting from international cooperation shall not undermine national security or industrial competitiveness, in accordance with reference (a).

4.17.2. Foreign military sales of U.S. space hardware, software, and related technologies may be used to enhance security relationships with strategically important countries subject to overall U.S. Government policy guidelines.

4.18. Security. Security measures shall be implemented to protect all classified aspects of space and space-related activities, in accordance with references (a) and (v) through (x) and other applicable security directives. Space missions shall be conducted in a manner intended to prevent unauthorized knowledge of and use of capabilities for countering specific missions or systems. The status and capabilities of on-orbit and terrestrial elements of the space force structure, deployment and replenishment strategies, planned, programmed, and operational objectives, and launch dates shall be classified, as appropriate, taking into account the value of needed protection for national security interests as compared with the public interests that would be served by release of such information. Technology transfer, including the direct or indirect sharing of information and resources with foreign governments or foreign-owned or -controlled contractors, shall be subject to reference (x) and other relevant security policies.

4.19. Public Affairs. Public affairs activities shall be conducted to provide general information to the public about space and space-related activities consistent with the need to protect national security information. Publication of unclassified information about the contributions of space forces to national security and other national interests shall be encouraged. Specific guidance for public affairs release shall be structured, as necessary, to protect the identity, mission, and associated operations of classified space and space-related activities.

5. RESPONSIBILITIES

Consistent with Section 105 of reference (o) and reference (y):

5.1. The Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD(C3I)), in accordance with reference (z), shall:

5.1.1. Serve as the principal staff assistant and advisor to the Secretary and Deputy Secretary of Defense and focal point within the Department of Defense for space and space-related activities.

5.1.2. Develop, coordinate, and oversee the implementation of policies regarding space and space-related activities and, in coordination with the Under Secretary of Defense for Policy, ensure that space policy decisions are closely integrated with overall national security policy considerations.

5.1.3. Oversee the development and execution of space and space-related architectures, acquisition, and technology programs, in coordination, as appropriate, with the Under Secretary of Defense for Acquisition and Technology.

5.1.4. Oversee the Director of the National Security Agency's compliance with this Directive in accordance with reference (aa).

5.1.5. Oversee the Director of the Defense Intelligence Agency's compliance with this Directive in accordance with references (bb) and (cc).

5.1.6. Oversee the Director of the National Reconnaissance Office's management and execution of the National Reconnaissance Program to meet the U.S. Government's needs through the research, development, acquisition, and operation of spaceborne reconnaissance systems in accordance with references (dd) and (ee).

5.1.7. Oversee the Director of the National Imagery and Mapping Agency's compliance with this Directive in accordance with reference (ff).

5.1.8. Oversee the Director of the Defense Information Systems Agency's compliance with this Directive in accordance with reference (gg).

5.1.9. Oversee the National Security Space Architect's compliance with this Directive in accordance with reference (hh).

5.2. The Under Secretary of Defense for Acquisition and Technology, in accordance with reference (ii), shall serve as the Acquisition Executive for space programs that are designated Major Defense Acquisition Programs and, in coordination with the ASD(C3I), oversee space and space-related acquisition and technology programs.

5.3. The Under Secretary of Defense for Policy, in accordance with reference (jj), shall:

5.3.1. Ensure that space policy decisions are closely integrated with overall national security policy considerations, in coordination with the ASD(C3I).

5.3.2. Review all Combatant Commander operations and contingency plans to ensure proposed employment of space forces are coordinated and consistent with DoD policy and the National Military Strategy.

5.4. The Under Secretary of Defense, Comptroller (USD(C)) shall comply with this Directive in accordance with reference (kk).

5.5. The General Counsel of the Department of Defense shall provide legal advice and assistance to the Secretary and Deputy Secretary of Defense, and, as appropriate, other DoD Components on all aspects of space and space-related activities, including the application of all applicable statutes, directives, regulations, and international agreements, in accordance with reference (ll).

5.6. The Director of Operational Test and Evaluation shall comply with this Directive in accordance with reference (mm).

5.7. The Secretaries of the Military Departments shall comply with this Directive in accordance with reference (y) as well as integrate space capabilities and applications into all facets of their Department's strategy, doctrine, education, training, exercises, and operations of U.S. military forces.

