

Report on
U.S. Space Policy



International Security Advisory Board

April 25, 2007

DISCLAIMER

This is a report of the International Security Advisory Board (ISAB), a Federal Advisory Committee established to provide the Department of State with a continuing source of independent insight, advice and innovation on scientific, military, diplomatic, political, and public diplomacy aspects of arms control, disarmament, international security, and nonproliferation. The views expressed herein do not represent official positions or policies of the Department of State or any other entity of the United States Government.



United States Department of State

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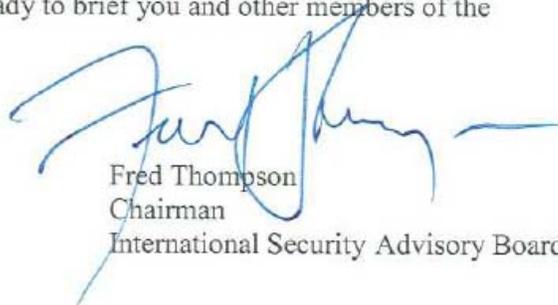
MEMORANDUM FOR ASSISTANT SECRETARY JOHN ROOD

SUBJECT: Final Report of the International Security Advisory Board (ISAB) on U.S. Space Policy

I am forwarding herewith the ISAB's report on U.S. Space Policy. The report responds to the request from Under Secretary Joseph of March 14, 2006, for the Board to undertake such a study. The report was drafted by a Task Force chaired by Dr. William Van Cleave. It was reviewed by all ISAB members and unanimously approved at our plenary meeting on April 25, 2007.

The report includes eleven specific recommendations to improve State Department and, more broadly, United States Government (USG) efforts in space. As a starting point, the report endorses the National Security Presidential Directive on space policy released in 2006 and offers recommendations to guide its implementation. Of particular note are the report's recommendations relating to the need for robust public and international diplomacy efforts in support of our space policy. We believe that implementing these recommendations would enhance significantly the State Department's, and more broadly the USG's, space policy.

I encourage you to consider all of the report's recommendations carefully. The Task Force members and I stand ready to brief you and other members of the Administration on the findings.

A handwritten signature in blue ink, appearing to read "Fred Thompson".

Fred Thompson
Chairman
International Security Advisory Board

INTERNATIONAL SECURITY ADVISORY BOARD

REPORT ON SPACE POLICY

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Report on

U.S. Space Policy

Introduction

The International Security Advisory Board (ISAB) welcomes and supports the National Security Presidential Directive (NSPD) of August 31, 2006, “U.S. National Space Policy,” and its articulation of the importance of space to U.S. national security, economic well-being, and technological advancement. While the broad outlines and the specifics of the current policy do not differ significantly from the 1996 National Space Policy, the new national space policy is an important public document that articulates key points in an unclassified summary. It should be used as the basis for national and international dialogue on the importance of space.

The ISAB also wishes to note that the bipartisan Rumsfeld Commission report (Report of the Commission to Assess United States National Security Space Management and Organization), issued on January 11, 2001, is a useful and logical companion to the U.S. National Space Policy directive. It set forth important recommendations to implement the policy described by that directive. It also emphasized that space can become a real national priority only through strong and continuing leadership from the highest levels of the U.S. Government.

The United States does not seek to deny other nations’ access to and use of space for peaceful purposes. It only seeks to preserve its own free access to and use of space for peaceful purposes. The document does reaffirm, however, that space is of such critical importance to the United States, commercially and militarily, that it is a vital national interest; and it does recognize that space is an arena of growing competition and challenge, as well as opportunity.

“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.” (“U.S. National Space Policy,” p.1).

The United States relies on space for scientific, civil, military, and intelligence purposes more than any other nation, and its dependency is growing. Other nations are certainly aware of this and some are knowledgeable about U.S. space vulnerabilities. It would be imprudent to believe that means to exploit these vulnerabilities will be ignored or avoided by all governments and even non-state entities. Moreover, the civil and commercial development of space inexorably blends military and civilian capabilities.

