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Updating the Outer Space Treaty – a U.S. perspective

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Abstract

In a nutshell, the U.S. administration (and much of Congress) perceives that the U. S. has a technological advantage in space-based weapons - so why give up that advantage in such uncertain times? A variation on this theme, from the U.S. Administration perspective, is that there is no space weapons race.

The World relies on a treaty banning certain space-based weapons that is over forty years old, when ASAT weapons, lasers, particle beam technologies, and other dual-use technologies were in their infancy. As a reminder, the 1967 Outer Space Treaty, eventually signed by 189 countries, 1) contains an undertaking not to place in orbit around the Earth, install on the moon or any other celestial body, or otherwise station in outer space, nuclear or any other weapons of mass destruction, and 2) limits the use of the Moon and other celestial bodies exclusively to peaceful purposes and expressly prohibits their use for establishing military bases, installation, or fortifications; testing weapons of any kind; or conducting military maneuvers.

These are eminently sensible rules regarding the non-proliferation of weapons of mass (or even moderate) destruction in outer Space; however, times have changed and the devil is once again in the details. The 1967 treaty was principally aimed at nuclear non-proliferation. At the time non-nuclear space-based weapons, such as high powered lasers, were not practical.

However, these technologies are now becoming increasingly so - particularly in the U.S.

The time has come for us in the U. S. to take a leadership position, and support a new international treaty to ban weapons used in space – and nip in the bud a space-based arms race that has already begun.

Introduction

This is the perspective of a private citizen and non Space lawyer, who has been involved in the U.S. and international satellite and Space industries for over twenty-five years.

This year, at a U.N. sponsored forum, February 2008, Sergei Lavrov, Russia's foreign minister, repeated his country's plea to ban space weapons,. Both Russia and China are on the same page on this issue. The U.S. is currently not.

In a nutshell, the U.S. administration (and much of Congress) perceives that the U. S. has an advantage in space-based weapons technology - so why give up that advantage in such uncertain times? A variation on this theme, from the U.S. Administration's perspective, is that "there is no space weapons race."

The World continues to rely on a treaty, banning certain space-based weapons, that is over forty years old - when anti-satellite weapons (ASATs), lasers, particle beam technologies, and other dual-use technologies were in their infancy. Outer Space however, is still generally agreed to begin 100 kilometers from Earth. As a reminder, the 1967 Outer Space Treaty (OST), eventually signed by 189 countries:

1) Contains an undertaking not to place in orbit around the Earth, install on the moon or any other celestial body, or otherwise station in outer space, nuclear

or any other weapons of mass destruction, and

2) Limits the use of the moon and other celestial bodies exclusively to peaceful purposes and expressly prohibits their use for establishing military bases, installation, or fortifications; testing weapons of any kind; or conducting military maneuvers.

3) Does not prohibit the placement of weapons in orbit, except for weapons of mass destruction and nuclear weapons.

These were sensible rules regarding the non-proliferation of weapons of mass (and perhaps moderate) destruction in outer Space back in the nineteen sixties; however times have changed and the devil is once again in the details. The 1967 treaty was stimulated by nuclear weapons proliferation in a Cold War context, and was designed to ensure that Space would remain the common property of mankind - and would be used for peaceful purposes. All sorts of military related satellites such as observation (spy) and specialized communication satellites were tacitly allowed because any reference to them was omitted from the treaty. Also, at the time, earth-based ASATs, space-based weapons such as high powered lasers, and particle beams, were not practical. However, these technologies are becoming increasingly so now - particularly in the U.S.

Perhaps the time has come for the U. S. public to demand a different leadership position on this issue, and support a new international treaty to ban weapons in space – to nip in the bud a space-based arms race that in reality has already begun. This paper explores an enlightened, but hopefully realistic, approach the next U.S. Administration might take to update the Outer Space Treaty - for the benefit of humankind.

The current situation

Two recent anti-satellite (ASAT) tests shook up the world's complacency, regarding the creeping "weaponization" of Space.

