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The State of Space Security

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Let me first thank Professor Logsdon and the other conference sponsors for the opportunity today to offer you some observations about United States space policy.

CONTINUITY IN U.S. NATIONAL SECURITY SPACE POLICY

U.S. national security space policy is best characterized by continuity across many years and Presidential administrations. Continuity includes the U.S. commitment to basic principles first advanced by the United States at the outset of the Space Age, including our support for the Outer Space Treaty and other elements of international law, which we believe provide the legal authority to respond to the emerging challenges of the Twenty-First Century.

Although the United States is determined to keep sufficient flexibility for its national security interests, we also recognize that some emerging external challenges require new forms of international cooperation with allies, friends and other responsible spacefaring nations to protect the free access to, and operations through, space.

FREE ACCESS TO, AND USE OF, SPACE

Such national security space cooperation builds upon a firm foundation of mutually shared principles. The most important of these is support for the free access to, and use of, outer space by all, and I repeat all, nations for peaceful purposes. This principle was first advanced by President Eisenhower in the late 1950s and formed the basis for key precepts of the 1967 Outer Space Treaty. As scholars of international law also appreciate, this principle of "free use" builds upon the concept of "The Freedom of the Seas" first postulated by Hugo Grotius around 1609. In making his argument, Grotius asked rhetorically: "do[es] not the ocean, navigable in every direction with which God has encompassed all the earth...offer sufficient proof that Nature has given to all peoples a right of access to all other peoples?"

This philosophy of peaceful use and benefit for all is embedded firmly in the United States National Space Policy signed by

President George W. Bush on August 31, 2006. The European Space Policy approved last May by the European Space Council, also notes the relevance of space for security and defense applications. As the policy's vision statement highlights, "the space sector is a strategic asset contributing to the independence, security and prosperity of Europe and its role in the world."

THE FUNDAMENTAL RIGHT OF SELF-DEFENSE

For decades, the United States has acknowledged the strategic importance of space – and the corresponding need to protect space capabilities. Although President Bush's National Space Policy is the first to explicitly identify space as "vital" to U.S. national interests, this fundamental principle was recognized by previous U.S. Presidents. For example, the Clinton Administration's policy of 1996 stated that "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. The capabilities may also be enhanced by diplomatic, legal, or military measures to preclude an adversary's hostile use of space systems and services."

So this principle is enduring and is not an aberration of any particular Administration.

It is universally acknowledged that defense and intelligence-related activities in pursuit of a country's national interests fall within the scope of, and are fully consistent with, the 1967 Outer Space Treaty's provisions regarding the peaceful uses of space. Moreover, Article 51 of the United Nations Charter states that "[n]othing in the...Charter shall impair the inherent right of individual or collective self-defense." The U.S. also will support its allies and friends in the protection of their space capabilities, with special emphasis for those satellites whose peaceful use supports U.S. national interests.

CHINA'S ANTI-SATELLITE TEST

Given the vital nature of space for us all, we must vigilantly monitor emerging threats to our space assets. All spacefaring nations are equally and potentially vulnerable to a hostile state's interference with, or destruction of, their satellites.

Enhanced protection measures are hardly "new." Some of the basic impetus dates back to directives issued in the final days of the Ford Administration. But the sense of urgency has changed since last year's anti-satellite test by the People's Republic of China, which Dr. Robert Joseph, a former Under Secretary of State for Arms Control and International Security, appropriately labeled a "wake up call."

This reveille was sounded in the skies over China in the dawning hours of January 12, 2007, when a missile launched from the territory of China by the People's Liberation Army destroyed an aging Chinese weather satellite in polar orbit. Despite China's claim that the direct-ascent anti-satellite test was merely a peaceful scientific experiment and was not directed at any specific state, this flight-test clearly demonstrated China's technological capability to develop a weapon to attack satellites in low Earth orbit. To date, U.S. analyses indicate that China's intentional destruction of its satellite has generated over 2,600 pieces of trackable debris and an estimated 100,000 pieces of debris objects too small to track. This debris cloud will pose an increased risk to both human spaceflight and satellites for many decades, with some debris predicted to remain in orbit well into the Twenty-Second Century.

