

## Section-by-Section Comparison of 1996 and 2006 National Space Policy Documents

1996 National Space Policy	2006 National Space Policy
<p><b>Introduction</b></p> <p>(1) For over three decades, the United States has led the world in the exploration and use of outer space. Our achievements in space have inspired a generation of Americans and people throughout the world. We will maintain this leadership role by supporting a strong, stable and balanced national space program that serves our goals in national security, foreign policy, economic growth, environmental stewardship and scientific and technical excellence. Access to and use of space is central for preserving peace and protecting U.S. national security as well as civil and commercial interests. The United States will pursue greater levels of partnership and cooperation in national and international space activities and work with other nations to ensure the continued exploration and use of outer space for peaceful purposes.</p> <p>(2) The goals of the U.S. space program are to:</p> <p>(a) Enhance knowledge of the Earth, the solar system and the universe through human and robotic exploration;</p> <p>(b) Strengthen and maintain the national security of the United States;</p> <p>(c) Enhance the economic competitiveness, and scientific and technical capabilities of the United States;</p> <p>(d) Encourage State, local and private sector investment in, and use of, space technologies;</p> <p>(e) Promote international cooperation to further U.S. domestic, national security, and foreign policies.</p> <p>(3) The United States is committed to the exploration and use of outer space by all nations for peaceful purposes and for the benefit of all humanity. "Peaceful purposes" allow defense and intelligence-related activities in pursuit of national security and other goals. The United States rejects any claims to sovereignty by any nation over outer space or celestial bodies, or any portion thereof, and rejects any limitations on the fundamental right of sovereign nations to acquire data from space. The United States</p>	<p><b>1. Background</b></p> <p>For five decades, the United States has led the world in space exploration and use and has developed a solid civil, commercial, and national security space foundation. Space activities have improved life in the United States and around the world, enhancing security, protecting lives and the environment, speeding information flow, serving as an engine for economic growth, and revolutionizing the way people view their place in the world and the cosmos. Space has become a place that is increasingly used by a host of nations, consortia, businesses, and entrepreneurs.</p> <p>In this new century, 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.</p> <p><b>2. Principles</b></p> <p>The conduct of U.S. space programs and activities shall be a top priority, guided by the following principles:</p> <ul style="list-style-type: none"> <li>• The United States is committed to the exploration and use of outer space by all nations for peaceful purposes, and for the benefit of all humanity. Consistent with this principle, "peaceful purposes" allow U.S. defense and intelligence-related activities in pursuit of national interests;</li> <li>• The United States rejects any claims to sovereignty by any nation over outer space or celestial bodies, or any portion thereof, and rejects any limitations on the fundamental right of the United States to operate in and acquire data from space;</li> <li>• The United States will seek to cooperate with other nations in the peaceful use of outer space to extend the benefits of space, enhance space exploration, and to protect and promote freedom around the world;</li> <li>• The United States considers space systems to have the rights of passage through and operations in space without interference. Consistent with this principle, the United States</li> </ul>

<p>considers the space systems of any nation to be national property with the right of passage through and operations in space without interference. Purposeful interference with space systems shall be viewed as an infringement on sovereign rights.</p> <p>(4) The U.S. Government will maintain and coordinate separate national security and civil space systems where differing needs dictate. All actions undertaken by agencies and departments in implementing the national space policy shall be consistent with U.S. law, regulations, national security requirements, foreign policy, international obligations and nonproliferation policy.</p> <p>(5) The National Science and Technology Council (NSTC) is the principal forum for resolving issues related to national space policy. As appropriate, the NSTC and NSC will co-chair policy processes. This policy will be implemented within the overall resource and policy guidance provided by the President.</p>	<p>Consistent with this principle, the United States will view purposeful interference with its space systems as an infringement on its rights;</p> <ul style="list-style-type: none"> <li>• The United States considers space capabilities -- including the ground and space segments and supporting links -- vital to its national interests. Consistent with this policy, the United States will: preserve its rights, capabilities, and freedom of action in space; dissuade or deter others from either impeding those rights or developing capabilities intended to do so; take those actions necessary to protect its space capabilities; respond to interference; and deny, if necessary, adversaries the use of space capabilities hostile to U.S. national interests;</li> <li>• The United States will oppose the development of new legal regimes or other restrictions that seek to prohibit or limit U.S. access to or use of space. Proposed arms control agreements or restrictions must not impair the rights of the United States to conduct research, development, testing, and operations or other activities in space for U.S. national interests; and</li> <li>• The United States is committed to encouraging and facilitating a growing and entrepreneurial U.S. commercial space sector. Toward that end, the United States Government will use U.S. commercial space capabilities to the maximum practical extent, consistent with national security.</li> </ul> <p><b>3. United States Policy Goals</b></p> <p>The fundamental goals of this policy are to:</p> <ul style="list-style-type: none"> <li>• Strengthen the nation's space leadership and ensure that space capabilities are available in time to further U.S. national security, homeland security, and foreign policy objectives;</li> <li>• Enable unhindered U.S. operations in and through space to defend our interests there;</li> <li>• Implement and sustain an innovative human and robotic exploration program with the objective of extending human presence across the solar system;</li> <li>• Increase the benefits of civil exploration, scientific discovery, and environmental activities;</li> <li>• Enable a dynamic, globally competitive domestic commercial space sector in order to promote innovation, strengthen U.S. leadership, and protect national, homeland, and economic security;</li> <li>• Enable a robust science and technology base supporting national security, homeland security,</li> </ul>
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	<ul style="list-style-type: none"> <li>and civil space activities; and</li> <li>• 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.</li> </ul>
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The Principles section of the new policy establishes the overall tone of the document, indicating that the United States has a primary goal of not allowing any other country to inhibit American access to space. A careful reading of the new document (for instance, using a word search for the word “access”) indicates that the primary goal of the space policy is not to deny access to space to other countries, but to *preserve* access and operations in space for the United States.

