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CAN THE U.S. AIR FORCE WEAPONIZE SPACE?

by

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Preface

This research project was born out of personal curiosity. Having worked Air Force weapons systems, including space assets, with the U.S. Congress as a member of Air Force Legislative Liaison, I found it intriguing to watch the political posturing and bantering when it came to the issue of weaponizing space. While space is already used for military purposes such as intelligence, reconnaissance, navigation, etc, it is a totally different ballgame when you talk about protecting your own space assets or denying an enemy use of his, or someone else's, space assets. I set out to determine if the "long pole in the tent" was law, policy, or politics, or a combination of the three.

In dealing with Congress on space programs, it became apparent to me that not everyone agreed on interpretation of laws and treaties, not to mention national intent/policy. Concurrent with partisan political debates over the legality of putting weapons in space was the Air Force's movement toward the Nation's Air and Space Force to be followed by a transition to a Space and Air Force. With this Revolution in Military Affairs type of move into space control, today's Air Force finds itself working to fulfil a vague National Space Policy by developing programs for, and methods of, space control. The dilemma encountered is one of being told to accomplish this without being given the required tools and permission to accomplish the task – for political reasons. Therefore, the Air Force finds itself trying to please two masters, the Administration and Congress, who have opposing viewpoints.

I hope that the reader will find the points made herein useful in answering the question of weaponizing space, at least for the near term. We must remember, things change.

I would like to thank Lt Col (Sel) Kevin McLaughlin for sharing his knowledge of the Air Force space world with me as we worked together in Legislative Liaison – this sparked my interest in the topic. I would also like to thank Lt Col Robin Squatrito who not only helped make me smarter on space issues, as Kevin McLaughlin's predecessor in the Legislative Liaison office, but also for providing timely information on the political happenings in this arena while I've been at school. Her Legislative Updates from Air Force Space Command helped call this ballgame while it was in progress. Finally, I would like to thank my academic advisor on this project, Dr. Joan Johnson-Freese. Her expertise in a multitude of matters relating to space issues has kept my interest in space policy kindled. I appreciate her willingness to let me dabble in this area of ongoing controversy.

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Abstract

The U.S. Air Force recently stated one of its core competencies is Air and Space Superiority – control over what moves through air and space. Can the Air Force realistically achieve a level of Space Superiority, via weaponization, given international law, U.S. National Space Policy, and politics? Or, given the Presidential veto of FY98 funds for Clementine II, Military Spaceplane, and Kinetic Energy Anti-Satellite (KE-ASAT), systems intended to support and enable Space Superiority, is the mention of Space Superiority merely rhetoric combined with wishful thinking? In trying to determine an answer to this question, several ideas for space control ranging from passive defense methods to active weaponization of space, such as a Space Based Laser (SBL), were considered.

In the area of international law, both customary law and treaties were examined. The bottom line in this regard is the fact the United Nations Charter allows a country to defend itself and its property, even in space. On the other hand, the Anti Ballistic Missile (ABM) Treaty doesn't allow space based missile defenses. However, during the Reagan Administration's Strategic Defense Initiative (SDI), the ABM treaty was interpreted to not apply to new technologies such as lasers. Given this argument, new technologies would be allowed in space. Therefore, under the law, the U.S. could act in space if in self-defense. On the other hand, in a more proactive mode it could apply the Reagan ABM interpretation regardless of world opinion, and weaponize space to prepare for self-defense. Renegotiating or withdrawing from the ABM treaty are also options.

Under the umbrella of National Space Policy, the mission of Space Control is directed. While this theoretically covers whatever may be required to accomplish the mission, no specific guidance is given. Although specifics don't need to be in a top level policy document, in this case the absence of weaponization authorization is purposed to keep it politically correct. There is no consensus among policy makers that the U.S. is ready to sign up to weapons in space. This ambiguous situation sets the stage for conflicting signals and is of little help in determining if the Air Force can weaponize space.

Finally, after examining several prospective space weaponization programs of interest to the Air Force, the common thread amongst the past and present politically acceptable programs is "who wields the most power." During the Reagan administration, his popularity and public support for anti communist rhetoric allowed him to have the upper hand and spend billions of dollars on SDI. Conversely, in a political move to assuage Russian President Yeltsin's concerns over the U.S. firing a ground based laser at a satellite, President Clinton vetoed the military space programs mentioned. However, one that survived the veto pen was SBL. Coincidentally, Senator Lott, the Senate Majority Leader, along with the leadership of the Senate Armed Services Committee, sponsored SBL in Congress. Veto of such a program would result in political gridlock for the entire defense budget. Therefore, it is scenario dependent with the key variable being "who wields the most power."