U.S. Space Policy

The policy directive reaffirms well-established principles of space policy, taking into account changed challenges and opportunities. It is worth summarizing the basic principles and goals upon which U.S. policy is based:

- the use and benefit, for all nations, of space for peaceful purposes;
- the rejection of any national sovereignty over space;
- cooperation with other nations in the exploitation and peaceful use of space;
- the right of access to and innocent passage in space without interference;
- the encouragement of dynamic, innovative, globally competitive commercial development of space;
- the recognition of space as a vital interest of the United States.

Along with these general principles are explicit principles and goals related to national security:

- The United States considers its space capabilities vital to its national interest, and, accordingly, will take the actions necessary to protect and preserve its rights, capabilities, and freedom of action in space. This requires effective deterrence, defense, and, if necessary, denial of adversarial uses of space capabilities hostile to U.S. national interests. The Secretary of Defense is specifically directed to develop capabilities, plans and options to ensure U.S. freedom of action in space and to deny such freedom of action to adversaries when necessary. This requires robust capabilities for sustainable U.S. space control.
- The United States will develop and deploy space capabilities that maintain and improve U.S. military and intelligence capabilities and national security. This requires space situational awareness, survivability and preservation of space capability, and timely reconstitution.
- Space capabilities should also be provided to support a multi-layered and integrated missile defense.

One of the fundamental elements of the space NSPD is the recognition that arms control processes and regimes may be harmful to U.S. space interests. This principle is worth stating verbatim:

“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.”

These principles and goals were painstakingly formulated and coordinated. As such, they should guide and direct planning, programs, and actions. And they should be understood and supported by U.S. government spokesmen as part of a public diplomacy and education program. The NSPD directs the Secretary of State to conduct diplomatic and public diplomacy to build understanding of and support for U.S. national space policies and programs. This is very important.

Recommendation 1: The principles and requirements set forth in the 2006 space policy should guide U.S. space programs and U.S. diplomacy.¹

Much remains to be done if these key elements set forth in new National Space Policy are to become reality – to move from concept to implementation. The urgency is heightened by the emerging security environment that will confront the United States in the years ahead.

The loss or significant downgrading of its space assets could substantially cripple the United States economically, militarily, and politically. Yet, space (including survivability of space assets) is budgetarily a low priority. There is a serious gap between requirements, as set forth in the National Space Policy, and funding.

It should be understood that the National Space Policy document is not a program and implementation document. Its implementation aspects are limited to directives for studies and assessments by the Secretary of State, the Secretary of Defense and the Director of National Intelligence. These up-to-date assessments – broadly of vulnerabilities, protection, and responses to interference – are essential and should identify solutions and lead to action. The ISAB is concerned that military and intelligence budgets and programs are inadequate to implement the goals set forth by the space policy.

How space is utilized for peaceful purposes will depend on who ultimately controls space. This is analogous to control of the seas that has been deemed essential to sea faring states over the centuries. There is a widely accepted historical example of those states with a great interest in trade, notably The Netherlands and Great Britain, which also had highly developed naval capabilities for sea control designed to ensure peace-time commerce. Such countries played an indispensable role in both developing and enforcing the “rules of the road.” The United States, in association whenever possible with allies, must be prepared to play a similar role in space in the decades ahead. Space control is therefore a vital element of U.S. programs and policies.

Recommendation 2: U.S. national security space programs should be re-energized in accordance with the new space policy directive and their budgets increased. While this is not a Department of State responsibility, this imbalance between stated policy goals and budgets and programs may affect the views of other countries and make diplomatic interventions more difficult.

Threat

Strategically, space provides the United States both opportunities and challenges. We must support our vital interests in space and thwart emerging threats to them. A robust U.S. space

¹ One Board Member does not support this recommendation. The member believes that the NSPD statement that the U.S. opposes the development of new legal regimes or other restrictions that seek to prohibit or limit U.S. access to or use of space runs counter to some of the goals (e.g., the rejection of any national sovereignty over space) upon which U.S. space policy is based.

program has the potential not only to enhance our security and protect our economic interests, but also to discourage or dissuade adversaries who would use space against the United States.

Threats to U.S. space assets, both from the ground and in space, are rapidly growing quantitatively and qualitatively. The United States does not have the luxury of assuming that its space assets will be available wherever needed. Survivability of our space assets in a deliberately hostile environment must be a requirement along with improved capability. Understanding and responding to threats to civil, commercial, and national security space assets is a vital national interest of the United States.

