

Current American Focus on Space Law and Activities

By

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Abstract

In 2011 the United States continued its serious engagement in space law and activities. At the national level it began to implement the new U.S. National Space Policy announced by President Obama on June 28, 2010. Preparations continued for the November, 2011, meeting of the World Radio Communication Conference. National officials and others assessed the dangers posed by those who were capable of engaging in cyber warfare. On May 16 the government released its “International Strategy for Cyberspace: Prosperity, Security, and Openness in a Networked World.” In 2011 the government in the face of its huge and constantly increasing federal debt reduced its funding of important NASA projects, including the future of the space shuttle. At the same time private firms and research universities began innovative activities seeking to fill the governmental void.

At the world level the U.S. continued to play an important role in COPOUS, its two subcommittees, and in other international organizations that focused on international space law and activities such as the Universal Telecommunication Union. The U.S. was also engaged at the regional level with organizations seeking to promote their respective interests respecting telecommunications.

So, 2011 was in the memorable words of Charles Dickens “the best of times and the worst of times...” Best because there were no serious operational space mishaps. Worst because there were massive invasions by cyberterrorists of US defense and commercial networks.

Major changes in domestic space policies and activities included the reduction of public funding for existing NASA projects and the consequential loss of employment of a very large number of government and corporate employees.

1. The Obama National Space Policy,
June 28, 2011

a. Earlier Presidential Policies

The terms of U. S. National Space Policies can be distinguished from national laws dealing with the operational terms set forth in basic legislation. The first national space policy was promulgated by President Jimmy Carter, identified as “Presidential Directive/NSC-37,” on May 11, 1978. Its primary focus was on the relationship between the civilian and the security aspects of the national space program. Several objectives were emphasized. First, was the advancement of the interests of the United States through the “exploration and use of space and to promote cooperation with other nations in maintaining the freedom of all activities which enhance the security and welfare of mankind.” Second, was an increase in the body of “scientific knowledge about the earth and the universe, to develop and advance civil applications of space technology, to maintain United States leadership in space science applications, and technology, and to benefit United States domestic and foreign policy objectives.” Third, there was a recitation of policies for civil space programs. National defense and security issues were addressed, but deleted from the published policy statement.

Eighteen years later President William Clinton’s administration issued the second National space policy directive dated September 19, 1996. It was “Presidential Decision Directive/NSC-49/NSTC-8.” It proclaimed that the United States would maintain its leadership in space law and activities. This was to be accomplished “by supporting a strong, stable and balanced national space program that serves our

goals in national security, foreign policy, economic growth, environmental leadership and scientific and technological excellence.” It called for “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.” It identified “guidelines” for action in such matters as civil space, national security, commercial space, and “interjector” areas, meaning international cooperation, space transportation, space-based earth observation, non-proliferation, export controls and technology transfer, as well as arms control, space nuclear power, space debris, and government pricing.

National security, also highlighted by the Carter and Regan administrations was emphasized. This was stated in these terms: the United States possesses “the inherent right of self-defense and our defense commitments to allies and friends, deterring, warning, and, if necessary, defending against enemy attack; assuring that hostile forces cannot prevent our own use of space; and countering, if necessary, space systems and services used for hostile purposes.”

Space law and policy was addressed again during the administration of President George W. Bush with the issuance on August 31, 2006 of a revised “National Space Policy.” It superceded the Clinton policy directive.¹ It left no doubt that the United

¹. For a critical comparison of the two policies see Theresa Hitchens, “The Bush National Space Policy: Contrasts and Contradictions,” Center for Defense Administration (October 13, 2006), 13 pp.

States considered the outer space environment to be of fundamental importance to it and for the well-being of society at large. The Bush Policy at the outset announced governing principles. These included a commitment to the exploration and use of outer space by all States for “peaceful purposes,” which would encompass “U.S. defense and intelligence-related activities in pursuit of national interests.” Other concepts identified as principles were non-sovereignty, rights of passage and operations without interference, space capabilities, including ground and space segments and supporting links, as vital to national interests, opposition to new legal regimes or other restrictions designed to limit accesses by the U.S. to and use of space, and to support for a U.S. entrepreneurial commercial space sector.

The Bush policy statement announced U.S. policy goals, general guidelines, national space security guidelines, civil space guidelines, commercial space guidelines, international space cooperation, space nuclear policy, radio frequency spectrum and orbit management and interference protection, orbital debris, effective export policies, and space-related security classification. The new policy document ran to nine pages.