1996 National Space Policy	2006 National Space Policy
	<p><b>4. General Guidelines</b></p> <p>In order to achieve the goals of this policy, the United States Government shall:</p> <ul style="list-style-type: none"> <li>• <b>Develop Space Professionals.</b> Sustained excellence in space-related science, engineering, acquisition, and operational disciplines is vital to the future of U.S. space capabilities. Departments and agencies that conduct space related activities shall establish standard and implement activities to develop and maintain highly skilled, experienced, and motivated space professionals within their workforce.</li> <li>• <b>Improve Space System Development and Procurement.</b> United States space systems provide critical capabilities to a wide range of civil, commercial, and national security users. The primary goal of space system development and procurement must be mission success. Achieving this goal depends on effective research, development, acquisition, management, execution, oversight, and operations. Toward that end, departments and agencies shall create an environment that enables mission success, including, but not limited to, creating a common understanding of realistic and stable requirements and operational concepts; clearly identifying and managing risks, including system safety; setting and maintaining realistic and stable funding; delivering space capabilities on time and on budget; and providing acquisition managers with the tools, responsibility, budget flexibility, and authority to achieve this goal.</li> <li>• <b>Increase and Strengthen Interagency Partnerships.</b> The challenges of the 21st</li> </ul>

	<p>century require a focused and dedicated unity of effort. Interagency partnerships provide opportunities to jointly identify desired effects, capabilities, and strategies. Departments and agencies shall capitalize on opportunities for dynamic partnerships -- whether through collaboration, information sharing, alignment, or integration.</p> <ul style="list-style-type: none"> <li>• <b>Strengthen and Maintain the U.S. Space-Related Science, Technology, and Industrial Base.</b> A robust science, technology, and industrial base is critical for U.S. space capabilities. Departments and agencies shall: encourage new discoveries in space science and new applications of technology; and enable future space systems to achieve new and improved capabilities, including incentives for high-risk/high-payoff and transformational space capabilities. Additionally, departments and agencies shall: conduct the basic and applied research that increases capability and decreases cost; encourage an innovative commercial space sector, including the use of prize competitions; and ensure the availability of space related industrial capabilities in support of critical government functions.</li> </ul>
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The General Guidelines in the new policy do not have an equivalent in the 1996 policy. They also reflect the concern in recent years with subjects such as space acquisition and the maintenance of a skilled workforce. In 1996, programs such as the missile warning satellite SBIRS, and the NPOESS meteorology satellite system, were just starting. By the time the new policy document was being written they were experiencing cost overruns, scheduling delays, and restructuring, and the new policy reflects that. In addition, since 2000 there have been several studies of workforce concerns in the aerospace sector.

<b>1996 National Space Policy</b>	<b>2006 National Space Policy</b>
<p><b>National Security Space Guidelines</b></p> <p>(1) The United States will conduct those space activities necessary for national security. These activities will be overseen by the Secretary of Defense and the Director of Central Intelligence (DCI) consistent with their respective responsibilities as set forth in the National Security Act of 1947, as amended, other applicable law, and Executive Order 12333. Other departments and agencies will assist as appropriate.</p> <p>(2) Improving our ability to support military operations worldwide, monitor and respond to strategic military threats, and monitor arms control and non-proliferation agreements and activities are key priorities for national security space activities.</p>	<p><b>5. National Security Space Guidelines</b></p> <p>United States national security is critically dependent upon space capabilities, and this dependence will grow. The Secretary of Defense and the Director of National Intelligence, after consulting, as appropriate, the Secretary of State and other heads of departments and agencies, and consistent with their respective responsibilities as set forth in the National Security Act of 1947, as amended, Title 10, U.S.C. and Title 50 U.S.C., the National Security Intelligence Reform Act of 2004, and other applicable law, shall:</p> <ul style="list-style-type: none"> <li>• Support the President and the Vice President in the performance of Executive functions, and senior Executive Branch national security, homeland security, and foreign policy</li> </ul>

