CHAPTER 11

ENGAGING THE RELUCTANT SUPERPOWER: PRACTICAL MEASURES FOR ENSURING SPACE SECURITY

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It has now become crystal clear that the United States under the administration of President George W. Bush will not be persuaded to participate in any discussions, even indirect, of a treaty barring the weaponization of space. Indeed, with the release of a new National Space Policy in the spring of 2005, the strategy of conducting warfare "in, from and through space", as already envisioned by the US Defense Department and the US Air Force, will be codified at the highest level of national policy. The White House rewrite of US National Space Policy is expected to promote an aggressive pursuit by the military of the "space control" mission, in contrast to previous US policy to promote space control as a mission of last resort. And while the new policy is expected to put a priority on the use of "temporary and reversible" means of accomplishing this mission, it is not expected to rule out the possible use, even pre-emptively, of destructive methods of attacking satellites during hostilities, whether military, civil or commercial assets.

That said, it will take some time—decades even—for the United States to be able to implement such a policy. A major obstacle is that technology for space warfare remains in the research and development stage; a second major obstacle is likely to be the costs associated with development, deployment and maintenance of space weapon systems. This means that there is still time for an international effort aimed at limiting erosion of the norm against space weapons, and perhaps even to block the advent of the most destructive and dangerous types of weaponry—namely, destructive measures that would create space debris and put at risk the global use of space for future generations.

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Such an international effort must focus in the near term on engaging the United States in areas where it is most directly and undeniably in the US national interest to cooperate with other space-faring powers, in hopes of sowing the seeds of understanding the value of a multilateral approach to space security. Concerted diplomatic and scientific effort needs to be put forth and in particular in endeavours designed to discourage the United States from pursuing destructive anti-space capabilities from a perspective that such weaponry would also endanger US interests.

The immediate opportunity for constructive engagement is in the arena of space debris mitigation. Space debris is a known hazard to operations in space. Even tiny pieces of debris can destroy a satellite. And space debris recognizes no nationality; it does not distinguish between military and commercial satellites or between enemy and friendly assets. As a result, the international community, under the auspices of the Committee on the Peaceful Uses of Outer Space (COPUOS) and the Inter-Agency Space Debris Coordination Committee, is seeking to implement a set of voluntary guidelines for all space-faring powers. There is some hope that COPUOS will accept the guidelines by 2007.

The National Aeronautics and Space Administration (NASA) has been a key player in developing and pushing for the international guidelines; and both NASA and the US Federal Communications Commission have instituted strong debris mitigation regulations governing US satellite operations. Even the US Air Force has expressed concern about space debris, declaring establishing space control guidelines via "temporary and reversible" means a priority, and opposing the US Army's ongoing Kinetic Energy Anti-Satellite project. Furthermore, the US Air Force fully complies with NASA regulations despite loopholes that would allow them to be waived for military efforts.

More encouragingly, some US Air Force officials further suggest that there might be room for discussions of multilateral methods or agreements to prevent the development, testing and use of debris-creating weapons. For example, Air Force Lieutenant Colonel Christopher Petras, chief legal counsel for international air operations for the North American Aerospace Defense Command (NORAD) and the US Northern Command, wrote in a 2003 paper,

> … a cursory review of relevant provisions of the law of armed conflict suggests that there is at least a foundation for dialogue with respect to an agreement that would prohibit the use of weapons that cause *widespread, long-term and severe* (emphasis added) contamination of the commons of space with debris.[1]

Petras bases his arguments on provisions such as whether a weapon system is "discriminatory" in its effects and on questions relating to damage to non-combatants.

Thus, it would seem that engaging the US government and military in discussions about debris-creating weapons and testing that might create dangerous debris is an open pathway. The Government of Canada might spearhead such a dialogue on the military side given the relationship between the two governments with regard to NORAD; NASA and European Space Agency officials responsible for debris observation and mitigation already routinely work together. While a regime preventing the testing and use of debris-creating weaponry obviously would be fraught with complexity (for example, one sticky issue might be the US pursuit of space-based missile defences), such a regime would go a long way toward ensuring the continued security of space operations by all space stakeholders and would address some of the most egregious negative repercussions of space weaponization. The members of the Conference on Disarmament could, and should, begin to explore the legal issues surrounding whether debris-creating weapons are consistent with the laws of armed conflict, and begin—perhaps simply in expert panels—examining the potential impacts of conflict debris.

Constructive US multilateral engagement also might be fostered in the related area of space surveillance. The US military and NASA both recognize that improvements need to be made in the capabilities of the US Space Surveillance Network, managed by the US Air Force. Efforts at improving sensor technology for finding and tracking space objects are ongoing, as are efforts to improve modelling and data manipulation to provide better analyses of the available space surveillance data. The need for better, more reliable space surveillance data to monitor debris and enable improved collision avoidance—as well as monitor asteroid approaches—is also well recognized at the international level and is the subject of international discussions in many fora including the International Standards Organization.