During the war with Iraq the issue was raised whether the United States and its allies might support the use of military force under the international legal doctrine of anticipatory self-defense as derived from the concept of the inherent right of self-defense as proclaimed in Article 51 of the United Nations Charter. In September, 2002, President Bush taking

into context the timing of a response to a threat, e. g. the immediacy of the threat, posed the application of the concept of “preemptive” self-defense stating “if we wait for threats to fully materialize, we will have waited too long.” He added: “The United States has long maintained the option of preemptive action to counter a sufficient threat to our national security. The greater the threat, the greater the risk of inaction—and the more compelling the case for taking anticipatory action to defend ourselves, even if the uncertainty remains as to the time and place of the enemy’s attack. To forestall or prevent such hostile acts by our adversaries, the United States will, if necessary, act preemptively.”²

The year 2011 has produced dramatic changes in perceptions and reality in both domestic and international space affairs. They have been influenced by such forces as the realization that satellites are vulnerable to direct attack, such as the Chinese anti-satellite destruction of one of its own spacecraft in 2007 with the resulting production of a high level of dangerous debris in the low-Earth orbital area. In addition in 2009 there was an unintentional collision between the U.S. commercial Iridium 33 communications satellite and the defunct Russian Cosmos 2251 satellite resulting in a loss of revenue and also adding to a dangerously increasing amount of debris. Such space junk was considered to be so highly dangerous that the personnel on the International Space Station in June, 2011, were obliged to leave the Station and to take shelter in their “lifeboats.”

². “The National Security Strategy of the United States of America,” The White House, September 17, 2002, p. 15.

Then, as the United States, burdened by out-of-control governmental debt, began to focus on ways to reduce governmental debt, a likely candidate was NASA with its very costly Space Shuttle requirements. The situation was so intense that the government announced that the last launch of a manned space-object, the Shuttle Atlantis, would take place on July 8, 2011. It arrived at the International Space Station on July 11, 2011. It was the last launch in the shuttle's 30 year program. This has been seen as "the end of the space age" and described as "outer space is history."³

The Shuttle's contributions to aerospace activities included the construction of the International Space Station, the launch of and later repairing of the Hubble Space Telescope, while sending robotic probes to explore Venus, Jupiter, and the sun. At the time of its fullest engagement in such activities the number of workers in southern California exceeded 17,500 persons. With the demise of the Shuttle the possibility of exploiting near-Earth asteroids has received attention as well as a manned-mission to Mars. In this way the space age would achieve a longer life span with advanced requirements for new engines, propellants, and life-support systems, but as characterized by a former NASA manager as "Apollo on food stamps," with the expectation that new space activities will be the product of privately organized commercial enterprises and that the "food stamps" would be supplied by such firms.⁴

³. "The End of the Space Age," 400 *The Economist*, No. 8740, July 2-8, 2011, p. 7; "Into the Sunset," pp. 66-68.

⁴. "Into the Sunset," *id.*, at 67.

b. The June 28, 2011 Obama Policy

The Obama policy has been compared with the Bush policy. Pursuant to the Obama Policy Statement there would be a larger role for private industry, and, especially if future policy decisions were taken, to exploit the natural resources of low-lying asteroids, or to undertake a manned mission to Mars. If such plans could obtain public support and Congressional approval, bearing in mind the critical aspects of the country's present very serious national debt, the space age would be revived. It has been stated that there have been many similarities of substance in the respective principles, goals, and guidelines in the two policies. In the Obama policy the guidelines were portrayed as "intersector" and "sector," and that the "tone" of the new policy statement was "more outward looking and inclusive, with a far greater emphasis on cooperation, both internationally and with the private sector."⁵

Under the heading of intersector guidelines the Obama statement dealt with foundational activities and capabilities, e.g. (1) strengthening U. S. leadership in space-related science, technology and industrial bases, (2) enhancing capabilities for assured access to space, (3) maintaining and enhancing space-based positioning, navigation, and timing systems, (4) developing and retaining space professionals, (5) strengthening interagency partnerships,

⁵. Marcia S. Smith, "President Obama's National Space Policy: A Change in tone and focus on space sustainability," 27 *Space Policy*, No. 1, February 2011, p. 20.

via international cooperation, while preserving the space environment and the responsible use of space, with effective export policies, and reliance on nuclear power. Goals to be achieved included efficient use of the radiofrequency spectrum and interference protection, and via the assurance and resilience of mission-essential functions.