The only course the Air Force can take under the circumstances is to lean as far forward as possible with space weapon ideas while awaiting the political consensus to move ahead. This consensus could come from a proactive interpretation like used for Reagan's SDI, or a significant emotional event such as an attack on U.S. satellites.

Chapter 1

Can the US Air Force Legally Weaponize Space?

Whereas those who have the capability to control the air, control the land and sea beneath it, so in the future it is likely that those who have the capability to control space will likewise control the earth's surface.

—General Thomas D. White
Chief of Staff, USAF, 1957

Introduction

The Air Force recently stated, as one its core competencies, Air and Space Superiority – control over what moves through air and space.[1] Given the inclusion of space in this core competency, can the Air Force realistically achieve a level of Space Superiority without weaponizing space, either defensively to protect our own assets or offensively to keep an enemy from using his, if not both? Moreover, if weaponization is required, can it be done without violating international law, U.S. National Space Policy, and politics? Or, given the Presidential veto of FY98 funds for Clementine II, Military Spaceplane, and KE-ASAT, systems not included in the President's Budget but intended by Congress to support and enable Space Superiority, is the mention of Space Superiority merely rhetoric from the Administration combined with wishful thinking from the Air Force? In looking at this issue, this chapter will look at a couple of the ideas the Air Force is considering and contrast them with applicable laws and treaties governing

operations in space, while the subsequent chapters will discuss our current space policy and the politics involved.

Air Force Ideas

First, we must look at why the Air Force would want to weaponize space in the first place. Is it necessary to achieve Air and Space Superiority? Is it required for space control? According to Col Pete Worden, one of the Air Force's premier minds on space issues assigned to the U.S. Air Force's Deputy Chief of Staff for Plans and Operations - Space, we would want to weaponize space, "...to protect our expanding commercial endeavors in space and...deny hostile use/expansion into space."[2]

In explaining this thought, Col Worden goes on to say, "I would argue that we are becoming a 'space dominant' culture, depending increasingly on 'global utilities' (now – communications, navigation, timing, but in the future to include traffic control and then energy and finally resources) in the decades ahead."[3] To what extent then does the Air Force need to weaponize space? In answer to this, Col Worden says, "This means space control. On a secondary level, applying force from space to the ground is probably useful, but I doubt if necessary if we do space control right."[4] In other words, he is saying we should weaponize, in the near term, only for operations in and through space as compared to weapons to use from space to destroy targets on earth. General Howell Estes, commander in chief of U.S Space Command, also expressed these thoughts when he said, "The control of space probably would require the development of space-based weapons by the United States."[5] Therefore, the issue of weaponizing space is based on the requirement to achieve space control.

A similar view is found in *Air and Space Power in the New Millenium.* In this recent book, Dr. Richard P. Hallion, the Air Force historian since 1991 and author of 14 books relating to aerospace history, and Michael Irish, director of strategic business development for Simulation Technologies Incorporated, a company specializing in war-gaming, are responsible for discussing the issue of Air and Space Superiority. They say,

> Today, unhindered space access and utilization is not merely 'nice to have,' it is critical for all American military operations, from low intensity to high intensity conflict, and from missions of presence to humanitarian relief. Under these circumstances, space superiority becomes as necessary an attribute as air superiority. Space superiority operations are those that provide freedom of action in space for friendly forces while denying it to an enemy. They include the broad aspects of protection of U.S. and U.S.-allied space systems and negation of enemy space systems.[6]

Therefore, in the discussion of space superiority, the issue of weaponizing space must be addressed eventually.

In looking at one option for achieving space superiority with our space assets, a look at two Air Force space related programs is required. First, the Military Spaceplane was the Air Force's portion of a joint venture with NASA's X-33, an advanced reusable launch vehicle technology demonstrator program. While the Air Force portion, the Military Spaceplane, was recently line item vetoed by President Clinton (politics to be covered in a later chapter), the X-33 is still scheduled to fly a test vehicle in 1999. Assuming the Air Force successfully gets to rejoin the program in some form, the military concept of operations (CONOPS) for such a vehicle would include four missions.[7] The first mission is Space Control, consisting of Offensive and Defensive Counterspace. This mission fits into the Air Force core competency of Air and Space Superiority, as previously discussed. The second mission is Force Application. This mission covers the core competencies of Global Attack and Precision Engagement.

