**Remarks of Dr. Dana J. Johnson**
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**at the Air Education and Training Command Symposium**
**"Policies for a Contested Space Environment"**
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Thank you very much, Dr. Sheldon and Dr. Sadeh, for your kind words. I am very pleased and honored to be here, filling in for my colleague Dick Buenneke who unfortunately could not attend. The topic of this panel is a very important one: understanding the policy implications of space as a contested environment, and identifying common and effective approaches for not only the national security space community, but also commercial and civil space. As some of you may know, this is only my second week on the job, so I may have to defer some of your questions to Colonel Dant and others who are more familiar with the specifics of the Government's positions on policies for a contested space environment. I'll also keep my remarks brief so there is more time for discussion, and will take your views and questions back to my State Department colleagues.

***U.S. Space Policy Review***

Many have noted the challenges facing the United States, its friends, and allies in the global commons, defined by Undersecretary of Defense Michele Flournoy as "those areas of the world beyond the control of any one state…that constitute the fabric or connective tissue of the international

system." We have just passed the third anniversary of the Chinese direct-ascent ASAT test, and are close to a year since the collision between the Iridium communications satellite and an inactive Russian military satellite. These events and others in space and cyberspace highlight the emerging challenges and opportunities to our interests in outer space, and the need for the U.S. to work with other nations to further the interests of international peace and security in this environment.

The Obama Administration is currently in the process of assessing U.S. space strategies, programs, and options in a comprehensive interagency review of space policy.

One key element of this review is considering approaches to protection of critical government and commercial space infrastructures against "all hazards" – including those posed by the natural environment as well as debris and intentional threats. Other elements of the review include an examination of policy options for more effective space acquisition and the roles of sectoral and national-level strategies in advancing U.S. national interests in space.

Insights gained from Interagency evaluations of protection, acquisition and strategies are helping to inform a concurrent review of international cooperation in space, which is being conducted in consultation with our friends and allies worldwide.

The U.S. review of space cooperation includes "blank slate" analyses of options in several areas, including:

- Engendering the safe and responsible use of space. We are reviewing a range of options from the feasibility and desirability of effectively verifiable arms control measures to codes of conduct to TCMBs and many other options which support the interests of the United States, its allies and all spacefaring nations;

- Potential reforms to the U.S. export control system for space goods and services, as part of a broad-based review of the overall U.S. export control system;

- Coordination with friends, allies and trading partners on common arrangements to prevent the transfer of dual-use space capabilities to unauthorized destinations;

- Expanded cooperation with allies and partners on capabilities to enhance shared security interests;

- Enhanced cooperation with established and emerging spacefaring nations on the peaceful exploration and use of outer space for civil and commercial applications

It is premature to predict the specific decisions that will result from this U.S. policy review. However, a recent statement by the United States delegation to the United Nations General Assembly already clearly states enduring U.S. support for a number of long-standing principles, including those in the 1967 Outer Space Treaty, which provides the fundamental guidelines required for the free access to, and use of, outer space by all nations for peaceful purposes. The United States also will continue to:

- Reject any limitations on the fundamental right of the United States to operate in, and acquire data from, space;

- Conduct United States space activities in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding;

- Highlight the responsibility of states to avoid harmful interference to other nations' peaceful exploration and use of outer space;

- Take a leadership role in international fora to promote policies and practices aimed at debris minimization and preservation of the space environment; and,

- Support for the inherent right of individual or collective self-defense, as reflected in the UN Charter.

These principles, which are shared by our friends and allies in Europe, Canada and other regions, serve as the foundation for international cooperation with all spacefaring nations. Such cooperation is essential today more than ever as space evolves into an increasingly congested, complex, and potentially contested, domain.

***Congested***

So why do we consider the environment of space an increasingly *congested* domain? When Syncom 2 became the first satellite to operate in geosynchronous orbit in 1963, most space activities consisted of short-lived

spacecraft launched by one of two nations – the United States or the Soviet Union – into low earth orbit. As technology and applications have advanced over the past 47 years, there are now over 18,000 man-made objects in various earth orbits. This total includes approximately 1,300 active satellites.

For decades, a number of satellite operators employed a "big sky theory," taking the calculated risk that the immensity of outer space meant that the prospect of a collision was extremely remote. However, attitudes quickly changed last February, when a privately operated Iridium communications satellite collided on February 10 with an inactive Russian military satellite. In addition to the direct economic impact resulting from a loss of capabilities, the debris generated from this collision adds to the overall level of hazard in low Earth orbit.