<p>The Secretary of Defense and DCI shall ensure that defense and intelligence space activities are closely coordinated; that space architectures are integrated to the maximum extent feasible; and will continue to modernize and improve their respective activities to collect against, and respond to, changing threats, environments and adversaries.</p> <p>(3) National security space activities shall contribute to U.S. national security by:</p> <p>(a) providing support for the United States' inherent right of self-defense and our defense commitments to allies and friends;</p> <p>(b) deterring, warning, and if necessary, defending against enemy attack;</p> <p>(c) assuring that hostile forces cannot prevent our own use of space;</p> <p>(d) countering, if necessary, space systems and services used for hostile purposes;</p> <p>(e) enhancing operations of U.S. and allied forces;</p> <p>(f) ensuring our ability to conduct military and intelligence space-related activities;</p> <p>(g) satisfying military and intelligence requirements during peace and crisis as well as through all levels of conflict;</p> <p>(h) supporting the activities of national policy makers, the intelligence community, the National Command Authorities, combatant commanders and the military services, other federal officials, and continuity of government operations.</p> <p>(4) Critical capabilities necessary for executing space missions must be assured. This requirement will be considered and implemented at all stages of architecture and system planning, development, acquisition, operation, and support.</p> <p>(5) The Department of Energy, in coordination with DoD, ACDA and the DCI will carry out research on and development of technologies needed to effectively verify international agreements to control special nuclear materials and nuclear weapons.</p> <p>(6) Defense Space Sector Guidelines:</p>	<p>decisionmakers; other Federal officials, as appropriate; and the enduring constitutional government operations and infrastructure;</p> <ul style="list-style-type: none"> <li>• Support and enable defense and intelligence requirements and operations during times of peace, crisis, and through all levels of conflict;</li> <li>• Develop and deploy space capabilities that sustain U.S. advantage and support defense and intelligence transformation; and</li> <li>• Employ appropriate planning, programming, and budgeting activities, organizational arrangements, and strategies that result in an operational force structure and optimized space capabilities that support the national and homeland security.</li> </ul> <p>To achieve the goals of this policy, the Secretary of Defense shall:</p> <ul style="list-style-type: none"> <li>• Maintain the capabilities to execute the space support, force enhancement, space control, and force application missions;</li> <li>• Establish specific intelligence requirements that can be met by tactical, operational, or national-level intelligence gathering capabilities;</li> <li>• Provide, as launch agent for both the defense and intelligence sectors, reliable, affordable, and timely space access for national security purposes;</li> <li>• Provide space capabilities to support continuous, global strategic and tactical warning as well as multi-layered and integrated missile defenses;</li> <li>• Develop capabilities, plans, and options to ensure freedom of action in space, and, if directed, deny such freedom of action to adversaries;</li> <li>• Have responsibility for space situational awareness; in this capacity, the Secretary of Defense shall support the space situational awareness requirements for the Director of National Intelligence and conduct space situational awareness for: the United States Government; U.S. commercial space capabilities and services used for national and homeland security purposes; civil space capabilities and operations, particularly human space flight activities; and, as appropriate, commercial and foreign space entities; and</li> <li>• Establish and implement policies and procedures to protect sensitive information regarding the control, dissemination, and declassification of defense activities related to space.</li> </ul> <p>To achieve the goals of this policy, the Director of National Intelligence shall:</p>
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<p>(a) DoD shall maintain the capability to execute the mission areas of space support, force enhancement, space control, and force application.</p> <p>(b) In accordance with Executive Orders and applicable directives, DoD shall protect critical space-related technologies and mission aspects.</p> <p>(c) DoD, as launch agent for both the defense and intelligence sectors, will maintain the capability to evolve and support those space transportation systems, infrastructure, and support activities necessary to meet national security requirements. DoD will be the lead agency for improvement and evolution of the current expendable launch vehicle fleet, including appropriate technology development.</p> <p>(d) DoD will pursue integrated satellite control and continue to enhance the robustness of its satellite control capability. DoD will coordinate with other departments and agencies, as appropriate, to foster the integration and interoperability of satellite control for all governmental space activities.</p> <p>(e) The Secretary of Defense will establish DoD's specific requirements for military and national-level intelligence information.</p> <p>(f) The Secretary of Defense, in concert with the DCI, and for the purpose of supporting operational military forces, may propose modifications or augmentations to intelligence space systems as necessary. The DoD may develop and operate space systems to support military operations in the event that intelligence space systems cannot provide the necessary intelligence support to the DoD.</p> <p>(g) Consistent with treaty obligations, the United States will develop, operate and maintain space control capabilities to ensure freedom of action in space and, if directed, deny such freedom of action to adversaries. These capabilities may also be enhanced by diplomatic, legal or military measures to preclude an adversary's hostile use of space systems and services. The U.S. will maintain and modernize space surveillance and associated battle management command, control, communications, computers, and intelligence to effectively detect, track, categorize, monitor, and characterize threats to U.S. and friendly space systems and contribute to the protection of U.S. military activities.</p> <p>(h) The United States will pursue a ballistic missile defense program to provide for: enhanced theater</p>	<ul style="list-style-type: none"> <li>• Establish objectives, intelligence requirements, priorities and guidance for the intelligence community to ensure timely and effective collection, processing, analysis and dissemination of national intelligence;</li> <li>• Ensure that timely information and data support foreign, defense, and economic policies; diplomatic activities; indications and warning; crisis management; treaty compliance verification; appropriate civil, homeland security, and law enforcement users; and perform research and development related to these functions;</li> <li>• Support military planning and satisfy operational requirements as a major intelligence mission;</li> <li>• Provide intelligence collection and analysis of space related capabilities to support space situational awareness for: the United States Government; U.S. commercial space capabilities and services used for national and homeland security purposes; civil space capabilities and operations, particularly human space flight activities; and, as appropriate, commercial and foreign space entities;</li> <li>• Provide a robust foreign space intelligence collection and analysis capability that provides timely information and data to support national and homeland security;</li> <li>• Coordinate on any radio frequency surveys from space conducted by United States Government departments or agencies and review, as appropriate, and approve any radio frequency surveys conducted by the private sector, State, or local governments; and</li> <li>• Establish and implement policies and procedures to: classify attributable collected information and operational details of intelligence activities related to space; protect sensitive activities; and declassify and release such information when the Director determines that protection is no longer needed.</li> </ul>
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missile defense capability later this decade; a national missile defense deployment readiness program as a hedge against the emergence of a long-range ballistic missile threat to the United States; and an advanced technology program to provide options for improvements to planned and deployed defenses.

(7) Intelligence Space Sector Guidelines:

(a) The DCI shall ensure that the intelligence space sector provides timely information and data to support foreign, defense and economic policies; military operations; diplomatic activities; indications and warning; crisis management; and treaty verification, and that the sector performs research and development related to these functions.

(b) The DCI shall continue to develop and apply advanced technologies that respond to changes in the threat environment and support national intelligence priorities.

(c) The DCI shall work closely with the Secretary of Defense to improve the intelligence space sector's ability to support military operations worldwide.

(d) The nature, the attributable collected information and the operational details of intelligence space activities will be classified. The DCI shall establish and implement policies to provide appropriate protection for such data, including provisions for the declassification and release of such information when the DCI deems that protection is no longer required.

(e) Collected information that cannot be attributed to space systems will be classified according to its content.

(f) These guidelines do not apply to imagery product, the protection of which is governed by Executive Order 12951.

(g) Strict security procedures will be maintained to ensure that public discussion of satellite reconnaissance by Executive Branch personnel and contractors is consistent with DCI guidance. Executive Branch personnel and contractors should refrain from acknowledging or releasing information regarding satellite reconnaissance until a security review has been made.

[Discussion of what intelligence-related activities that the United States acknowledges has been deleted.]

The 2006 policy reverses the order of civil and military space policy in the document. In 1996, civil space policy guidelines appeared first, followed by national security space guidelines. In 2006, national security space guidelines appear first, followed by civil space policy guidelines.

Also, the new policy reflects the fact that the Director of National Intelligence has primacy over the intelligence community, replacing the Director of Central Intelligence in these matters.