While if carried to the extreme, this could mean destroying targets on earth from space, we will consider this to mean enabling our forces and weapons via GPS, or other similar capabilities presently in use.

The third mission of a Military Spaceplane is Force Enhancement. This mission applies to all the Air Force core competencies but specifically focuses on information, surveillance, and reconnaissance. The fourth mission is Space Support/Spacelift and focuses on the core competencies of rapid global mobility and agile combat support. Of these missions, the last three are under the umbrella of what we already do in space, whereas, the first one addresses space weaponization or other controversial uses of space.

The second program referenced is SBL. This program was added to the defense budget, and the Air Force's portfolio, by Congress. SBL was then the only congressionally added defense space program to survive the President's veto pen for the FY98 budget. This program is intended to demonstrate a capability to destroy targets such as ballistic missiles from space with a laser beam. Realistically, this could also be used for disabling an enemy satellite or and enemy's anti-satellite (ASAT) weapon. While going beyond a demonstration of this capability has some legal and political baggage associated with it, as will be seen in the next section, this definitely plays in the Space Control arena. Therefore, this question of weaponizing space, from both a requirement perspective and a programmatic perspective, focuses on Space Control.

As previously stated, Space Control can be offensive counterspace and/or defensive counterspace. Any discussion of defensive counterspace, defending our space assets and the ability to use space as we see fit, falls under the idea of self-defense. This could be accomplished in space by passive means such as having multiple sensors and decoys on-

orbit to reduce the probability of losing capability. It could also be accomplished by having a lethal counter ASAT co-orbit with high value space assets to negate the threat of belligerent ASAT systems.[8] On the other hand, a discussion of offensive counterspace, denying the enemy his use of space, takes the argument to a different level. A non-lethal way of doing this would be to blockade, or in other words, to "park" a shield between an enemy satellite and the sun to eliminate its power source for a specified period. At the other end of the spectrum, we could have a lethal ASAT capability. In determining if there is law governing one or both of these subsets of Space Control we will first look at the applicable laws governing general operations in space.

Space Laws

Two sources of international law come into play when considering space. First is customary law. This is the general and consistent practice of states, over a reasonably long period, such that all states feel legally compelled to follow the custom. Examples are acknowledging territorial waters, the concept of diplomatic immunity, or not shooting unarmed civilian airliners. The second applicable source is convention. Conventions are essentially treaties, or international agreements such as the United Nations Charter.

The first law for examination is the National Aeronautics and Space Act of 1958. While this law is not international in origin, it is the first US law addressing the subject and can be the foundation for other countries' consideration in the formation of customary law. This law is the basis for the US space program, both civilian and military. The overarching thought from this law concerning space is the US is "devoted to peaceful purposes for the benefit of all mankind."[9] However, it also includes a caveat to the peaceful civilian nature of space. This caveat says, "except that activities peculiar

to or primarily associated with the development of weapon systems, military operations, or the defense of the United States (including the research and development necessary to make effective provision for the defense of the United States) shall be the responsibility of, and shall be directed by, the Department of Defense."[10] While this law emphasizes the peaceful use of space, it is also realistic in leaving room for military purposes when required. In fact, the United States has historically negotiated to use the phrase "peaceful purposes" when other countries wanted to use "non-military". For example, would a military intelligence-gathering satellite be allowed under the "non-military" terminology compared to "peaceful purposes" wording? If this use of space is allowed under "peaceful purposes", then what military use wouldn't be acceptable – perhaps an unprovoked aggressive act of destruction in space? This difference in desired terminology sets the stage for the bifurcated program seen today where the U.S. leaves the door open for various military uses of space, when and if required, compared to other countries' desires to keep military use of space from ever being an option.

Moving on to conventions, or treaties, there are several addressing space issues. The main treaties, from oldest to newest, are the Outer Space Treaty of 1967, the Rescue and Return Treaty of 1968, the Space Damage Liability Convention of 1972, the Registration of Space Objects Treaty of 1976, and the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies of 1979.