A number of states are developing a variety of capabilities that will intentionally or unintentionally place at risk the space systems operated and used by the United States, its allies, and coalition partners. Although these actors are states, they are likely to include actors other than states in the relatively near future as technologies for space operations become more widely accessible. The Chinese ASAT direct ascent test should be a wake up call for the United States. Such high-leverage, asymmetric threats could have a highly disproportionate impact on U.S. military capability and security. Many of our space-based assets serve both civilian and military users. Their destruction, or even the threat of their destruction, would have devastating economic and military implications. Threats, disruption, or damage to commercial satellite systems would wreak havoc on the U.S. and global economy.

China, largely due to the recent demonstration of a physically destructive ASAT, may be the most dramatic example of threat to US space assets, but it is not the only one. Several states have developed capabilities that could be used against U.S. space systems. China may have surpassed Russia in space programs, but Russia maintains significant space threat capabilities that were developed by the USSR, including direct ascent capabilities. While Russia is not known to have tested the Soviet Orbital ASAT system, that system was tested in orbit some twenty times by the Soviet Union and may be maintained or resurrected. Russia also possesses laser, radio frequency, jamming, and electro-magnetic pulse (EMP) systems that could be employed against U.S. space capabilities.

Returning to China, China's counterspace program should be recognized as a well-planned, coherent, and comprehensive strategic program potentially capable in a few years of destroying or disrupting critical U.S. space assets all the way up to satellites in geostationary orbit (GEO) by a variety of means in the absence of effective U.S. countermeasures.

There are many types of threats to space systems (jamming, lasers, orbital systems direct ascent missiles), and their proliferation has become a major concern to the United States (and other states that depend upon U.S. space assets and U.S. military strength). The threats are enhanced by a lack of adequate U.S. attention to survivability of its space systems against deliberate attack.

The long range destructive effects on U.S space and electronic infrastructure of nuclear weapons detonated in space have been recognized for quite some time. (It is one of the reasons that the United States came to favor kinetic kill over nuclear for its ABM systems). The serious threat of EMP from such detonations has come to be better understood since the study and reports by a congressionally mandated Commission on EMP effects. (Commission to Assess the Threat to the

United States from Electromagnetic Pulse Attack. *Report of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack, Vol. 1: Executive Report, 2004.*)

Vital economic, civil, military, and intelligence electronic assets, in space and on earth, are seriously vulnerable to intense EMP from nuclear detonation in space. Even a Scud-type missile launched from a surface ship off U.S. shores carrying a nuclear warhead to altitudes between eighty and four hundred kilometers, detonated over the United States or even off its shore, could cause extreme damage to national security and the economy. The national space policy calls for space assets to help protect the homeland against such threats.

Recommendation 3: The Department of State should emphasize current and expanding threats to space assets as an essential part of its international diplomacy.

Intelligence and Space

The United States must remain at the forefront of technologies that utilize space intelligence collection and analysis. We need such intelligence to counter threats to U.S. space assets, just as we need to remain ahead of potential U.S. adversaries in utilizing space to enable us to understand and prevent threats from space to our national security. The Department of State should share in this intelligence on a timely basis to conduct foreign policy and support the National Space Policy.

Recommendation 4: The Secretary of State should request and receive improved timely intelligence regarding threats to U.S. space systems and our ability to operate freely in space in order to conduct foreign policy and international diplomacy related to space. Threats to space systems should be one of the highest priorities of the U.S. intelligence community for collection and analysis. The Secretary of State should seek greater dissemination within the United States Government of key intelligence assessments related to threats to space systems and threats from space. The Secretary should seek the lowest possible classification of assessments and analysis consistent with the need to protect sources and methods in order to inform allies and educate the international community.

The national security community needs to develop, mature, and retain the qualified personnel necessary to inform policy makers of existing and emerging threats associated with U.S. use of space and national security interests. While U.S. military and intelligence agencies, supported by industry will supply most of the technical expertise required to assess the current and future threat, it is important that key State Department personnel charged with representing the United States at international fora need to understand the fundamental principles of space systems and potential threats, or else the United States risks policy missteps. Educating a cadre of space experts in the Department of State is essential to effective United States international diplomacy in support of our national security interests.