As a leading spacefaring nation, the United States takes these issues very seriously. The United States has been, and will continue to be, active in identifying potential hazards and is pursuing new initiatives to preserve safety of flight for both human and robotic space missions.

In particular, the February 2009 collision highlights the need to improve shared space situational awareness. As part of an effort to prevent future collisions, the United States expanded the number of satellites it monitors for risk of collision with other satellites and space debris. The United States also provides notification to other government and commercial satellite operators when U.S. space analysts assess that one operator's satellite is predicted to pass within a close distance of another spacecraft or space debris.

To help assist in this process, the U.S. Department of State is working closely with United States Strategic Command to facilitate prompt notifications of potential hazards to all spacefaring nations. Through our work with Strategic Command, we here at State have gained a new appreciation for the complexity of space operations in the early 21st Century.

***Complex***

Why do we consider space an increasingly *complex* domain? Some of the most interesting operational complexities relate to commercial satellite communications service providers who operate fleets of spacecraft controlled from mission control centers located in several countries with transponders operating on radio frequencies licensed by several national administrations. The United States Government is already taking pragmatic steps to improve communications among all satellite operators and to ensure that collisions and other unforeseen incidents do not become a cause for misinterpretation or miscalculation.

The United States was in communication with the Russian Federation promptly following the February collision, which was itself a demonstration of a valuable transparency and confidence-building measure (TCBM).

Additionally, four months after the collision, experts from the United States and the Russian Federation met in Vienna to discuss the incident and to commence discussions on opportunities for a broad range of TCBMs. Looking ahead, U.S. experts look forward to continued diplomatic and

military space exchanges with Russia in 2010. Concrete actions – such as dialogue on national security space policies and strategies, expert visits to military satellite flight control centers, and discussions on mechanisms for exchanges of information on natural and debris hazards – can help raise practical cooperation to a new level.

In addition to its bilateral discussions with Russia, the United States also provided a presentation to the UN Committee on the Peaceful Uses of Outer Space (COPUOS) on the February collision and its implications. In this presentation, the United States noted that this incident serves as an important reminder of the need for international cooperation with other spacefaring nations on measures to ensure the long-term sustainability of operations in the space environment.

In particular, the United States looks forward to collaborating with other nations on a multi-year study of "long-term sustainability" within the Scientific and Technical Committee of the COPUOS. This effort will examine the feasibility of voluntary "best practices guidelines" to help reduce operational risks to all space systems. This study will serve as a valuable opportunity for cooperation with established and emerging members of the spacefaring community and with the private sector to enhance spaceflight safety and preserve the space environment for future generations.

***Potentially Contested***

Returning to addressing emerging challenges to American security in the global space commons and considering general measures for spaceflight

safety, a first step to reducing possible misinterpretation of and increasing transparency into other nations' actions is through bilateral and multilateral transparency and confidence-building measures. The United States believes that bilateral TCBMs such as those now under discussion with Russia could potentially also form the foundation for bilateral TCBMs with China as well as a set of multilateral voluntary TCBMs. As a result, the United States will continue to play a leading role in advancing TCBMs for national security and related space activities.

Pragmatic multilateral TCBMs can help increase transparency regarding governmental space policies, strategies, and potentially hazardous activities. TCBMs can also help to reduce uncertainty over intentions and decrease the risk of misinterpretation or miscalculation.

Over the past two years, the United States has had fruitful and forthright exchanges with European experts regarding the European Union's proposal for a "Code of Conduct for Outer Space Activities." Looking ahead, the United States will continue to work with the European Union and other like-minded nations in efforts to advance a set of voluntary TCBMs that is acceptable to the greatest number of countries. Other opportunities for international dialogue and cooperation can enhance the protection posture of our interdependent space infrastructures, and more generally provide for effective development of space-based capabilities, which play increasingly widespread and vital roles in support of defense and other security missions.

***Conclusion***

To conclude, continued adherence to long-standing space policy principles, improved protection of critical government and commercial space infrastructures, expanded international space cooperation, and improved space situational awareness through increased transparency and confidence-building measures can serve as policy approaches for addressing challenges to U.S. space security in the global commons. Thank you for your time and attention. I look forward to discussing these issues at greater length.