<b>1996 National Space Policy</b>	<b>2006 National Space Policy</b>
<p><b>Civil Space Guidelines</b></p> <p>(1) The National Aeronautics and Space Administration is the lead agency for research and development in civil space activities.</p> <p>(2) NASA, in coordination with other departments and agencies as appropriate, will focus its research and development efforts in: space science to enhance knowledge of the solar system, the universe, and fundamental natural and physical sciences; Earth observation to better understand global change and the effect of natural and human influences on the environment; human space flight to conduct scientific, commercial, and exploration activities; and space technologies and applications to develop new technologies in support of U.S. Government needs and our economic competitiveness.</p> <p>(3) To enable these activities, NASA will:</p> <p>(a) Develop and operate the International Space Station to support activities requiring the unique attributes of humans in space and establish a permanent human presence in Earth orbit. The International Space Station will support future decisions on the feasibility and desirability of conducting further human exploration activities.</p> <p>(b) Work with the private sector to develop flight demonstrators that will support a decision by the end of the decade on development of a next-generation reusable launch system.</p> <p>(c) Continue a strong commitment to space science and Earth science programs. NASA will undertake:</p> <p>(i) a sustained program to support a robotic presence on the surface of Mars by year 2000 for the purposes of scientific research, exploration and technology development;</p> <p>(ii) a long-term program, using innovative new technologies, to obtain in-situ measurements and</p>	<p><b>6. Civil Space Guidelines</b></p> <p>The United States shall increase the benefits of civil exploration, scientific discovery, and operational environmental monitoring activities. To the end, the Administrator, National Aeronautics and Space Administration shall: execute a sustained and affordable human and robotic program of space exploration and develop, acquire, and use civil space systems to advance fundamental scientific knowledge of our Earth system, solar system, and universe.</p> <p>The Secretary of Commerce, through the Administrator of the National Oceanic and Atmospheric Administration, shall in coordination with the Administrator, National Aeronautics and Space Administration, be responsible for operational civil environmental space-based remote sensing systems and management of the associated requirements and acquisition process as follows:</p> <ul style="list-style-type: none"> <li>• The Secretary of Commerce, through the National Oceanic and Atmospheric Administration, in collaboration with the Secretary of Defense through the Secretary of the Air Force, and the Administrator, National Aeronautics and Space Administration will continue to consolidate civil and military polar-orbiting operational environmental sensing systems in accordance with current policy direction;</li> <li>• The Secretary of Commerce, through the National Oceanic and Atmospheric Administration, shall continue a program of civil geostationary operational environmental satellites with support from the National Aeronautics and Space Administration; and</li> <li>• The Secretary of Commerce, through the National Oceanic and Atmospheric Administration, and the Administrator, National Aeronautics and Space Administration shall ensure to the maximum extent possible that civil space acquisition processes and capabilities are not duplicated.</li> </ul> <p>The Secretary of the Interior, through the Director of the</p>

<p>sample returns from the celestial bodies in the solar system;</p> <p>(iii) a long-term program to identify and characterize planetary bodies in orbit around other stars;</p> <p>(iv) a program of long-term observation, research, and analysis of the Earth's land, oceans, atmosphere and their interactions, including continual measurements from the Earth Observing System by 1998.</p> <p>(d) In carrying out these activities, NASA will develop new and innovative space technologies and smaller more capable spacecraft to improve the performance and lower the cost of future space missions.</p> <p>(4) In the conduct of these research and development programs, NASA will:</p> <p>(a) Ensure safety on all space flight missions involving the Space Shuttle and the International Space Station.</p> <p>(b) Emphasize flight programs that reduce mission costs and development times by implementing innovative procurement practices, validating new technologies and promoting partnerships between government, industry, and academia.</p> <p>(c) Acquire spacecraft from the private sector unless, as determined by the NASA Administrator, development requires the unique technical capabilities of a NASA center.</p> <p>(d) Make use of relevant private sector remote sensing capabilities, data, and information products and establish a demonstration program to purchase data products from the U.S. private sector.</p> <p>(e) Use competition and peer review to select scientific investigators.</p> <p>(f) Seek to privatize or commercialize its space communications operations no later than 2005.</p> <p>(g) Examine with DoD, NOAA and other appropriate federal agencies, the feasibility of consolidating ground facilities and data communications systems that cannot otherwise be provided by the private sector.</p>	<p>U.S. Geological Survey, shall collect, archive, process, and distribute land surface data to the United States Government and other users and determine operational requirements for land surface data.</p> <p>The United States will study the Earth system from space and develop new space-based and related capabilities to advance scientific understanding and enhance civil space-based Earth observation. In particular:</p> <ul style="list-style-type: none"> <li>• The Administrator, National Aeronautics and Space Administration shall conduct a program of research to advance scientific knowledge of the Earth through space-based observation and development and deployment of enabling technologies; and</li> <li>• The Secretary of Commerce and the Administrator, National Aeronautics and Space Administration, and other departments and agencies as appropriate, in support of long-term operational requirements, shall transition mature research and development capabilities to long-term operations, as appropriate.</li> </ul> <p>The United States will utilize government and commercial space-based and related capabilities wherever feasible to enhance disaster warning, monitoring, and response activities; and take a leadership role in international fora to establish a long-term plan for coordination of an integrated global Earth observation system and promote the adoption of policies internationally that facilitate full and open access to government environmental data on equitable terms.</p>
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<p>(5) The Department of Commerce (DoC), through the National Oceanic and Atmospheric Administration (NOAA), has the lead responsibility for managing Federal space-based civil operational Earth observations necessary to meet civil requirements. In this role, the DoC, in coordination with other appropriate agencies, will:</p> <p>(a) acquire data, conduct research and analyses, and make required predictions about the Earth's environment;</p> <p>(b) consolidate operational U.S. Government civil requirements for data products, and define and operate Earth observation systems in support of operational monitoring needs; and</p> <p>(c) in accordance with current policy and Public Law 102-555 provide for the regulation and licensing of the operation of private sector remote sensing systems.</p> <p>(6) The Department of the Interior, through the U.S. Geological Survey (USGS), will maintain a national archive of land remote sensing data and other surface data as appropriate, making such data available to U.S. Government and other users.</p> <p>(7) The Department of Energy will maintain the necessary capability to support civil space missions, including research on space energy technologies and space radiation effects and safety.</p>	
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The new policy reflects the 2004 Vision for Space Exploration that established new goals for NASA. Most notably, the new section does not mention the International Space Station nor the Space Shuttle.