Situational Awareness

Virtually all experts agree that the United States needs significant improvements in space situational awareness (SSA) such as development of the ability to attribute in real time all activity in circumterrestrial space to either natural or identifiable manmade causes, including birth to death tracking and assessment of all threats capable of affecting space systems operated or used by the United States. Space situational awareness capabilities must focus not only on space-based threats but also on land-based assets that could be used to attack U.S. space systems.

Requirements to improve our own space situational awareness create an opportunity for the United States to engage with commercial and allied satellite operators to enhance our mutual understanding of the space environment, so long as it does not compromise national security. Without U.S. leadership in promoting this cooperation, allies may pursue independent means to develop space situational awareness, thereby weakening the overall allied network. In addition, commercial entities rely heavily on the Commercial, Allied, and Foreign Entities Program (CAFE) that is currently maintained by the United States Air Force and makes available via the Internet a catalog of space objects and space data sets. The CAFE Program is helpful to efforts to improve space situational awareness, to promote commercial space activities, and to foster cooperation with allies and other nations.

Recommendation 5: The Department of State should seek to enlist allies and friendly nations in cooperative efforts to improve situational awareness.

Dissuasion and Deterrence

The ideal way, if possible, to protect our space assets is to dissuade others from developing and deploying ways to threaten them, but given the many ways available and the difficulty of identifying potential threats, this does not provide sufficient confidence. Besides, the United States has not been successful in dissuading at least a small number of countries from developing and acquiring means to attack its space systems. These capabilities exist, and are growing and spreading. Next, we need to be able to deter attacks on our systems, but what attacks and how? To rely on deterrence requires that we clearly define our interests and what we will regard as threats to them. It requires that all states and non-state actors be convinced that the United States will not tolerate attacks on or deliberate interference with our vital space systems, and that the United States has effective means to deal with such threats. This requires that the United States possess highly credible and potentially highly damaging responses, such that we can place confidence in reliance on deterrence. The ISAB is worried that deterrence against attacks confined to U.S. space assets, even though vital, lacks the high confidence necessary. At this time, the United States relies on dissuasion and deterrence, because it lacks the means to defend our space assets and to deny successful attacks on them. This is so despite the requirement in the 1996 and 2006 space policy directives that the United States be able to “deny, if necessary, adversaries the use of space capabilities hostile to U.S. national interests.”

Defense and denial capabilities seem to us to be an essential part of a high confidence deterrent, as well as the means of protection and damage limitation should deterrence fail. Effective means

of defense could well deter the development of major threats by raising both the costs and uncertainties of success. It seems only prudent to develop and deploy defenses against the physical destruction or disruption of our space assets, including missile attack threats.

Space and Missile Defense

The U.S. National Space Policy, as well as broader national security policy, calls for space capabilities to provide a more effective multi-layered and integrated missile defense for the United States, its allies, and its interests globally. While programs exist to further these objectives, clearly lacking are actual space-based defenses for the United States as well as for its space assets. The U.S. executive branch should at a minimum refrain from actions, commitments, or statements that would prejudice against the development and deployment of active space-based defenses. The ISAB believes that the enunciated National Space Policy supports a more active program of space-based defense. The long-standing concept of a space missile defense test bed, now incorporated in the Missile Defense Agency budget, but at a very low level of funding, should be pursued more energetically. Such defenses could be critical for an effective defense of the United States and its space assets against ballistic missile threats, particularly for boost phase intercept.

U.S. policy makers should resist efforts to prohibit space-based missile defenses as “weaponization of space” or as inconsistent with peaceful uses of space. Military systems, including weapons, already utilize space. Offensive weapons such as intercontinental-range ballistic missiles (ICBMs) fly through space on a ballistic trajectory to reach their target. Newer generations of offensive weapons will maneuver in and out of the atmosphere as they fly to their target. It is disappointing that the National Space Policy did not explicitly note the importance of space-based systems to effective global missile defense.