5.8. The Chairman of the Joint Chiefs of Staff (CJCS), in accordance with reference (y), shall:

5.8.1. Establish a uniform system for evaluating the readiness of each Combatant Command and Combat Support Agency to carry out assigned missions by employing space forces.

5.8.2. Develop joint doctrine for the operation and employment of space systems of the Armed Forces and formulate policies for the joint space training of the Armed Forces and for coordinating the space military education and training of the members of the Armed Forces.

5.8.3. Integrate space forces and their supporting industrial base into the Joint Strategic Capabilities Plan mobilization annex and formulate policies for the integration of National Guard and Reserve forces into joint space activities.

5.8.4. Provide guidance to Combatant Commanders for planning and employment of space capabilities through the joint planning process.

5.9. The Combatant Commanders shall:

5.9.1. Consider space in the analysis of alternatives for satisfying mission needs as well as develop and articulate military requirements for space and space-related capabilities.

5.9.2. Integrate space capabilities and applications into contingency and operations plans as well as plan for the employment of space capabilities within their Area of Responsibility.

5.9.3. Provide input for evaluations of the preparedness of their Combatant Command to carry out assigned missions by employing space capabilities.

5.9.4. Coordinate on Commander in Chief of U.S. Space Command campaign plans and provide supporting plans as directed by the CJCS.

5.9.5. Plan for and provide force protection, in coordination with the Commander in Chief of U.S. Space Command, for space forces assigned, deployed, and operating in their Area of Responsibility.

5.9.6. The Commander in Chief of U.S. Space Command, in accordance with reference (nn), shall:

5.9.6.1. Serve as the single point of contact for military space operational matters, except as otherwise directed by the Secretary of Defense.

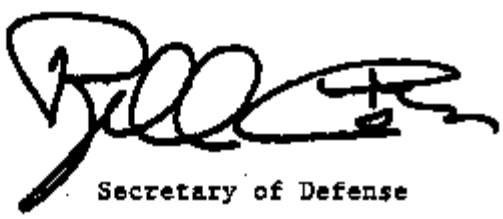
5.9.6.2. Conduct space operations, including support of strategic ballistic missile defense for the United States.

5.9.6.3. Coordinate and conduct space campaign planning through the joint planning process in support of the National Military Strategy.

5.9.6.4. Advocate space (including force enhancement, space control, space support, and force application) and missile warning requirements of other Combatant Commanders.

6. EFFECTIVE DATE

This Directive is effective immediately.



Enclosures - 2

E1. References, continued

E2. Definitions

E1. ENCLOSURE 1

REFERENCES, continued

(e) PDD-NSC-63, "Critical Infrastructure Protection," May 22, 1998

(f) PDD-NSC-67, "Enduring Constitutional Government and Continuity of Government Operations (U)," October 21, 1998

(g) DoD Directive 5160.54, "Critical Asset Assurance Program (CAAP)," January 20, 1998

(h) DoD Directive 3020.26, "Continuity of Operations Policy and Planning," May 26, 1995

(i) E.O. 12919, "National Defense Industrial Resources Preparedness," June 6, 1994

(j) E.O. 12656, "Assignment of Emergency Preparedness Responsibilities," November 18, 1988

(k) DoD Directive 3230.3, "DoD Support for Commercial Space Launch Activities," October 14, 1986

(l) DoD Directive 4650.1, "Management and Use of the Radio Frequency Spectrum," June 24, 1987

(m) DoD Directive 3222.3, "Department of Defense Electromagnetic Compatibility Program," August 20, 1990

(n) National Security Council Memorandum, "Revision to NSC/PD-25, dated December 14, 1977, entitled Scientific or Technological Experiments with Possible Large Scale Adverse Environmental Effects and Launch of Nuclear Systems into Space," May 17, 1995

(o) National Security Act of 1947, as amended

(p) DoD Directive 2000.9, "International Co-Production Projects and Agreements Between the United States and Other Countries or International Organizations," January 23, 1974

(q) PDD-NSC-23, "U.S. Policy on Foreign Access to Remote Sensing Space Capabilities (U)," March 9, 1994

(r) PDD-NSTC-2, "Convergence of U.S. Polar-Orbiting Operational Environmental Satellite Systems," May 5, 1994