<b>1996 National Space Policy</b>	<b>2006 National Space Policy</b>
<p><b>Commercial Space Guidelines</b></p> <p>(1) The fundamental goal of U.S. commercial space policy is to support and enhance U.S. economic competitiveness in space activities while protecting U.S. national security and foreign policy interests. Expanding U.S. commercial space activities will generate economic benefits for the Nation and provide the U.S. Government with an increasing range of space goods and services.</p> <p>(2) U.S. Government agencies shall purchase commercially available space goods and services to the fullest extent feasible and shall not conduct activities with commercial</p>	<p><b>7. Commercial Space Guidelines</b></p> <p>It is in the interest of the United States to foster the use of U.S. commercial space capabilities around the globe and to enable a dynamic, domestic commercial space sector. To this end, departments and agencies shall:</p> <ul style="list-style-type: none"> <li>• Use U.S. commercial space capabilities and services to the maximum practical extent; purchase commercial capabilities and services when they are available in the commercial marketplace and meet United States Government requirements; and modify commercially available capabilities and services to meet those United States Government requirements when the modification is cost</li> </ul>

<p>applications that preclude or deter commercial space activities except for reasons of national security or public safety. A space good or service is "commercially available" if it is currently offered commercially, or if it could be supplied commercially in response to a government service procurement request. "Feasible" means that such goods or services meet mission requirements in a cost-effective manner.</p> <p>(3) The United States will pursue its commercial space objectives without the use of direct Federal subsidies. Commercial Sector space activities shall be supervised or regulated only to the extent required by law, national security, international obligations and public safety.</p> <p>(4) To stimulate private sector investment, ownership, and operation of space assets, the U.S. Government will facilitate stable and predictable U.S. commercial sector access to appropriate U.S. Government space-related hardware, facilities and data. The U.S. Government reserves the right to use such hardware, facilities and data on a priority basis to meet national security and critical civil sector requirements. Government Space Sectors shall:</p> <p>(a) Enter into appropriate cooperative agreements to encourage and advance private sector basic research, development, and operations while protecting the commercial value of the intellectual property developed.</p> <p>(b) Identify, and propose appropriate amendments to or the elimination of, applicable portions of United States laws and regulations that unnecessarily impede commercial space sector activities.</p> <p>(c) Consistent with national security, provide for the timely transfer of government-developed space technology to the private sector in such a manner as to protect its commercial value, including retention of technical data rights by the private sector.</p> <p>(d) To the extent feasible, pursue innovative methods for procurement of</p>	<p>requirements when the modification is cost effective;</p> <ul style="list-style-type: none"> <li>• Develop systems when it is in the national interest and there is no suitable, cost effective U.S. commercial or, as appropriate, foreign commercial service or system that is or will be available when required;</li> <li>• Continue to include and increase U.S. private sector participation in the design and development of United States Government space systems and infrastructures;</li> <li>• Refrain from conducting activities that preclude, deter, or compete with U.S. commercial space activities, unless required by national security or public safety;</li> <li>• Ensure that United States Government space activities, technology, and infrastructure are made available for private use on a reimbursable, non-interference basis to the maximum practical extent, consistent with national security; and</li> <li>• Maintain a timely and responsive regulatory environment for licensing commercial space activities and pursue commercial space objectives without the use of direct Federal subsidies, consistent with the regulatory and other authorities of the Secretaries of Commerce and Transportation and the Chairman of the Federal Communications Commission.</li> </ul>
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<p>space products and services.</p> <p>(5) Free and fair trade in commercial space launch services is a goal of the United States. In support of this goal, the United States will implement, at the expiration of current space launch agreements, a strategy for transitioning from negotiated trade in launch services towards a trade environment characterized by the free and open interaction of market economies. The U.S. Trade Representative, in coordination with the Office of Science and Technology Policy and the National Economic Council, will develop a strategy to guide this implementation.</p> <p>(6) Consistent with Executive Order 12046 and applicable statutes, U.S. Government agencies and departments will ensure that U.S. Government telecommunications policies support a competitive international environment for space-based telecommunications.</p>	
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<b>1996 National Space Policy</b>	<b>2006 National Space Policy</b>
<p><b>Intersector Guidelines</b></p> <p>The following paragraphs identify priority intersector guidance to support major United States space policy objectives.</p> <p>(1) International Cooperation</p> <p>The United States will pursue and conduct international cooperative space-related activities that achieve scientific, foreign policy, economic, or national security benefits for the nation. International agreements related to space activities shall be subject to normal interagency coordination procedures, consistent with applicable laws and regulations. United States cooperation in international civil space activities will:</p> <p>(a) Promote equitable cost-sharing and yield benefits to the United States by increasing access to foreign scientific and technological data and expertise and foreign research and development facilities;</p> <p>(b) Enhance relations with U.S. allies and Russia while supporting initiatives with other states of the former Soviet Union and emerging spacefaring nations;</p>	<p><b>8. International Space Cooperation</b></p> <p>The United States Government will pursue, as appropriate, and consistent with U.S. national security interests, 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. Areas for potential international cooperation include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Space exploration; providing space surveillance information consistent with security requirements and U.S. national security and foreign policy interests; developing and operating Earth-observation-systems.</li> </ul> <p>The Secretary of State, after consultation with the heads of appropriate Departments and Agencies, shall carry out diplomatic and public diplomacy efforts, as appropriate, to build an understanding of and support for U.S. national space policies and programs and to encourage the use of U.S. space capabilities by friends and allies.</p>

<p>(c) Support U.S. technology transfer and nonproliferation objectives;</p> <p>(d) Create new opportunities for U.S. commercial space activities; and</p> <p>(e) Protect the commercial value of intellectual property developed with Federal support and ensure that technology transfers resulting from cooperation do not undermine U.S. competitiveness and national security.</p> <p>(f) In support of these objectives:</p> <p>(i) NASA and the Department of State will negotiate changes in the existing legal framework for International Space Station cooperation to include Russia in the program along with the United States, Europe, Japan, and Canada; and</p> <p>(ii) NASA, in coordination with concerned U.S. Government agencies, will explore with foreign space agencies and international organizations the possible adoption of international standards for the interoperability of civil research spacecraft communication and control facilities.</p>	
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The new policy devotes very little attention to the role of international cooperation in civil space policy.