Recommendation 6: The Department of State in its diplomacy should support the right of the United States to explore the potential of space-based defenses without international restrictions.²

Arms Control

The United States is constantly pressed by other governments, by NGOs, and by individuals to engage in arms control processes (sometimes disguised as “codes of conduct” or “rules of the road”) aimed at agreements to ban certain activities in space. Unfortunately, many such proposals would include unhelpful restrictions on the United States. Almost all contain provisions that are unverifiable and unenforceable. While these provisions would hinder the United States, they would have no significant impact on nations determined to cheat and circumvent the proposed agreements. A putative ban on anti-satellite weapons, or ASATs, for

² One Board Member cannot support this recommendation. The member believes that entering into international agreements that regulate research and development of space-based defenses improves security by enhancing stability and confidence building in the area of space operations.

example, has been shown to be unworkable after years of consideration. There is no way to verify whether a space system is designed for ASAT applications, has significant but latent ASAT capabilities, or only minimal ASAT capabilities because every space system that can maneuver or transmit has some ASAT potential. Direct ascent ASAT weapons—kinetic, explosive, or directed energy—cannot be prevented as long as there are ballistic missiles.

The true purpose of satellites is easily disguised. A satellite identified as a surveillance satellite could, in fact, be an ASAT. Mini- and micro-satellites are being developed that can be launched in large numbers and remain in space for a year or more, their ultimate mission and capabilities completely unknown and unverifiable.

Space weapons are nearly impossible to identify and define sufficiently for the purposes of arms control agreements, as U.S. experience has demonstrated. Verification would be the same. Space weapons most obviously can be deployed on the surface of the earth for use in space, or to transit space; they may emerge from space systems designed (at least ostensibly) for scientific, civil, or commercial purposes. They may take a wide variety of forms and draw upon a large number of technologies, and new ones may emerge. Moreover, international agreements, or the very negotiation of them, that attempt to ban such unidentifiable “weapons” can have damaging consequences, intended or unintended, on U.S. rights in space and freedom of access to and use of space. The U.S. Government is generally well aware of this, which is a reason for its well grounded skepticism about such agreements and processes.

Ironically, some states that are leading the call for a ban on the so-called weaponization of space are at the forefront of developing capabilities that threaten peaceful uses of space by the United States. Limiting U.S. capabilities through an arms control regime that is unverifiable and ineffective would be extremely dangerous to our national security interests.

For these reasons, the United States should continue to oppose such arms control initiatives in the international arena, including most particularly the Prevention of Arms Race in Outer Space (PAROS). Mindful of its growing need to protect its space assets, the United States should also insist upon the freedom to develop and deploy defensive ASATs.

<p>Recommendation 7: The Department of State should undertake neither treaties - nor formal or informal codifications related to activities in space if they are inconsistent with the national space policy. Diplomacy should vigorously explain and support the space policy.</p>
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International Activity

The National Space Policy emphasizes that the United States must remain a leader in expanding international cooperation in the safe and peaceful uses of space.

The United States has engaged in Transparency and Confidence Building Measures (TCBMs) as a means to support international cooperation in the peaceful use of space. In exploring possible TCBMs related to space, the Secretary of State should emphasize bilateral discussions with friends and allies rather than broad multilateral discussions. It is clear that many nations,

including Russia and China promote TCBMs and “codes of conduct” largely to exacerbate U.S. relations with other nations and also as a thinly disguised attempt to ban space-based missile defense as well as to gain intelligence into the most sensitive U.S. space systems. Ironically, among those nations pressing most actively for space arms control and “rules of the road” are those who themselves have or are developing ASAT capabilities.

The fact that the United States is an open society with public budget documents, Congressional testimony, and open discussion provides to the international community great insight into U.S. space policy and programs. The United States should seek to take credit for this aspect of confidence building, which does not currently receive wide recognition.

Recommendation 8: The State Department should continue to engage in discussions of Transparency and Confidence Building Measures while assiduously ensuring that they do not place restrictions on the U.S. ability to act in space to protect its security and space assets.

It is important that the United States look for ways to enhance international cooperation on space to advance global well-being. One key initiative is the Global Earth Observation System that would pool U.S. and international assets to provide improved early warning on natural disasters that could take a devastating toll on human life in all parts of the world. The Global Earth Observation System is a major U.S. initiative to promote cooperation and collaboration with over 55 countries and 30 international organizations working to develop an effective system for environmental monitoring to mitigate the impact of natural disasters.

Recommendation 9: The United States should continue to promote international cooperation and U.S. leadership in the Global Earth Observation System to use space as a way to avert loss of life and mitigate the damage inflicted by natural disasters.