On the basis of the U.S. Government conjunction analyses, we have already been compelled to maneuver U.S. spacecraft, including NASA's Terra earth observing system, to mitigate the risk of collision. NASA experts also predict that the International Space Station may need to make maneuvers to avoid the debris that otherwise would not have been necessary. The Chinese authorities should bear in mind that under the terms of the 1972 Liability Convention, China may be liable for damage caused by debris from this test, which we now estimate constitutes over 40 percent of all the debris in low earth orbit.

CHINA'S MULTI-DIMENSIONAL COUNTER-SPACE PROGRAMS

Although the most spectacular, last year's test is just one of several "wake-up calls." China is pursuing a multi-dimensional program to develop counter-space capabilities that could be used to deny others access to, or operations in, outer space. In addition to the capabilities provided by its ground-based direct-ascent ASAT system, China now has the capacity to jam common satellite communications bands and satellite navigation receivers. China is developing other technologies and concepts for advanced kinetic weapons as well as directed-energy, that is, laser and radio frequency, weapons for ASAT missions. Citing the requirements of its manned and lunar space programs, China is improving its ability to track and identify satellites – a prerequisite for effective, precise physical attacks in outer space.

THE UNSETTLED MATTER OF CHINA'S ANTI-SATELLITE TEST

In the year since the ASAT test, the United States has sought to keep our allies and friends informed about China's programs and activities through regular bilateral consultations. Many U.S. allies and friends are similarly concerned about China's counter-space activities as well as China's broader military modernization efforts.

To date, we have not received satisfactory answers to our questions concerning China's motivations for the test, the nature of their pre-test analysis on the risk of debris endangering spacecraft, and China's plans for future anti-satellite testing. The United States and many other nations will continue to request a satisfactory explanation from China regarding its January 2007 ASAT test and its military intentions in pursuing counter-space capabilities. We also are interested in discussing China's broader policies and strategies for military space activities.

In addition to formal diplomatic demarches, U.S. officials have requested through a range of technical and military-to-military channels that China provide an explanation of the test. By providing forthright answers to our questions, China can help to increase transparency, thus increasing its credibility as a possible partner in new forms of civil space cooperation.

China's continued lack of transparency about its ASAT program and broader military space intentions will naturally and understandably prompt international responses that hedge against the unknown. It will mean an increased emphasis on already established efforts to improve space situational awareness (SSA) as well as the development and implementation of a strategy for space protection.

RESPONDING TO CHINA'S COUNTER-SPACE PROGRAMS

The Department of Defense has the lead for developing and fielding SSA and protection improvements, and is now completing adjustments to its budget plans for fiscal year 2009 and beyond to address emerging concerns. In concert with DoD's budget decisions on specific programs, State is working with DoD to identify new opportunities for expanded cooperation with allies on shared SSA and space system protection. This will be a key topic for discussion in our regular space security dialogues with allies in the coming months.

These efforts build on the recognition that SSA is a fundamental capability required to ensure safe operations, promote responsible use of space and compliance with the legal regime, and protect U.S. and Allied space interests.

Congress also recognizes the need for protection. There is bipartisan support for pending legislation stating that "[i]t is the Sense of Congress that the United States should place greater priority on the protection of national security space systems." To ensure action, this legislation will require DoD and the Intelligence Community to work together on a Space Protection Strategy "for the development and fielding by the United States of the capabilities that are necessary to ensure freedom of action in space for the United States."

So, as many of the speakers at this conference have and will note, the time for action is now.

BEST PRACTICE GUIDELINES AND TCBMS

In addition to working with allies, friends and the private sector, China's counter-space activities have prompted the U.S. to consider initiatives based on our long-standing support for voluntary transparency and confidence-building measures, commonly referred to as TCBMs. The Bush Administration has noted repeatedly in multilateral forums that some new TCBMs, implemented on a voluntary basis, have the potential to enhance satellite safety and reduce uncertainty in an evolving space security environment.

So while U.S. support for discussions on TCBMs is hardly a "new direction," the Chinese ASAT test has certainly stimulated international interest in pragmatic measures that could reduce uncertainty over intentions and decrease the risk of misinterpretation or miscalculation during, for example, a crisis or confrontation. Last year, the U.S. attempted to work with Russia to draft a UN General Assembly resolution supporting an expert study of options for voluntary TCBMs. Regrettably, we were unable to find common ground, though we continue to welcome opportunities with all spacefaring nations for TCBMs. Unlike Russia and China, the United States approach is not to tie pragmatic TCBMs to proposals for space arms control treaties.