The Outer Space Treaty covers outer space, the earth's moon, and other celestial bodies.[11] However, with one exception, it doesn't specifically cover the area surrounding the earth where we have satellites in earth orbit. The treaty signatories didn't want to restrict themselves from using existing capabilities already in earth orbit.

The exception it makes, as to what cannot be done in earth orbit, concerns the prohibition of placing nuclear weapons or other weapons of mass destruction in earth orbit. This weapon of mass destruction prohibition also applies to the moon, other celestial bodies, and outer space.[12] This treaty also says no one can claim outer space or celestial bodies as sovereign and all treaty signatories must follow international law, including the Charter of the United Nations, concerning these areas.[13] This reference to the United Nations Charter will come into play again later.

In addition to the weapon of mass destruction prohibition, the Outer Space Treaty covers the following specific rules for military operations: "The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers on celestial bodies shall be forbidden." Again, this doesn't cover earth orbits. The treaty does, however, allow for the use of military personnel for scientific research and other peaceful purposes as well as allowing peaceful purpose facilities on the moon and other celestial bodies.[14] These caveats are what allow us to send military astronauts into space. Additionally, to ensure all facilities on the moon and other celestial bodies are used strictly for peaceful purposes, they are open to inspection from any treaty signatory.[15] Finally, of interest to this discussion is the fact any signatory country can offer amendments to the treaty and withdraw from it after one-year notice of intent to do so.[16]

The Rescue and Return Treaty of 1968 expands upon an article from the Outer Space Treaty and stresses international cooperation and "calls for the rendering of all possible assistance to astronauts in the event of accident, distress or emergency landing, the prompt and safe return of astronauts, and the return of objects launched into outer

space."[17] This line of thought is worth considering in a scenario where hostilities are occurring since the treaty was developed during the Cold War, a hostility of sorts in its own right. During conflict, this would be similar to rescuing an enemy sailor at sea once his vessel is sinking.

The Space Damage Liability Convention of 1972 sets forth "international rules and procedures concerning liability for damage caused by space objects and to ensure, in particular, the prompt payment under the terms of this Convention of a full and equitable measure of compensation to victims of such damage..."[18] This covers damage caused on the earth by falling space debris as well as damage to space systems if the damage is caused by another state. Would this apply to rendering a satellite useless for a period by blocking its energy source, as discussed earlier? Or if as also discussed earlier, an ASAT weapon is used, would this convention then mean reparations are owed to the state owning the destroyed satellite? While these questions don't dictate an answer to the weaponization of space question, they are of interest.

The 1975 Convention on Registration of Objects Launched into Outer Space is designed to address the safe operation of space assets in the ever more congested area of earth orbit as well as anywhere else in outer space.[19] "Desiring further that a central register of objects launched into outer space be established and maintained, on a mandatory basis, by the Secretary-General of the United Nations,"[20] is a statement showing the intent to keep the UN involved with every launch made. While it isn't necessary to give the exact mission details of each launch, it is required to give the orbit description, or "parking spot" of each satellite. This not only gives us the information of where everything is in space, but also gives enough information for us to reasonably

determine a satellite's mission. Therefore, this not only gives needed information for peaceful safety purposes, but also helps our situational awareness.

The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies expands upon the Outer Space Treaty in the area of specifics for use of the moon and other celestial bodies within the solar system. In particular, it says, "For the purposes of this Agreement reference to the moon shall include orbits around or other trajectories to or around it."[21] Since the Outer Space Treaty already prohibited military use of the moon, the item of note for this discussion is the fact the moon's orbit is now included.

Other Treaties Affecting Space Law

Several other treaties, relating to arms control, the environment, and the United Nations Charter itself, affect space law. The first arms control treaty is the Nuclear Test Ban Treaty of 1963. This treaty bans nuclear weapons tests in outer space as well as in the atmosphere and under water.[22] While most treaties have a one year withdrawal period, from notification of withdrawal until it takes effect, this treaty has only a three month period and withdrawal is to be justified when "extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country."[23] The significance of this is that it leaves open the door for possible use of nuclear weapons in space, but just as the U.S. would prefer not to use a weapon of mass destruction on earth, it would not likely prefer the option in space either. In addition, withdrawal would probably be seen as a signal of intent.