The Department of State should be prepared to facilitate international cooperation in the use of space through U.S. export policies. The Department of State, therefore, in its regulation of satellite exports, should focus on ways to streamline the licensing process. While it is obviously essential to protect U.S. national security and space control, the current process damages U.S. cooperation with friends and allies and weakens the U.S. commercial space satellite industry and the underlying industrial base that develops civil, commercial, military, and intelligence space assets.

The current International Traffic in Arms Regulations (ITAR) list is too broad. It includes too much technology that is widely available internationally. Moreover, a single international transaction involving commercial space technology now often requires multiple licenses. Licenses often come with extensive restrictions that make resubmission necessary, causing further delay and uncertainty for U.S. manufacturers in the commercial international market place.

Recommendation 10: The State Department should review the technology in the International Traffic in Arms Regulations (ITAR) list with a view toward regulating key technologies and exporters. The State Department needs to move toward issuing licenses that are sufficiently broad to enable the process to move forward more quickly.

The United States is party to the Convention on International Liability for Damage Caused by Space Objects, the Return of Objects Launched into Outer Space and also the Agreement on the Rescue of Astronauts and the Return of Astronauts. The United States has been the world's leader in raising awareness about the dangers of man-made space debris and in developing ways of dealing with this consequence of human activity in space. The National Space Policy commits the United States to seek the minimization of space debris by government and non-government activities. The United States should continue to play a strong leadership role in the Inter-Agency Debris Coordination Committee, at the United Nations, and elsewhere, for the minimization of man-made space debris.

At the same time, it should be recognized that space debris produced by human activity is quite low compared to that produced by nature. To minimize does not mean stopping all activities that would or might produce some debris. It is a relative not an absolute matter. U.S. national security requirements could take precedence over the goal of minimization of space debris—for example, the testing and use of ballistic missile defense interceptors against objects in space that would threaten populations, armed forces, and infrastructure.

Public Diplomacy

No policy or strategy for assuring U.S. uses of space for national security and economic purposes can be successful without public support. In fact, we risk the loss of support necessary to sustain a robust space program in the 21st century unless far greater attention than in recent years is given to promoting public knowledge and understanding in space. What is urgently needed is public diplomacy that helps build a consensus about the nature and extent of vital U.S. security interests in space, including the likely consequences of the loss of space control. Such an educational effort is necessary in both the United States and overseas. Therefore, space should become a greater part of public diplomacy activities.

A strong effort should be made to shift the space debate from the prevailing arms control paradigm to the national security and economic areas. The National Space Policy designates the Secretary of State as the lead for the U.S. government in public diplomacy efforts to build an international understanding of, and support for, U.S. national space policies and programs. It is important for the Department of State to develop a public diplomacy game plan to enhance international understanding of U.S. space policy. Too often, detractors erroneously and summarily dismiss U.S. policy today as advocacy for “weapons in space.” U.S. space dependence and vulnerabilities are too critical for the U.S. government to remain silent, leaving the playing field open for those in the international community who would seek to misconstrue and undermine our interests. It is important that friends and allies understand the United States commitment to freedom of action and protection of the civil uses of space. The State Department should work closely with allies that share our interests in a dialogue to promote understanding and support of U.S. space policy and requirements.

Recommendation 11: The Department of State should develop and pursue actively a public diplomacy initiative to enhance international and domestic understanding of U.S. space policy. Key elements of this public diplomacy plan should include:

- There should be a plan and strategy for public addresses by the Secretary of State, the Undersecretary of State for Arms Control and International Security Affairs and by other senior officials at international conferences and other international fora to articulate U.S. space policy.
- The same senior officials should engage in a dialogue with Congress, particularly the Senate Foreign Relations Committee and the House Foreign Affairs Committee, on U.S. space policy and requirements.
- State Department representatives should speak on and support U.S. national space policy at academic conferences and public meetings.
- The Secretary of State should work with allies sharing common interest in space in this public diplomacy effort.
- State Department use of “surrogates” to articulate U.S. space policy would greatly expand the ability to conduct dialogues on space in the broader community. As an example, the State Department could provide briefings and insights to Members of the ISAB, who could, in turn, discuss and explain U.S. policy in academic arenas, think tanks, conferences and to the media as a means to expand the base of those who understand and support U.S. policy.