<b>1996 National Space Policy</b>	<b>2006 National Space Policy</b>
<p>(6) Space Nuclear Power</p> <p>The Department of Energy will maintain the necessary capability to support space missions which may require the use of space nuclear power systems. U.S. Government agency proposals for international cooperation involving space nuclear power systems are subject to normal interagency review procedures. Space nuclear reactors will not be used in Earth orbit without specific approval by the President or his designee. Such requests for approval will take into account public safety, economic considerations, international treaty obligations, and U.S. national security and foreign policy interests. The Office of Science and Technology Policy, in coordination with the NSC staff, will examine the existing approval process, including measures to address possible commercial use of space nuclear systems.</p>	<p><b>9. Space Nuclear Power</b></p> <p>Where space nuclear power systems safely enable or significantly enhance space exploration or operational capabilities, the United States shall develop and use these systems. The use of space nuclear power systems shall be consistent with U.S. national and homeland security, and foreign policy interests, and take into account the potential risks. In that regard:</p> <ul style="list-style-type: none"> <li>• Approval by the President or his designee shall be required to launch and use United States Government and non-government spacecraft utilizing nuclear power sources with a potential for criticality or above a minimum threshold of radioactivity, in accordance with the existing interagency review process;</li> <li>• To that end, the Secretary of Energy shall: conduct a nuclear safety analysis for evaluation by an ad hoc Interagency Nuclear Safety Review Panel which will evaluate the risks associated with launch and in-space operations; assist the Secretary of Transportation in the licensing of space transportation; provide nuclear safety</li> </ul>

	<p>monitoring to ensure that operations in space are consistent with the safety evaluation performed; and maintain the capability and infrastructure to develop and furnish nuclear power systems for use in United States Government space systems; and</p> <ul style="list-style-type: none"> <li>• For government spacecraft, the head of the sponsoring Department or Agency shall request launch approval and be responsible for the safe operation of the spacecraft in space.</li> <li>• For the launch and use of non-government spacecraft utilizing nuclear power sources, the operator will be responsible for the safe operation of the spacecraft in space, including nuclear power sources. To that end: <ul style="list-style-type: none"> <li>○ The United States Government shall designate a point of entry and develop procedures for reviewing non-governmental missions that use space nuclear power systems;</li> <li>○ The Secretary of Transportation shall be the licensing authority for U.S. commercial launch activities involving nuclear materials, including a payload determination, subject to the requirements described above;</li> <li>○ The Nuclear Regulatory Commission will license activities prior to launch that involve utilization facilities and nuclear materials not owned by the Department of Energy;</li> <li>○ The United States Government will conduct safety analysis, evaluation, and nuclear safety monitoring on a fee-for-service basis, to the extent allowed by law, where the operator will fully reimburse the United States Government entity for services provided; and</li> <li>○ The Secretary of Energy shall establish and implement policies and procedures to protect sensitive information regarding the control, dissemination, and declassification of space-related nuclear activities.</li> </ul> </li> </ul>
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Perhaps the most notable aspect of this section of the new policy is the reference to “the launch and use of non-government spacecraft utilizing nuclear power sources...” It is unclear what this language refers to, as there are currently no private proposals for utilizing space nuclear power.

<b>1996 National Space Policy</b>	<b>2006 National Space Policy</b>
<b>No equivalent text in 1996 document.</b>	<b>10. Radio Frequency Spectrum And Orbit Management And Interference Protection</b>

	<p>The use of space for national and homeland security, civil, scientific, and commercial purposes depends on the reliable access to and use of radio frequency spectrum and orbital assignments. To ensure the continued use of space for these purposes, the United States Government shall:</p> <ul style="list-style-type: none"> <li>• Seek to obtain and protect U.S. global access to the radio frequency spectrum and orbit assignments required to support the use of space by the United States Government and commercial users;</li> <li>• Explicitly address requirements for radio frequency spectrum and orbit assignments prior to approving acquisition of new space capabilities;</li> <li>• Consistent with current approaches, assure, to the maximum practical extent, that U.S. national security, homeland security, civil, and commercial space activities and services and foreign space capabilities and services of interest to the United States Government are not affected by harmful interference; and</li> <li>• Seek spectrum regulatory status under U.S. domestic regulations for United States Government owned and operated earth stations operating through commercial satellites, consistent with the regulatory status afforded commercial operations and with the allocation status of the satellite service.</li> </ul>
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Although frequency spectrum was not mentioned in the 1996 policy, its inclusion in the 2006 document may reflect several factors. First, frequency spectrum is a much scarcer resource today than it was ten years ago and the battles over it are subsequently much more fierce. Second, the military is concerned about access to the frequency spectrum more so than a decade ago, both because of the greater demand for it and because of greater demand in areas of the spectrum that used to be primarily occupied by the military. Finally, access to the frequency spectrum is important to business, and a Republican White House is more likely to be concerned with it than a Democratic administration.

<b>1996 National Space Policy</b>	<b>2006 National Space Policy</b>
<p>(7) Space Debris</p> <p>(a) The United States will seek to minimize the creation of space debris. NASA, the Intelligence Community, and the DoD, in cooperation with the private sector, will develop design guidelines for future government procurements of spacecraft, launch vehicles, and services. The design and operation of space tests, experiments and systems, will minimize or reduce accumulation of space debris consistent with mission requirements and cost</p>	<p><b>11. Orbital Debris</b></p> <p>Orbital debris poses a risk to continued reliable use of space-based services and operations and to the safety of persons and property in space and on Earth. The United States shall seek to minimize the creation of orbital debris by government and non-government operations in space in order to preserve the space environment for future generations. Toward that end:</p>