Discussions on proposals for pragmatic TCBMs are already underway with our friends in Europe. Over the past decade, trans-Atlantic collaboration was a major factor in the adoption of voluntary international guidelines for orbital debris mitigation, which – by the way – the Chinese government had endorsed prior to its January 2007 ASAT flight-test. Looking to the future, close coordination between the U.S. and Europe and other interested nations also can facilitate the development of new best practice guidelines on safe space operations.

Any consideration of best practice guidelines should include private sector satellite operators. Focused on the bottom line, commercial operators must both ensure uninterrupted service and protect their shareholder's investments. As a result, commercial operators have devoted considerable time and effort to develop cost-effective approaches for satellite control and coordination with other space operators. Many of these measures can serve as the foundation for improved information sharing between government and the private sector.

SPACE ARMS CONTROL PROPOSALS

Another area where the U.S. is continuing on an established course is our opposition to binding space arms control agreements. Let me provide some perspective on U.S. policy on the "prevention of an arms race in outer space," also known by the acronym PAROS.

For the United States, the disconnects between China's avowed commitment to mitigate orbital debris and its destruction of its own aging weather satellite in an ASAT test provide a powerful reason to be skeptical of China's efforts to promote a PAROS treaty. China has been criticizing Washington for nearly a decade for the U.S. refusal to negotiate formal constraints and limitations on the right to develop, test, and deploy space-related capabilities. This stands in stark contrast with the obvious contradiction – in spirit – between Beijing's professed commitment to the "non-weaponization of space" and the reality of China's terrestrially-based ASAT development and test program and other Chinese counter-space research and development projects.

Last year, China and Russia collaborated on development of a draft treaty on the "Prevention of Placement of Weapons in Outer Space," which both countries plan to table on February 12 at the Conference on Disarmament in Geneva. Based upon previous Chinese-Russian submissions to the CD, as well as a review of the draft widely distributed to CD members, we see nothing in the new proposal to change the current U.S. position on PAROS.

As experts in space policy, this audience should appreciate that several administrations sought to protect U.S. freedom of action in space, including the rights of the United States to conduct activities in support of our national interests. It is the view of the Bush Administration, as well as its predecessor, that the existing space-related legal regime is sufficient to guarantee the right of all nations for access to, and operations in, space. This international legal regime includes the four “core” space treaties: the 1967 Outer Space Treaty, the 1968 Rescue Agreement, the 1972 Liability Convention and the 1974 Registration Convention.

The only Bush Administration change is the forthright declaration that the United States “will oppose the development of new legal regimes or other restrictions that seek to prohibit or limit access to, or use of, outer space.” While this statement of principle has prompted criticism in some circles, I would argue that it simply acknowledges that additional binding arms control agreements are simply not a viable tool for enhancing the long-term space security interests of the United States or its allies. As we learned from considerable experience, any treaty that seeks permanent prohibitions, especially on inherently defensive capabilities, in one era can rapidly become obsolete – and sometimes dangerously obsolete.

“LESSONS LEARNED” FROM HISTORY

Since the 1970s, five consecutive U.S. administrations have concluded it is impossible to achieve an effectively verifiable and militarily meaningful space arms control agreement. Key reasons for this were first discerned during the administrations of Presidents Jimmy Carter and Ronald Reagan.

The Carter Administration entered office in 1977 wanting to negotiate a comprehensive ASAT arms agreement with the Soviet Union and conducted three rounds of negotiations in 1978 and 1979. These talks failed to reach an agreement before the U. S. suspended all arms control negotiations with the USSR after the Soviet invasion of Afghanistan in December 1979.

In 1981, the Reagan Administration conducted its own comprehensive study of ASAT arms control and initiated anti-satellite arms control negotiations with the USSR as part of the Defense and Space Talks. The Reagan Administration identified three basic obstacles to space arms control. These interrelated challenges – of definition, breakout, and verification – persist today. Perhaps it is worthwhile to examine the nature of each of these challenges:

Definition. It is difficult to define what constitutes a “space weapon” for arms control purposes. There are a number of non-military technologies and systems designed for purposes other than what U.S. military doctrine terms “negation” that could nevertheless perform that military function. Thus, it would be difficult to exclude these ostensibly non-military technologies and systems from any definition of a “space weapon” without creating exploitable loopholes. Likewise, there are technologies and systems which could have an application in countering an adversary’s satellites that might escape any “space weapon” definition.