In January 2007, China destroyed one of its aging weather satellites with an Earth based anti-satellite weapon creating approximately 2300 observable pieces of Space debris. According to General Kevin Chilton, the U.S. general in charge of military operations in space at the time, the Chinese were not transparent about the reasons for their test.

Following the Chinese test, the United States decided to strike a dying spy satellite (USA 193) with missiles launched from a Navy cruiser on 20 February 2008, with the ostensible intention of protecting the population from space debris, including the toxic fuel hydrazine. According to many space professionals in the U.S. and abroad (including this one), the U.S. response was also not entirely credible or transparent about the reasons for this action. However, others felt the action was justifiable, in that there was a non-zero probability that debris from the failed satellite could have caused damage to populated areas on Earth.

In June of this year, India's army chief stated India needs a military space program to defend its satellites from threats such as China's ability to shoot down targets in Space. Specifically, General Deepak Kapoor said India urgently needs to "optimize space applications for military purposes." Another general, H.S. Lidder, stated "With time we will get sucked into a military race to protect our space assets and inevitably there will be a military contest in space.

So there you have it, with the U.S., Russia, and China already having tested ASAT weapons, the space arms race is under way.

It's fair to conclude that the current U.S. Administration, from the President down, is in favor of protecting the perceived technological advantage of the U.S. in the military aspects of space. Hence the unwillingness to acknowledge that *there is a space weapons race*, in the first place. Nowhere, was this clearer than in the U.S.'s last National Space Policy doctrine announced October 2006, which effectively stated that the Outer Space Treaty (OST) is sufficient, and that the U.S. "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," and that "The United States will preserve its rights, capabilities, and freedom of action in space . . . and deny, if necessary, adversaries the use of space capabilities hostile to U.S. national interests." Taken at face value, this was and is an extraordinarily overreaching and pugilistic statement.

However, since all nations are seldom completely altruistic in their intentions, it is also fair to conclude that Russia and China perceive they are at a current strategic technological disadvantage regarding the "weaponization" of space, hence their willingness to push for a new or expanded treaty.

It is not clear how many countries currently have the capability to "shoot down" satellites. In the fourth annual report by the Space Security Index (Space Security 2007), co-author Thomas Graham estimates that thirty nations now have such capability. This sounds high, but whatever the number; it's probably greater than seven. The other co-author, Ray Williamson with

Secure World Foundation, stated "There is growing tension between the U.S. and China over the security of outer space, largely driven by mistrust and suspicions over weapons programs."

In 2007, Mike Moore, a U.S. journalist, wrote an insightful book *Twilight War: The folly of U.S. space dominance* (published by The Independent Institute, 2007). Moore provides a solid, fact-based argument that the U.S. is wittingly or unwittingly provoking an arms race in space by its current posture and actions.

In a May 9, 2008 commentary from the Independent Institute, the current debate on the future of U.S. military space policy continues to evolve. Speaking recently in Colorado Springs, where the U.S. Air Force Space Command is headquartered, Republican Senator Wayne Allard and Democratic Representative Mark Udall agreed that the next (U.S.) president, to quote Allard, "will have to chose which direction to take."

The commentary goes on to state that the options are both stark and clear. Allard is among those who believe the United States needs missile defense weapons in space – weapons that could also be turned against other nations' satellites. Udall, chairman of the congressional subcommittee that oversees NASA, opposes space weapons. "My vision would be that all nations of the world share the high ground of space," he said, and not engage in a new arms race "that results in the weaponization of space."

Where do we go from here?

It is tempting to offer solutions to these two disparate U. S. visions or *beliefs* of national security in Space. Either way, the efficacy of the forty-one-year-old UN Outer Space Treaty will have to be

debated. To add a further layer of complexity, there is an intellectual debate bubbling concerning the basic relevance and verification of multinational treaties. Examples are the failed Treaty of the Moon (1984), the non-ratification by the U.S. Congress of the 1982 Law of the Sea, the Kyoto protocol (2005), the Comprehensive Test Ban Treaty (CTBT), plus the current U.S. Administration's general disdain for certain international treaties and agreements

(see http://fti.neep.wisc.edu/neep533/FA_LL2001/lecture40.pdf for chronology of international space agreements).