<p>effectiveness.</p> <p>(b) It is in the interest of the U.S. Government to ensure that space debris minimization practices are applied by other spacefaring nations and international organizations. The U.S. Government will take a leadership role in international fora to adopt policies and practices aimed at debris minimization and will cooperate internationally in the exchange of information on debris research and the identification of debris mitigation options.</p>	<ul style="list-style-type: none"> <li>• Departments and agencies shall continue to follow the United States Government Orbital Debris Mitigation Standard Practices, consistent with mission requirements and cost effectiveness, in the procurement and operation of spacecraft, launch services, and the operation of tests and experiments in space;</li> <li>• The Secretaries of Commerce and Transportation, in coordination with the Chairman of the Federal Communications Commission, shall continue to address orbital debris issues through their respective licensing procedures; and</li> <li>• The United States shall take a leadership role in international fora to encourage foreign nations and international organizations to adopt policies and practices aimed at debris minimization and shall cooperate in the exchange of information on debris research and the identification of improved debris mitigation practices.</li> </ul>
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The Orbital Debris Mitigation Standard Practices were adopted in 1997 and can be found here: [http://orbitaldebris.jsc.nasa.gov/library/USG\\_OD\\_Standard\\_Practices.pdf](http://orbitaldebris.jsc.nasa.gov/library/USG_OD_Standard_Practices.pdf)

1996 National Space Policy	2006 National Space Policy
	<p><b>12. Effective Export Policies</b></p> <p>As a guideline, space-related exports that are currently available or are planned to be available in the global marketplace shall be considered favorably.</p> <p>Exports of sensitive or advanced technical data, systems, technologies, and components, shall be approved only rarely, on a case-by-case basis. These items include systems engineering and systems integration capabilities and techniques or enabling components or technologies with capabilities significantly better than those achievable by current or near-term foreign systems.</p>

The new policy’s concern with the export of “sensitive or advanced technical data, systems, technologies and components” reflects changes in the US export technology control regime since 1998, when allegations were first made that American communications satellite companies had improperly provided technical information to China concerning the performance of its rockets. Since that time, the International Traffic in Arms Regulations (ITAR) restrictions have been tightened. Despite complaints from American industry and scientists that these restrictions are overly burdensome and may actually harm American interests, the current administration has shown no indication of loosening them.

1996 National Space Policy	2006 National Space Policy
(h) The following facts are UNCLASSIFIED:	<b>13. Space-Related Security Classification</b>

<p>(i) That the United States conducts satellite photoreconnaissance for peaceful purposes, including intelligence collection and monitoring arms control agreements.</p> <p>(ii) That satellite photoreconnaissance includes a near real-time capability and is used to provide defense-related information for indications and warning, and the planning and conduct of military operations.</p> <p>(iii) That satellite photoreconnaissance is used in the collection of mapping, charting, and geodetic data and such data is provided to authorized federal agencies.</p> <p>(iv) That satellite photoreconnaissance is used to collect mapping, charting and geodetic data to develop global geodetic and cartographic materials to support defense and other mapping-related activities.</p> <p>(v) That satellite photoreconnaissance can be used to collect scientific and environmental data and data on natural or man-made disasters, and such data can be disseminated to authorized federal agencies.</p> <p>(vi) That photoreconnaissance assets can be used to image the United States and its territories and possessions.</p> <p>(vii) That the U.S. conducts overhead signals intelligence collection.</p> <p>(viii) That the U.S. conducts overhead measurement and signature intelligence collection.</p> <p>(ix) The existence of the National Reconnaissance Office (NRO) and the identification and official titles of its senior officials. All other details, facts and products of intelligence space activities are subject to appropriate classification and security controls as determined by the DCI.</p> <p>(i) Changes to the space intelligence security policy set forth in the national space policy can be authorized only by the President.</p>	<p>The design, development, acquisition, operations, and products of intelligence and defense-related space activities shall be classified as necessary to protect sensitive technologies, sources and methods, and operations, consistent with E.O. 12958, E.O. 12951, and applicable law and regulation as amended.</p> <ul style="list-style-type: none"> <li>• The Secretary of Defense and the Director of National Intelligence shall establish and implement policies and procedures to protect, disseminate, and appropriately classify and declassify activities and information related to their respective responsibilities outlined in this policy. Where appropriate, they shall coordinate their respective classification guidance.</li> </ul> <p>The following facts are unclassified:</p> <ul style="list-style-type: none"> <li>• The United States Government conducts: satellite photoreconnaissance that includes a near real-time capability; overhead signals intelligence collection; and overhead measurement and signature intelligence collection; and</li> <li>• United States Government photoreconnaissance is used to: <ul style="list-style-type: none"> <li>○ Collect intelligence; monitor compliance with arms control agreements; collect mapping, charting, and geodetic data that is used to support defense and other mapping-related activities; collect scientific and environmental data and data on natural or man-made disasters; and the foregoing categories of information can be provided to authorized federal agencies;</li> <li>○ Provide information for indications and warning and the planning and conduct of military operations; and</li> <li>○ Image the United States and its territories and possessions, consistent with applicable laws, for purposes including, but not limited to, homeland security.</li> </ul> </li> </ul>
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The security classification discussion has been given its own section in the new policy. The 1996 policy included it under the section on National Security Guidelines.

<b>1996 National Space Policy</b>	<b>2006 National Space Policy</b>
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(2) Space Transportation

(a) Assuring reliable and affordable access to space through U.S. space transportation capabilities is fundamental to achieving national space policy goals. Therefore, the United States will:

(i) Balance efforts to modernize existing space transportation capabilities with the need to invest in the development of improved future capabilities;

(ii) Maintain a strong transportation capability and technology base to meet national needs for space transport of personnel and payloads;

(iii) Promote reduction in the cost of current space transportation systems while improving their reliability, operability, responsiveness, and safety;

(iv) Foster technology development and demonstration to support a future decision on the development of next generation reusable space transportation systems that greatly reduce the cost of access to space;

(v) Encourage, to the fullest extent feasible, the cost-effective use of commercially provided U.S. products and services that meet mission requirements; and

(vi) Foster the international competitiveness of the U.S. commercial space transportation industry, actively considering commercial needs and factoring them into decisions on improvements to launch facilities and vehicles.

(b) The Department of Transportation (DoT) is the lead agency within the Federal government for regulatory guidance pertaining to commercial space transportation activities, as set forth in 49 U.S.C. 701, et seq., and Executive Order 12465. The U.S. Government encourages and will facilitate U.S. private sector and state and local government space launch and recovery activities.

(c) All activities related to space transportation undertaken by U.S. agencies and departments will be consistent with PDD/NSTC-4.