Appendix A – Summary of Recommendations

Recommendation 1: The principles and requirements set forth in the 2006 space policy should guide both space programs and US public, Congressional, and international diplomacy.³

Recommendation 2: U.S. national security space programs should be re-energized in accordance with the new space policy directive and their budgets increased. While this is not a Department of State responsibility, this imbalance between stated policy goals and budgets and programs may affect the views of other countries and make diplomatic interventions more difficult.

Recommendation 3: The Department of State should emphasize current and expanding threats to space assets as an essential part of its international diplomacy.

Recommendation 4: The Secretary of State should request and receive improved timely intelligence regarding threats to U.S. space systems and our ability to operate freely in space in order to conduct foreign policy and international diplomacy related to space. Threats to space systems should be one of the highest priorities of the U.S. intelligence community for collection and analysis. The Secretary of State should seek greater dissemination within the United States Government of key intelligence assessments related to threats to space systems and threats from space. The Secretary should seek the lowest possible classification of assessments and analysis consistent with the need to protect sources and methods in order to inform allies and educate the international community.

Recommendation 5: The Department of State should seek to enlist allies and friendly nations in cooperative efforts to improve situational awareness.

Recommendation 6: The Department of State in its diplomacy should support the right of the United States to explore the potential of space-based defenses without international restrictions.⁴

Recommendation 7: The Department of State should undertake neither treaties - nor formal or informal codifications related to activities in space if they are inconsistent with the national space policy. Diplomacy should vigorously explain and support the space policy.

Recommendation 8: The State Department should continue to engage in discussions of Transparency and Confidence Building Measures while assiduously ensuring that they do not place restrictions on the U.S. ability to act in space to protect its security and space assets.

³ One Board Member does not support this recommendation. The member believes that the NSPD statement that the U.S. opposes the development of new legal regimes or other restrictions that seek to prohibit or limit U.S. access to or use of space runs counter to some of the goals (e.g., the rejection of any national sovereignty over space) upon which U.S. space policy is based.

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- The same senior officials should engage in a dialogue with Congress, particularly the Senate Foreign Relations Committee and the House Foreign Affairs Committee, on U.S. space policy and requirements.
- State Department representatives should speak on and support U.S. national space policy at academic conferences and public meetings.
- The Secretary of State should work with allies sharing common interest in space in this public diplomacy effort.
- State Department use of “surrogates” to articulate U.S. space policy would greatly expand the ability to conduct dialogues on space in the broader community. As an example, the State Department could provide briefings and insights to Members of the ISAB, who could, in turn, discuss and explain U.S. policy in academic arenas, think tanks, conferences and to the media as a means to expand the base of those who understand and support U.S. policy.

Appendix B - Terms of Reference

UNDER SECRETARY OF STATE FOR
ARMS CONTROL AND INTERNATIONAL SECURITY
WASHINGTON

March 14, 2006

MEMORANDUM FOR THE CHAIRMAN, ARMS CONTROL AND NONPROLIFERATION ADVISORY BOARD (ACNAB)

SUBJECT: Terms of Reference – ACNAB Study on Space Policy

The ACNAB is requested to undertake a study on the U.S. policy on outer space in the 21st century.

The last decades have seen a tremendous increase in global reliance on space-based assets for scientific, economic, communications and military applications. Although a large number of countries are increasing their reliance on space-based assets, the United States has, and for the foreseeable future will continue to have, the greatest stake in ensuring the unrestricted use of space. At the same time our reliance on space-based assets has increased, there has been increased advocacy from many in the international community to place additional restrictions on the use of space through international agreements and treaties. In some cases (e.g., internationally agreed allocation of frequencies of the electromagnetic spectrum) international agreements are in the interest of all nations. But increasingly there have been calls for additional agreements that would limit space activities in ways that are contrary to U.S. interests.

Given the ever-increasing need to expand our use of space and to maintain the security of space assets, it is in the U.S. interest to develop more effective international cooperation to support these requirements.