At the same time, security concerns have resulted in a new US process for sharing basic orbital data that previously were provided to the international community of space stakeholders for free by NASA via the Internet. The data-sharing process has been shifted to Air Force management under a programme called SpaceTrak, and concerns have been raised about restrictions implemented under that new programme. In particular, there are worrying signs with regard to limitations being placed upon how basic data—and the scientific analysis enabled by it—is redistributed and shared. The US community of scientists and space-watching hobbyists has already raised protests regarding the process, with some success in changing original Air Force plans. It is currently unclear how the new restrictions will affect international users of the data, spurring an urgent need for those users to begin discussing the issues with the US Air Force officials responsible for the process. The US Air Force is the only consistent provider of such data, moreover. The Russian Federation operates a similar, though less capable, space surveillance system and data bank, but does not routinely make its data publicly available. Europe has some space surveillance assets, but does not have an integrated network at the moment; China has a fledging programme, but it is reliant on US orbital data as a starting input. Therefore, it is difficult to see how continued improvement in surveillance techniques and capabilities at the international level can be achieved if the US data is significantly restricted.

Furthermore, there is widespread interest in improving satellite registration and launch data sharing as a way to underpin efforts to avoid collisions and ensure better tracking of space objects, both satellites and debris. All space-faring powers recognize the inadequacies of the United Nations satellite registry. For example, there currently is no requirement for operators to notify the registry when a satellite has been manoeuvred out of its initial insertion orbit—essentially meaning that the satellite can be lost to observers. In 2003, the Legal Subcommittee of COPUOS began a 4-year process to address registration problems and improve efficiency of the process,[2] in part spurred by US efforts that began in 2002 to overhaul and improve its own national process.[3]

Therefore, it seems that possibilities exist for dialogue with the United States about space surveillance requirements and efforts to improve capabilities. One goal of such dialogue might be the development of an international data bank that would provide all users with essential baseline data, but would allow the United States (or any other entity) to preserve

sensitive data. Certainly, improving transparency in space is of interest to all space-faring nations as well. In addition, an improved, and impartial, space surveillance network will be required in order to verify any future agreements on space weaponization or dangerous behaviour in outer space.

Finally, there are already ongoing discussions in various international industry and scientific fora—and interest by US industry—about possible new approaches to establishing rules of the road in space, particularly in the area of space traffic management. Several non-governmental organizations (NGOs), including the Henry L. Stimson Center, have also laid out recommendations for measures to prevent dangerous military practices in space during peacetime. Indeed, the 2001 Space Commission, initially chaired by current US Defense Secretary Donald Rumsfeld, actually recommended that the United States explore rules of the road concepts for guiding international behaviour in space. Policy makers in space-faring nations should be encouraging these efforts and attempting to find ways to wrap industry concerns, and NGO efforts, into multilateral political and military discussions about ensuring space security. Again, this is an area where US national security interests coincide with those of the larger community of space stakeholders, and an area where there are avenues to promote dialogue.

The key point is that now is the time for launching concerted and constructive dialogue among the space-faring powers, as well as constructive criticism of emergent activities that could threaten the security of global space assets. While the United States may be unwilling to work toward a ban on space weapons, it remains a major—and for the most part responsible—player in space. Isolating the United States because of its position on space weaponization is simply a waste of time; or worse, attempts to do so may well backfire by promoting the views of those in the United States who see unilateral approaches to security as the only approaches. Meanwhile, other space-faring nations need to be discouraged from treading down similarly destructive paths. This brings even more urgency to undertaking initiatives that promote cooperation among the space-faring powers in areas where they have mutual interests. There is little time to waste.

Notes

1 Christopher M. Petras, 2003, The Debate over the Weaponization of Space: A Military-Legal Conspectus, *Annals of Air and Space Law,* Montreal, Canada, Institute and Centre of Air and Space Law, McGill University.

2 United Nations Information Service, *Outer Space Legal Subcommittee Concludes Fourth-Second Session in Vienna*, UNIS/OS/258, Press Release, 7 April 2003, at <www.unis.unvienna.org/unis/pressrels/2003/os258.html?print>.

3 United States Mission to the United Nations, Statement by Kenneth Hodgkins, United States Adviser to the Fifty-seventh Session of the United Nations General Assembly, on Agenda Item 75: International Cooperation in the Peaceful Uses of Outer Space, in the Fourth Committee, 9 October 2002, Press Release #147, 2 October 2002, at <www.un.int/usa/02_147.htm>.