(s) PDD-NSTC-6, "U.S. Global Positioning System Policy," March 28, 1886

(t) DoD Directive 5240.1, "Intelligence Activities," April 25, 1988

(u) PDD-NSC-13, "Nonproliferation and Export Controls (U)," September 27, 1993

(v) E.O. 12958, "Classified National Security Information," April 12, 1995

(w) E.O. 12951, "Release of Imagery Acquired by Space-Based National Intelligence Reconnaissance Systems," February 22, 1995

(x) E.O. 12829, "National Industrial Security Program," January 6, 1993

(y) Title 10, United States Code

(z) DoD Directive 5137.1, "Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD(C3I))," February 12, 1992

(aa) DoD Directive 5100.20, "National Security Agency and the Central Security Service," December 23, 1971

(bb) DoD Directive 5105.21, "Defense Intelligence Agency (DIA)," February 18, 1997

(cc) DoD Instruction 5105.58, "Management of Measurement and Signature Intelligence (MASINT)," February 9, 1993

(dd) DoD Directive TS-5105.23, "National Reconnaissance Office (U)," March 27, 1964

(ee) Secretary of Defense and Director of Central Intelligence, "Agreement for the Reorganization of the National Reconnaissance Program (U)," August 11, 1965

(ff) DoD Directive 5105.60, "National Imagery and Mapping Agency," October 11, 1996

(gg) DoD Directive 5105.19, "Defense Information Systems Agency (DISA)," June 25, 1991

(hh) Secretary of Defense and Director of Central Intelligence, "Memorandum of Understanding for National Security Space Management," July 1998

(ii) DoD Directive 5134.1, "Under Secretary of Defense for Acquisition and Technology (USD(A&T))," June 8, 1994

(jj) DoD Directive 5111.1, "Under Secretary of Defense for Policy," March 22, 1995

(kk) DoD 7000.14-R, "Department of Defense Financial Regulations, Volume 1: General Financial Management Information, Systems, and Requirements," January 1999

(ll) DoD Directive 5145.1, "General Counsel of the Department of Defense," December 15, 1989

(mm) DoD Directive 5141.2, "Director of Operational Test and Evaluation," April 2, 1984

(nn) Unified Command Plan (U)

E2. ENCLOSURE 2

DEFINITIONS

E2.1.1. Force Application. Combat operations in, through, and from space to influence the course and outcome of conflict. The force application mission area includes: ballistic missile defense and force projection.

E2.1.2. Force Enhancement. Combat support operations to improve the effectiveness of military forces as well as support other intelligence, civil, and commercial users. The force enhancement mission area includes: intelligence, surveillance, and reconnaissance; tactical warning and attack assessment; command, control, and communications; position, velocity, time, and navigation; and environmental monitoring.

E2.1.3. Space Control. Combat and combat support operations to ensure freedom of action in space for the United States and its allies and, when directed, deny an adversary freedom of action in space. The space control mission area includes: surveillance of space; protection of U.S. and friendly space systems; prevention of an adversary's ability to use space systems and services for purposes hostile to U.S. national security interests; negation of space systems and services used for purposes hostile to U.S. national security interests; and directly supporting battle management, command, control, communications, and intelligence.

E2.1.4. Space Forces. The space and terrestrial systems, equipment, facilities, organizations, and personnel necessary to access, use, and, if directed, control space for national security.

E2.1.5. Space Power. The total strength of a nation's capabilities to conduct and influence activities to, in, through, and from the space medium to achieve its objectives.

E2.1.6. Space Superiority. The degree of dominance in space of one force over another, which permits the conduct of operations by the former and its related land, sea, air, and space forces at a given time and place without prohibitive interference by the opposing force.

E2.1.7. Space Support. Combat service support operations to deploy and sustain military and intelligence systems in space. The space support mission area includes launching and deploying space vehicles, maintaining and sustaining spacecraft on-orbit, and deorbiting and recovering space vehicles, if required.

E2.1.8. Space Systems. All of the devices and organizations forming the space network. These consist of: spacecraft; mission package(s); ground stations; data links among spacecraft, ground stations, mission or user terminals, which may include initial reception, processing, and exploitation; launch systems; and directly related supporting infrastructure, including space surveillance and battle management/command, control, communications, and computers.