Sector guidelines dealt with commercial space, civil space, including (1) space science, exploration and discovery, (2) environmental earth observation and weather, (3) land remote sensing, and (4) national security. The respective roles of the Secretary of Defense and the Director of National Intelligence were identified. On May 16, 2011 Secretary of State Clinton addressed a group of specialists in this area and explained the Department's involvement and support.⁶ The Policy Statement ran to 14 pages.

c. Common aspects of the policies

The respective space policies of the four presidents may be viewed as a rallying point indicative of general principles pertinent to the time when they were promulgated and looking toward the future together with the identification and assignment of specific responsibilities to named offices. In a very real sense the policies have identified America's expectations

relating to the exploration, use, and exploitation of the space environment.

But, they do not supply practical answers to space activity as a going event. That is to be found in adoption of the national budget whereby public funds are appropriated to pay for a given activity with intense competition among alternate proposals and then as to the amount of funding that can be provided to advance that particular objective. This has been the focal point in Congress in 2010-2011 relating to NASA's effort to deal with and maintain the American human spaceflight program.

President Bush proposed a manned return to the Moon and the Constellation was designed as the vehicle to achieve that goal. It involved large-scale employment, but when the project was criticized as being inadequately funded and unrealistic by a committee of experts with the prospect of its cancellation, verbal warfare was waged in the Senate led by Senators in whose home states substantial funds were being expended. The upshot, in the words of John M. Logsdon, who introduced his commentary as a person who had observed space decisions at NASA for over four decades, was that he had "never seen such a confused situation" resulting from NASA's and the White House's inability to "articulate a convincing case in support of the new White House strategy..." and the intense "congressional involvement..." produced by billions of dollars and thousands of jobs at stake⁷. As a

⁶. "Remarks on the Release of President Obama Administration's International Strategy for Cyberspace," <http://www.state.gov/secretary/rm/2011/05/163523.htm>. last visited July 24, 2011.

⁷. John M. Logsdon, "A new US approach to human spaceflight," 27 Space Policy. No. 1, p. 16, February 2011. With the reduction or elimination of NASA functions scores of highly educated professionals found that they were out

consequence he has stated that the Constellation project and human space flight in general has “lead to a somewhat schizoid existence.”⁸

2. The U. S. and the UN in 2011

The United States remained committed to its membership in the Committee on the Peaceful Uses of Outer Space (COPUOS) while taking note of the progressive increase in the number of its members. Originally composed of 18 members in 1958 including the space-resource countries with the increase in membership of the UN by 2011 it had grown to 70. The larger membership has taken positions on the sharing of the natural resources of the space environment. The United States has not been very supportive of such initiatives and has been opposed to proposals emanating largely from developing countries calling for a formal treaty in which a legal boundary would be established between outer space and the subjacent airspace. Different outlooks exist respecting proposals relating to the elimination of the presence of debris in orbital pathways. In other respects the United States has not advanced new initiatives while

of work. For example, Lockheed Martin announced in June, 2011, that its space systems equipment division would be cutting 1,200 employees, with middle management personnel being hit hardest. In April, 2011, the final launch of the space shuttle, Endeavour took place. NASA was obliged to review, to retrench, and then to discontinue plans for its Terrestrial Planet Finder project resulting in the wasted expenditure of \$600 million. New projects were contemplated including a search for exoplanets. Inquiries were made regarding the construction of miniturized orbiting telescopes. Major research universities in cooperation with private firms began to fill existing gaps.

⁸. Id., at 18.

acknowledging that the use of space has become increasingly important in such areas as communications, navigation, and remote sensing. In addressing such matters the government was obliged to take into account the fact that policies would have to respond to the fact that the space environment was “congested, competitive, and contested.”⁹

3. The U.S. and the World Radio Communication Conference in 2011

The United States and the other members of the Conference continued their preparation for the session scheduled for Geneva, 23 January to 27 February 2012. Since these Conferences occur at 3-4 year intervals there was much work to be done. Included was consultation with regional satellite organizations in the Western Hemisphere. Emphasis was placed on the use of the radio frequency spectrum, on the functioning of geostationary satellites in orbit, and the revision of radio regulations. Also American planning dealt with the meteorological satellite service, radio determination satellite service, space resource service, and the aeronautical mobile service. The Council of the Conference by a majority vote fixes the agenda two years prior to a meeting of all of the members.¹⁰

The American position is arrived at via coordination among the Departments of Commerce (National Telecommunications and Information

⁹. Statement on October 19, 2009 by the U.S. Alternate Representative to the First Committee of the UN General Assembly.

¹⁰. Carl Q. Christol, *Outer Space and the Agenda of the 2011 World Radio Communication Conference*, paper, IAC-10.E7.5.2, 53 *Proceedings of the International Institute of Space Law* (2011), pp.6.

Administration), Defense, and State (Directorate of Defense Trade Controls) and (International Communication and Information Policy Group). Also engaged is the International Bureau of the Federal Communications Commission.