A second arms control treaty affecting space law is the Anti-Ballistic Missile (ABM) Treaty of 1972. This treaty is at the center of much controversy as the United

States looks at Ballistic Missile Defense. The treaty is a bilateral agreement between the United States and a no longer existent Soviet Union.[24] Two basic questions arise as the significance of this treaty is discussed in Congress, as the debate with the Administration continues over a space based missile defense system. The first question is who is now at the other end of the bilateral agreement. If the answer is Russia, as the keeper of the former Soviet Union's ballistic missiles, then the next question is why does anyone still care since the intent of the treaty was to stop escalation in the Cold War. After all, the Cold War is over, and if a winner is required, it is the US and not the Soviet Union.

This treaty formally recognized the legality of reconnaissance satellites with Article XII where it says, "For the purpose of providing assurance of compliance with the provisions of this Treaty, each Party shall use national technical means of verification at its disposal in a manner consistent with generally recognized principles of international law."[25] However, on the negative side, it hinders the employment of new technology when it says, "Each Party undertakes not to develop, test, or deploy ABM systems or components which are sea-based, air-based, space-based, or mobile land-based."[26] The United States is currently discussing the possibility of doing research on, and possibly a demonstration of, a space based ABM system called Space Based Laser. Technically, this demonstration would not violate the treaty, because it doesn't constitute deployment, or development and testing in preparation for deployment, but it would take the United States to the brink. But, as just mentioned, this is being debated politically between the Republican led Congress, who wants to do it, and the democratic Administration who doesn't want to address the problem of how to deal with the ABM treaty. Of significance to this discussion is the fact President Reagan used a "broad interpretation [of the Treaty

that] would have permitted virtually unlimited testing and development of space-based ABM systems or components, provided they employed so-called 'exotic' technologies (other than missiles or radars)."[27] Putting this type of self-defense weapon in space would be legal according to the Reagan administration interpretation.[28] This is the idea the Republicans in Congress are using to push for the aforementioned space laser demonstrator.

A treaty on the environment affecting space law is the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques. As the title implies, the issue is prohibiting the military from modifying the environment and using it as a weapon. The treaty's definition of "'environmental modification techniques' refers to any technique for changing – through the deliberate manipulation of natural processes - - the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space."[29] In other words, if we were able to cause some "widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party," by something we do in space, it would be a violation of this treaty.[30]

A final international law to consider is Article 51 of the United Nations Charter. While Article 2(4) says "All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations,"[31] there is an escape clause in Article 51. This article says "nothing in the present Charter shall impair the inherent right of individual or collective self-defense if an armed attack occurs against a Member of the United Nations, until the Security Council has taken the

measures necessary to maintain international peace and security."[32] In essence, if we find ourselves confronted by an enemy in space, we would be within international law to use military force in space as a matter of self-defense.

Conclusions on Laws

The original question is whether the U.S. can legally weaponize space for the purposes of Space Control. For our purposes, space control was broken down into defensive and offensive counter space. Short of withdrawing from one the previously mentioned treaties and belligerently putting offensive weapons into space, the U.S. needs to look at the options across the spectrum of what we are willing to do politically. Given the U.S.' position as a world leader, it is important to set the example and abide by international law. With this thought in mind, a politically low threat answer is to concentrate on a passive defensive counterspace. An example, as mentioned earlier, is having multiple sensors and decoys on-orbit to reduce the probability of losing capability.

A more daring approach to defensive counterspace would be to develop an ASAT weapon to counter an enemy's ASAT capability. While this fits under the umbrella of having the right to defend ourselves, per United Nations Charter Article 51, it does beg the question of what keeps it from being used in an offensive counterspace manner. If we could get past this offensive link by somehow declaring the system to be defensive only and then pressing ahead with the program while ignoring criticism to the contrary, similar to when President Reagan said the use of exotic technologies didn't fall under the guise of the ABM treaty, then work could proceed in this area just as SDI proceeded under the Reagan and Bush administrations. Linked to this defensive discussion is Ballistic Missile Defense conducted from space. According to the ABM treaty, we can research this

option but legally must negotiate with a now defunct cosigner for permission to go beyond a demonstration – not impossible but also not without political risk. However, as previously mentioned, the Reagan administration successfully used the developmental efforts of SDI to help bring an end to the Cold War, therefore, the precedent is set.

