

**Testimony for the Record of**

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Chairman Tierney, Ranking Member Shays, and Members of the Subcommittee, thank you for providing me with the opportunity to present Intelsat's views on the importance of maintaining the viability of the space environment for all users.

For over 40 years, Intelsat has played an active role in the commercial satellite industry. Over that time, Intelsat set the global standard for excellence in satellite communications, worked with telecommunication and media companies around the world to meet their changing needs, and partnered with governments to ensure that satellites remained a vital part of the global communications infrastructure.

Success in both commercial and government space programs has meant that new demands are being placed on the space environment. This has resulted in orbital crowding, an increase in space debris, greater demand for limited frequency resources, and the proliferation of sometimes conflicting military and commercial objectives. The successful management of these issues will require a strong partnership between government and industry and the careful, experienced-based expansion of international law and diplomacy.

Throughout the years, the satellite industry has never taken for granted the remarkable environment in which it works. Industry has invested heavily in technology and sought out the best and brightest minds to allow the full, but sustainable, exploitation of the space environment. Where problems have arisen, such as space debris or electronic interference, industry has deployed new technologies and adopted new practices to minimize negative consequences.

In the late 1970s and early to mid 1980s, both Russia and the United States engaged in testing of anti-satellite weapon systems. Both countries abandoned these

efforts, in part, because the creation of additional space debris was inconsistent with their plans for the full exploration and exploitation of the space environment. Similarly, the future preservation of the space environment will rely on every nation's appreciation that its own self-interest lies in preserving this precious common good.

All of the major commercial satellite operators routinely share information and resources with each other and with governments, to help ensure the protection of the unique and irreplaceable space environment. Intelsat operates a fleet of more than 50 satellites -- the largest geostationary commercial fleet ever assembled. In response to business opportunities and changing market needs, Intelsat regularly replaces satellites and relocates satellites in orbit. To change the orbital location of a satellite, Intelsat must delicately move a minibus-sized, multi-ton object, traveling thousands of kilometers per hour, through the crowded geostationary arc, avoiding the potential for collisions with, or for disturbing the radio communications of, any of the more than 250 other commercial communications satellites in that orbit.

With the exception of the initial grant of approval by a national regulator, this entire process is managed without governmental regulation or oversight, using rules developed through experience and implemented by consensus among the commercial operators themselves. This process has been used effectively and without incident since the commercial satellite communications era began in the 1960s. This remarkable example of international and inter-company cooperation and self-reliance is premised on a simple realization that the results of a collision could be catastrophic.

In low earth orbits, objects and debris will slowly, over a decade or so, re-enter the Earth's atmosphere. In the narrow geostationary orbit (in which a satellite's orbit

precisely matches the rotation of the Earth, thereby keeping the craft fixed over a single geographic location), the debris from a collision would endure for tens of thousands of years, effectively rendering a portion of the geo arc useless.

Certainly, the motivations behind military space activities are far more complex than those of the commercial satellite industry. However, the central goal of preserving the operational space environment binds all space participants with a common purpose. Governments should play a leadership role in this preservation effort. Specifically, concerned governments should:

- **Provide adequate funding for Space Situational Awareness** — Space Situational Awareness (SSA) is the ability to monitor and understand the constantly changing space environment. The task of locating and tracking active satellites and space debris is one of the most challenging aspects of SSA. Currently, the US Air Force Space Command's Joint Space Operations Center (JSPOC) plays a key role internationally in tracking, and reporting on, all man-made objects in orbit. The JSPOC receives on-orbit positional data from the Space Surveillance Network, which is composed of both optical and radar sensors throughout the world. This allows the JSPOC to attempt to maintain accurate data on every man-made object currently in orbit. Today the JSPOC is tracking more than 10,000 objects in space. Like all parts of the Pentagon budget, funding for the expansion of the Space Surveillance Network is under pressure. In light of recent events, Congress should reexamine the priority of this funding.
- **Follow the model created by the US Commercial and Foreign Entities (CFE)**

**program for sharing information** — Established by the US Congress as a pilot program, CFE now provides a limited but essential set of U.S. government data on existing space objects for release to certain commercial and foreign entities. Although CFE has been advantageous for governments and industry, the accuracy of the data currently provided is not sufficient for precise collision detection/assessments, support of launch operations, end of life/re-entry analyses, nor anomaly resolution. The current CFE pilot program is set to expire in 2009 and Congress should consider formalizing and expanding this program.

- **Begin an international dialogue on ‘Rules of the Road’ for space** — There seems to be general acceptance that certain guidelines or norms developed by consensus may play a useful role in ordering our activities in space. A good example is the space debris guidelines developed by the Inter-Agency Space Debris Coordinating Committee, an intergovernmental body created to exchange information on space debris research and mitigation measures. The development of other non-binding guidelines should be investigated. Such non-binding guidelines might include:
  - A formalization of existing rules regarding the movement of spacecraft between orbital locations;
  - Protocols for informing other operators when a spacecraft under their control could potentially cause damage to other space objects;
  - Protocols for managing the loss of control of a satellite.

Within the next decade, many more countries will gain the ability to exploit space

for commercial, scientific and governmental purposes. It is essential that the world's governments provide leadership on space management issues today in order to protect the space activities of tomorrow. Bad decisions and short-term thinking will create problems that will last for generations. Wise decisions and the careful nurturing of our precious space resource will ensure that the US and other nations will continue to reap the tremendous benefits of the use and exploration of outer space.