It would be of great assistance if the ACNAB review of current U.S. policy on use of outer space could examine and assess:

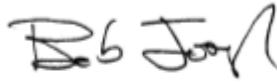
- The U.S. civilian and defense requirements for space-based assets in the first decades of the 21st century;
- The effectiveness of the current policies designed to protect planned and expected U.S. space activities and to prevent interference by other parties with space-based U.S. assets;

- The effectiveness of U.S. policies in countering efforts to restrict the use of space that would not serve the interests of the United States;
- The additional steps, both national and international, that could strengthen the United States position on the use of outer space;
- What, if any, diplomatic initiatives or international "rules of the road" would enhance the U.S. ability to protect and effectively use its space systems;
- Elements of an enhanced public diplomacy plan to educate both the U.S. public and the international community on the importance of space-based assets in the 21st century.

This study should be completed in 180 days. Completed work should be submitted to the office of the ACNAB Executive Directorate no later than October 1, 2006.

The Under Secretary of State for Arms Control and International Security will sponsor the study. The Assistant Secretary of State for Verification, Compliance and Implementation will support the study. Roy Pettis will serve as the Executive Secretary for the study and Matthew Zartman will represent the ACNAB Executive Directorate.

The study will operate in accordance with the provisions of P.L. 92-463, the "Federal Advisory Board Committee Act."



Robert G. Joseph

Appendix C - Members and Project Staff

Board Members

Senator Fred Thompson (Chairman)

Dr. Michael R. Anastasio
Dr. Kathleen Bailey
Dr. Ashton B. Carter
Ms. Alison B. Fortier
Dr. William Graham
Mr. Mitchel B. Kugler
Dr. Ronald F. Lehman
VADM Robert Monroe, USN (ret.)
Dr. Gordon Oehler

Dr. Keith B. Payne
Dr. Robert Pfaltzgraff
Senator Charles Robb
Dr. C. Paul Robinson
Dr. Amy Sands
Dr. James Schlesinger
Dr. William Schneider
Dr. William Van Cleave
Mr. James Woolsey

Task Force Members

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Verification, Compliance, and
Implementation Bureau

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Deputy Director, Office of
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(SPO), DOS

Ms. Thelma Jenkins-
Anthony
Executive Assistant

Mr. Pete Hays
Mr. Gonzalo Suarez
SAIC Senior Analysts

Appendix D - Individuals Consulted by the Task Force or by Task Force Members

Mr. Thomas Behling	Deputy Under Secretary of Defense for Preparation and Warning, Office of the Under Secretary of Defense for Intelligence
Mr. Richard Buenneke	Deputy Director, Office of Missile Defense and Space Policy, Verification, Compliance, and Implementation Bureau, U.S. Department of State
Dr. Lawrence Gershwin	National Intelligence Officer for Science and Technology, National Intelligence Council
Mr. Brian Green	Deputy Assistant Secretary of Defense for Forces Policy, Office of the Secretary of Defense
Dr. Pete Hays	Senior Policy Analyst, Plans and Programs Division, National Security Space Office, U.S. Department of Defense
Mr. Ken Hodgkins	Deputy Director, Office of Space and Advanced Technology, Bureau of Oceans and International Environmental and Scientific Affairs, U.S. Department of State
Mr. Dave Hoppler	Director, Office of Missile Defense and Space Policy, Verification, Compliance, and Implementation Bureau, U.S. Department of State
Dr. Dana Johnson	Senior Analyst, Northrop Grumman Analysis Center
Lieutenant General Robert Kehler	Deputy Commander, U.S. Strategic Command
Mr. Don Kerr	Director, National Reconnaissance Office
Mr. J. Christian Kessler	Director, Office of Conventional Arms Threat Reduction, International Security and Nonproliferation Bureau, U.S. Department of State
Major Daniel B. McGibney, USAF	Chief, Plans Branch, National Security Space Office, U.S. Department of Defense
Lt. Col Ken Montgomery, USAF	Military Affairs Officer, Office of Missile Defense and Space Policy, Verification, Compliance, and Implementation Bureau, U.S. Department of State
Mr. Tom Oldenberg	Aerospace Corporation

Mr. Phil Ritcheson	Director, Space Policy, National Security Council
Dr. Ronald M. Sega	Under Secretary of the Air Force, U.S. Air Force
Col. Thomas Shearer, USAF	Division Chief, Plans and Programs Division, National Security Space Office, U.S. Department of Defense
Dr. Lowell Wood	Lawrence Livermore National Laboratories