In order to shed a little light on this critical issue relating to world peace over the next twelve or so years, a more useful approach might be to examine a few credible scenarios, rather than offering specific solutions. Scenarios, of course, are not predictions of the future but, rather, are possible future situations. The determination of which scenario prevails, when, where, and how, is unpredictable and will be determined by events, and actions/reactions of key global participants. As a reminder, *Scenario Analysis* was developed and successfully used by the Shell Oil Company to anticipate the 1973 and subsequent oil "shocks," by examining the critical forces (especially *independent forces*) affecting supply and demand. It is now an accepted tool of management consultants and planning groups.

Scenario I: *Status Quo/Creeping arms race*

- The U.S. is slow to respond to the Russian and Chinese request to update the 1967 Outer Space Treaty. Reasons are varied, from not wanting to dismantle or weaken the (only)

existing treaty; to difficulties of verification; mutual mistrust; beliefs that perceived U.S. strategic technological advantage in (military) space could/should be maintained; further ASAT tests by other countries such as India; other military and domestic priorities taking precedent; and no *independent* force emerges to galvanize world bodies to take action to stop the gradual increased (U.S.) weaponization of Space over next twelve years.

- In addition, since 1981, the UN General Assembly has voted year after year to ask the Conference on Disarmament in Geneva to begin negotiations of a treaty that would prevent an arms race in Space. The U.S. has historically abstained from voting on the UN General Assembly resolution, though in recent years it has voted against the resolution. The U.S. has also used its veto power over the work agenda.
- By 2020, a fairly wide array of international ASAT capabilities have been tested and implemented. However, caution still exists about overtly placing offensive weapons in Space, in contrast to the capability to disable satellites in Space from Earth (ASATs).

Scenario II: *Arms Race accelerates in Space*

- For any number of reasons, the 1967 Outer Space Treaty remains effectively the only multinational agreement limiting weapons in Space. Selective interpretations of the Treaty allow certain nation states, including the U.S., to continue non-nuclear ASAT testing - with deployment. Space rapidly becomes the theatre for

weapons both defensive and offensive, and a run-away arms race in Space is underway. Each nation justifies its actions by the dual “*independent forces*” of perceived 1) self- defense, and 2) reactions to provocative actions taken by competing nations in an environment of mistrust.

- Numerous efforts at the UN fail to slow the proliferation of weapons involving Space.

Scenario III: *Effective ban of weapons used in Space is agreed & implemented by ~2020*

- Two *independent forces*, 1) the perceived growing uncontrolled space arms race and 2) the continuing threat from failed States and “terrorist organizations,” cause the major powers to agree that the use of weapons in space must be controlled, and that verification will be monitored by an independent agency such as an International Space Weapons Agency (ISWA), analogous to the International Atomic Energy Agency (IAEA) formed in 1957.
- The next U.S. Administration (2009) proposes this approach by supporting a revised or new Treaty that bans all weapons in Space by ~2020 including ASATs, and the creation of an organization to verify that weapons are not being deployed or used in space. It is understood that, ultimately, every treaty requires the good will of the signatories to abide by treaties they sign. Earnest negotiations with Space powers begin in 2009 under the new U.S. Administration, with a revised agreement or new treaty signed before 2020. The U.S initiates a significant R&D effort, with strong multinational support, on space technology so that international

compliance can be effectively monitored and verified.

The audience for this paper will make their own judgment concerning the probability of each scenario. If the next U.S. Administration and Congress (hopefully) decide that the growing arms race in space requires nipping in the bud; and that the U.S. people and humanity are best served by avoiding a rampant uncontrolled space arms race, Scenario III could prevail. If, however, mutual distrust, suspicion, international deception, the quest for dominance, preemptive control, phony ideologies and hubris prevail, then Scenario I and II are more probable. Optimistically, Scenario I would be the middle ground, and perhaps most likely. Pessimistically, Scenario II could prevail. The choice is ours.

If Scenario III (banning weapons in Space) prevails, how could/would it be implemented?