The problem of defining a “space weapon” is compounded because some non-weapon space systems, including civil and commercial systems, possess inherent anti-satellite capabilities. However, an effective space arms control regime that sought to take into account inherent offensive capabilities beyond those of specialized ASAT systems, would necessarily impose undue constraints on legitimate civil, commercial, intelligence, and non-weapon military satellite systems. For example, rendezvous and docking operations by an automated cargo transfer vehicle could conceal the development of guidance, navigation and control subsystems for a co-orbital ASAT. The most flagrant example of such definitional duality occurred during the Carter Administration’s negotiations, when Soviet negotiators sought to “capture” the U.S. Space Shuttle as a space weapon. Also, due to their inherent anti-satellite capabilities, space-based missile defense systems could potentially be “captured” in any definition of a “space weapon.”

The Risk of Breakout. No useful treaty permits dangerous “breakout potential.” However, our reading of the soon-to-be-tabled

draft PPWT convinces us it might well have been written to deliberately preserve such a breakout capability, as it would not ban research, development, and production of space-based ASATs; only testing and deployment of space-based weapons systems. The critical importance of some expensive and scarce U.S. satellite constellations would actually create incentive for a non-tested ASAT capability in being, which the proposed treaty would not ban.

Verification. Effective verification is fundamental to achieving the security benefits that underpin legally-binding arms control agreements. This applies equally to space regimes as it does to, for example, strategic nuclear arms control reductions. Effective verification is the ability to ascertain cheating in a timely enough fashion to take appropriate responses to deny a violator the benefits of his violation and, ideally, induce him to come back into compliance.

The inherent nature of space systems, including the definition challenges and concealable breakout potential simply denies effective verification in any negotiation. For example, a covert supply of co-orbital interceptors in storage would create minimal risk of detection. Determining whether an orbiting satellite contains a secondary anti-satellite payload “piggybacking” on the primary satellite is virtually impossible. Also, monitoring ASAT testing involving a sensor fly-by of a target or a launch against a vacant point in space would be equally difficult, if a violator chose not to physically intercept and destroy the target.

In addition to these objective technical obstacles, treaty proposals on outer space arms controls sponsored by China and Russia have fundamental credibility difficulties. Space historians may recall that the former Soviet Union proposed in the predecessor of today's Conference on Disarmament a “treaty on the stationing of weapons in any kind in outer space.” At the same time, as the U.S. noted in commenting on this proposal in a 1981 debate at the United Nations, the USSR was then the only country with a deployed anti-satellite program, and stated that:

“The United States fully supports the goal of protecting outer space for peaceful purposes and is committed to avoiding a military confrontation in outer space...It smacks of hypocrisy for the Soviet Union to seek a treaty that would prevent the stationing of weapons in space when it is in fact the only country that has deployed a weapon system for destroying satellites.”

I am not convinced that motives have changed greatly!

CONCLUSION

Mark Twain reportedly observed, “History doesn't repeat itself, but it does rhyme a lot.” The rising China of the early Twenty-First Century is not the crumbling Soviet empire of the early 1980s. Space capabilities play a far more crucial role in supporting national security than they did when the Soviet Eighth Guards Army was parked on the northeast side of the Fulda Gap.

So while the verses don't repeat, the tune for space arms control remains the same – and so does the rhyming refrain: The existence of opaque Chinese counter-space programs and activities complicates any discussion of a Chinese-Russian treaty proposal and reinforces U.S. opposition to such negotiations. More helpful to the actual openness, transparency, and security of space would be insistence by Member States to the Conference on Disarmament that China provide a full accounting of its anti-satellite test. CD members also could insist this discussion address the international security implications of the Chinese ASAT interceptor and other counter-space capabilities being developed by China.

In summary, let me underscore that U.S. policy for space security is characterized far more by continuity than change. As we move forward, the United States looks forward to participating in interchanges and learning from experts such as the participants in today's conference. As with our endeavors on Earth, our priority for space is pursuing American interests within cooperative relationships, particularly with our oldest and closest friends and allies.

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