4. Vulnerability Resulting from Cyberspace Attacks

Although long generally recognized that space electronic communications were vulnerable it was the rise in world-wide threats of terrorists that has produced a more positively oriented defense.¹¹ With the growing use of space communications it has now become evident that serious harms could imperil a using entity. In 2010 the United States reported that more than 303,000 complaints involving lack of security in cyberspace had been made dealing with the theft of sensitive personal financial data. In 2008 the Department of Defense experienced a significant compromise in its military computer networks. This resulted from a penetration by an unfriendly country so that it obtained American military plans. Those engaged in such activities do not provide return addresses.

In order to achieve a higher level of security the Department of Defense in 2009 established a Cyber Command which became operational in 2010. The new Command presently works with a number of federal departments and agencies to counteract the actions of cyber terrorists. For example it maintains liaison with the Department of Justice's

section on computer crime and intellectual property. With the Department of State there is contact with the International Communication and Information Policy Group and its Office of Coordination for Cyber Issues. With the Department of Homeland Security it shares information with private industry about cyber threats.

A Department of Defense appraisal dated July 14, 2001, entitled "Cyberthreat Strategy,"¹² referred to "a massive hacking incident" in which a DOD contractor, whose files had contained 24,000 pieces of highly sensitive communications, had been invaded. The event was staged by a foreign country, and was described in the memorandum as "an act of war." The DOD took note that such a characterization could produce an outcome negating "the very benefits of cyberspace we seek to protect." Prior to the cited appraisal by the government it had been reported that hackers had collected a huge amount of undisclosed information about SecurID, a technology in wide use by governments and corporations to protect internal networks and facilities.¹³

The DOD analysis identified five foundation stones upon which policy must be based. (1) Cyberspace was an "observational domain" like land, sea,

¹¹. On November 23, 2001 the members of the Council of Europe agreed to a Convention on Cybercrime. The United States became a party in 2006.

¹². William J. Lynn, III, Deputy Secretary, Department of Defense, July 14, 2001. In his "Defending a New Domain--The Pentagon's Cyberstrategy" he reported numerous intrusions ["rogue programs"] of classified military computer networks and the corporate infrastructure over an extended period. 89 Foreign Affairs, No. 5, p.100. (September/October 2010).

¹³12. "Fighting Cyberattacks, Los Angeles Times, A16, (June 3, 2011).

air, and space. (2) A new “operating concept” required “active cyber defenses,” (3) There was a need to accept that “a number of non-military networks support important military functions.” (4) The same was true for “allies and international partners.” (5) To protect against an enemy’s present advantages the DOD would take measures to provide private firms with “a more robust protection for their networks.”

Such events led to the formation by the Obama administration of an “International Strategy for Cyberspace ,” which was issued on August 16, 2011. While stressing the advantages of world-wide electronic communication it also took note of the critical importance of enhancing the security of such networks. The identified priorities endeavored to achieve a socially acceptable balance between the fundamental needs of consumers for freedom, privacy, and prosperity with issues of security, such as the military need for reliable and secure networks, the need to enhance military alliances able to confront potential threats in cyberspace, and through international cooperation to take measures to increase collective security.

5. Conclusion

As reported the United States has enjoyed the advantages open to it for the peaceful uses of the space environment including the exploration and exploitation of space and its resources. Over the years, as space has become vital to effective world-wide communications, the need to secure the availability and security of space resources has become increasingly evident. Cyber terrorists have presented

major threats to such communications. Security measures have taken on a higher degree of importance. America’s cyberspace goal has been summed by the observation that it is to “make cyberspace safe so that its revolutionary innovations can enhance both the United States’ national security and its economic security.”¹⁴ There remains the ongoing need to achieve a suitable balance between national security and the freest possible sharing of democratic ideals.

Prospects remain large for huge amounts of space debris in the environment. Much of the debris is the product of human decisions to destroy obsolete and dangerous satellites. Such dangers have within the last few months forced evacuation of the International Space Station. The role of the COPUOS has been directed principally toward mitigation of prospective harms, but that fails to respond to current threats to operating satellites.

During the past 12 months the United States has been engaged in negotiating with other countries and regional international organizations as they fine tune the agenda items to be considered at the 2011 World Administrative Radio Conference. Many federal departments, agencies, and representative private citizens have been hard at work.

NASA launched its last shuttle. This has resulted in a vast upheaval especially the losses of private employment in the aerospace industry, and especially alternative projects for NASA and industry. This has been magnified by the current nonavailability

¹⁴. Supra, note 11 at p. 108.

of federal funds for general federal
necessities and commitments as well as
the space program.

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