From a practical consideration, the critical questions are: should the 1967 OST be left in place, revised, replaced, or scrapped? Cogent arguments exist for all four possible actions. Some space lawyers and arms control negotiators argue that opening up and revising the OST would risk weakening its impact. Others argue that the treaty is an anachronism from the Cold War and requires replacing with a new treaty that recognizes and anticipates new space weapons technology, including more advanced ASATs, lasers, and particle beam weapons. There are also arguments decrying the *a priori* usefulness of treaties in the first place, and this one in particular, because of verification and enforcement difficulties.

There is no consensus on this issue in the U.S. However, there is the potential that the next Administration will lean towards a new treaty – one aimed expressly at the weapons issue. One mechanism to achieve this could be via a resurrected National Aeronautics and Space Council to coordinate all civilian, commercial and military space programs. This organization was disbanded in 1992.

For Scenario III to prevail, a different leadership from the last U.S. Administration and Congress is a prerequisite. Something must change on the political front in Washington. The U.S. is critical because, of the approximately 800 active satellites in orbit, over fifty percent are U.S. satellites.

There are, of course, multiple routes to a changed position by the U.S.:

Dr. Detlev Wolter, Political Councilor German Mission to the UN, 2003-5, proposed a “Legal foundations and essential elements for a system of Common Security in Outer Space (CSO-Treaty),” in May 2007. He argued “There is an urgent need for a comprehensive space security order that starts with a space arms control regime and also encompasses positive elements of cooperative space security like confidence-building measures, rules of the road, international verification, as well as institutional structures. The need for such a preventative arms control regime cannot be overemphasized.” He went on to quote U.S. Ambassador Jonathan Dean, who works on issues related to national and European security, arms control, and international peacekeeping, “. . . humanity is on the verge of an irreversible shift to active, destructive, military use of outer space, a global revolution in human security which will almost certainly surpass in

significance the introduction of nuclear weapons.”

In addition to Dr. Wolter’s timely remarks, his paper published by the Global Security Institute includes a detailed bibliography that readers can access (www.gs institute.org).

Whether a new treaty is required to replace OST, or an evolving set of related treaties would be more realistic to implement, has to be determined. The complex and ambiguous evolution of the nuclear test ban treaties SALT I, SALT II, START, and the Comprehensive Test Ban Treaty (CTBT) and Nuclear Non Proliferation Treaty (neither of which the U.S. has ratified to date), provide a cautionary example of the international complexity, national and political self-interest and beliefs, and inherent distrust concerning intent and verification. Nowhere, was the latter more apparent than Reagan’s Star Wars initiative and the prevailing philosophy of “Trust - but verify.”

Spin, Bubbles, and the Space Arms Race

The Washington journalist Steven Pearlstein noted recently, during the political campaign of 2008, that the analogy of an “arms race” or “race to the bottom” describes Washington’s incumbent political bubble culture. “It’s the kind of competition in which players – acting (seemingly) rationally to maximize gain, or to defend, attack or push a policy agenda – wind up producing an irrational outcome that leaves everyone worse off.” This has been evident in the culture of both the Clinton and Bush II Administrations.

For a new or revised comprehensive treaty banning weapons in space, to supersede the existing 1967 OST, there has to be a change in the ‘spin and bubble’ culture of Washington by the

next Administration – as well as an informed domestic (and international) public that demands it.

Come January 20th 2009, there will be a window of opportunity for the next U.S. president and Congress to join other major Space powers, especially Russia, China, and India to propose a ban of all weapons (especially including ASATs) in Space, with verification through a new independent international organization similar to the venerable IAEA. The U.S could propose initiating the necessary funding research for verification, and seek similar funding initiatives from other space-faring nations. This would be a startling *volte face* for the U.S., but could be part of a very different foreign policy (especially from the Bush II Administration and Congress), that would once again seek international consensus and accommodation, respect, and a leadership position for developing, implementing, and abiding by international rules of law. It's time for the U. S. Congress to debate the future of the OST, and to support a (new) treaty for the Non Proliferation of Weapons in Space.

To quote a great American wit, W. C. Fields: "There comes a time in the affairs of man when he must take the bull by the tail and face the situation."

Bibliography: See www.gsinsitute.org