(3) Space-based Earth Observation

(a) The United States requires a continuing capability for space-based Earth observation to provide information useful for protecting public health, safety, and national security. Such a capability contributes to economic growth and stimulates

<p>educational, scientific and technological advancement. The U.S. Government will:</p> <p>(i) Continue to develop and operate space-based Earth observing systems, including satellites, instruments, data management and dissemination activities;</p> <p>(ii) Continue research and development of advanced space-based Earth observation technologies to improve the quality and reduce the costs of Earth observations;</p> <p>(iii) Support the development of U.S. commercial Earth observation capabilities by:</p> <ul style="list-style-type: none"> <li>-- pursuing technology development programs, including partnerships with industry;</li> <li>-- licensing the operation and, as appropriate, the export of private Earth observation systems and technologies, consistent with existing policy;</li> <li>-- providing U.S. Government civil data to commercial firms on a non-discriminatory basis to foster the growth of the "value-added" data enhancement industry; and</li> <li>-- making use, as appropriate, of relevant private sector capabilities, data, and information products in implementing this policy.</li> </ul> <p>(iv) Produce and archive long-term environmental data sets.</p> <p>(b) The U.S. Government will continue to use Earth observation systems to collect environmental data and provide all U.S. Government civil environmental data and data products consistent with OMB Circular A-130, applicable statute and guidelines contained in this directive.</p> <p>(c) The U. S. Government will seek mutually beneficial cooperation with U.S. commercial and other national and international Earth observation system developers and operators, to:</p> <p>(i) define an integrated global observing strategy for civil applications;</p> <p>(ii) develop U.S. Government civil Earth observing systems in coordination with other national and international systems to ensure the efficient collection and dissemination of the widest possible</p>	
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<p>set of environmental measurements;</p> <p>(iii) obtain Earth observation data from non-U.S. sources, and seek to make such data available to users consistent with OMB Circular A-130, national security requirements, and commercial sector guidance contained in the national space policy; and</p> <p>(iv) support, as appropriate, the public, non-discriminatory direct read-out of data from Federal civil systems.</p> <p>(d) The U.S. Government space sectors will coordinate, and where feasible, seek to consolidate Earth observation activities to reduce overlaps in development, measurements, information processing, and archiving where cost-effective and consistent with U.S. space goals.</p> <p>(i) In accordance with PDD/NSTC-2, DoC/NOAA, DoD, and NASA shall establish a single, converged, National Polar-Orbiting Environmental Satellite System (NPOESS) to satisfy civil and national security requirements.</p> <p>(ii) NASA, DoC/NOAA, DoD, the Intelligence Community, and DoE shall work together to identify, develop, demonstrate, and transition advanced technologies to U.S. Earth observation satellite systems.</p> <p>(iii) In accordance with PDD/NSTC-3, NASA, DoC/NOAA, and DoI/USGS shall develop and operate an ongoing program to measure the Earth's land surface from space and ensure the continuity of the Landsat-type data set.</p> <p>(iv) Consistent with national security, the U.S. Government space sectors shall continue to identify national security products and services that can contribute to global change research and civil environmental monitoring, and seek to make technology, products and services available to civil agencies for such uses. Both unclassified and, as appropriate, classified data from national security programs will be provided through established mechanisms.</p> <p>(4) Nonproliferation, Export Controls, and Technology Transfer</p> <p>(a) The MTCR Guidelines are not designed to impede national space programs or international cooperation in such programs as long as such</p>	
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programs could not contribute to delivery systems for weapons of mass destruction. Consistent with U.S. nonproliferation policy, the United States will continue to oppose missile programs of proliferation concern, and will exercise particular restraint in missile-related cooperation. The United States will continue to retain a strong presumption of denial against exports of complete space launch vehicles or other MTCR Category I components.

(b) The United States will maintain its general policy of not supporting the development or acquisition of space launch vehicle systems in non-MTCR states.

(c) For MTCR countries we will not encourage new space launch vehicle programs which raise questions from a proliferation and economic standpoint. The United States will, however, consider exports of MTCR-controlled items to MTCR countries. Additional safeguard measures could also be considered for such exports, where appropriate. Any exports would remain subject to the non-transfer provisions of the INF and START treaties.

(d) The United States will work to stem the flow of advanced space technology to unauthorized destinations. Executive departments and agencies will be fully responsible for protecting against adverse technology transfer in the conduct of their programs.

(e) In entering into space-related technology development and transfer agreements with other countries, Executive Departments and Agencies will take into consideration whether such countries practice and encourage free and fair trade in commercial space activities.

#### (5) Arms Control

The United States will consider and, as appropriate, formulate policy positions on arms control and related measures governing activities in space, and will conclude agreements on such measures only if they are equitable, effectively verifiable, and enhance the security of the United States and our allies. The Arms Control and Disarmament Agency (ACDA) is the principal agency within the Federal government for arms control matters. ACDA, in coordination with the DoD, DCI, State, DoE, and other appropriate Federal agencies, will identify arms control issues and opportunities related to space activities and examine concepts for measures that

<p>support national security objectives.</p> <p>[Space Nuclear Power section deleted]</p> <p>[Space Debris section deleted]</p> <p>(8) Government Pricing</p> <p>The price charged for the use of U.S. Government facilities, equipment, and service, will be based on the following principles:</p> <p>(a) Prices charged to U.S. private sector, state and local government space activities for the use of U.S. Government facilities, equipment, and services will be based on costs consistent with Federal guidelines, applicable statutes and the commercial guidelines contained within the policy. The U.S. Government will not seek to recover design and development costs or investments associated with any existing facilities or new facilities required to meet U.S. Government needs and to which the U.S. Government retains title.</p> <p>(b) Consistent with mission requirements, NASA and DoD will seek to use consistent pricing practices for facilities, equipment, and services.</p> <p>(c) Tooling, equipment, and residual hardware on hand at the completion of U.S. Government programs will be priced and disposed of on a basis that is in the best overall interest of the United States while not precluding or deterring the continuing development of the U.S. commercial space sector.</p>	
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Space transportation is not mentioned in the new policy. This may reflect the fact that the transportation problem has been “solved” with the maturation of the EELV program, the decision to retire the Space Shuttle, and the decision to pursue development of two new NASA rockets. From the administration’s standpoint, new policy guidance is unnecessary in this area.