In the area of offensive counterspace, the issue of an ASAT weapon in space was already mentioned and would be an issue for the politicians and negotiators to settle. After all, they are the ones who change laws and enter into agreements. A more interesting question is the legality of setting up a blockade as previously described. This method of denying an enemy access to his satellite is easily seen as offensive counter space. However, if it was done to defend the U.S. from some sort of harm facilitated by the use of the satellite, would the blockade then be for self defense, therefore, defensive counterspace? While this might seem to be a play on words, it may very well be a path of least resistance as a legally defensible method of weaponizing space because self defense is allowed by Article 51 of the United Nations Charter, given there is a threat to U.S interests via an enemy's use of space. But even this thought process is confronted with another challenge. What if the enemy was buying space imagery from a third party? Would the U.S. be opening a can of worms by prohibiting the use of the third party's commercial asset?

So, what is the bottom line answer to the legal question? There are ways the U.S. can work on the defensive counterspace mission, short of weaponizing space, within current law. The examples previously mentioned include passive means such as having multiple sensors and decoys on-orbit to reduce the probability of losing capability. However, defensive counterspace and/or offensive counterspace that uses a space

weapon, or attack a space asset, would either require a redefining of terms as done for SDI, further negotiation to specific treaties, withdrawal from a treaty the U.S. finds a hindrance, or an attack on U.S. space assets invoking a defensive response under the auspices of the UN Charter's right to self defense wording. The two treaties of significance in this scenario are the Outer Space Treaty, prohibiting the use of weapons of mass destruction from space, and the ABM treaty. Given that treaties have been abandoned in the past, U.S. policy, and the politics behind it, will drive the U.S.' position on when and how to address the treaty concerns. These two areas, policy and politics, are the subjects of the next two chapters.

Notes

[1] Department of the Air Force, *Global Engagement: A Vision for the 21st Century Air Force*, (Washington DC), 10.

[2] Col Simon P. Worden, USAF/XOS, Pentagon, Washington DC, interviewed by author via e-mail correspondence, 21 September 97.

[3] *Ibid.*

[4] *Ibid.*

[5] Warren Ferster, "U.S. Military Develops Plan to Protect Satellites," *Space News* 8, no. 7 (Feb 17–23 1997): 6.

[6] Daniel Goure and Christopher M. Szara, eds., *Air and Space Power in the New Millenium.* Significant Issues Series, Volume XIX, Number 4. (Washington D.C.: The Center for Strategic and International Studies, 1997), 96.

[7] BGen Marshal Ward, HQ AFSPC/DR, "Military Spaceplane," undated briefing.

[8] *Ibid.*

[9] 42 U.S.C. secs. 2451-2484

[10] *Ibid.* Sec. 2451.

[11] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, 10 October 1967.

[12] *Ibid.* Article IV.

[13] *Ibid.* Article II, III.

[14] *Ibid.* Article IV.

[15] *Ibid.* Article XII.

[16] *Ibid.* Article XV, XVI.

Notes

[17] Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, 3 December 1968.

[18] Convention on International Liability for Damage Caused by Space Objects, 1 September 1972.

[19] Convention on Registration of Objects Launched into Outer Space (1975).

[20] *Ibid.*

[21] Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (1979), 11 July 1984, Article 1.

[22] Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, 10 October 1963.

[23] *Ibid.* Article IV.

[24] Treaty Between the U.S.A. and the USSR on the Limitation of Anti-Ballistic Missile Systems with Associated Protocol, 3 October 1972.

[25] *Ibid.* Article XII.

[26] *Ibid.* Article V.

[27] Dunbar Lockwood, "Administration Backs "Narrow" Interpretation of ABM Treaty," *Arms Control Today,* September 1993, 22.

[28] *Ibid.*

[29] Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, 10 December 1976, Article II.

[30] *Ibid.* Article I.

[31] Charter of the United Nations (as amended), 26 June 1945, Article 2.

[32] *Ibid.* Article 51.

Chapter 2

National Space Policy

...back into policy. We debate policy when we attack or support specific weapons systems, but it should be the other way around. We should debate policy first and then determine which systems to procure.

—Congressional Staffer

Current National Space Policy

So, exactly what is our National Space Policy and does it address weaponizing space? From the White House's unclassified fact sheet on National Space Policy, we find many goals of the U.S. space program, including "Strengthen and maintain the national security of the United States."[1] While this doesn't imply a specific weaponization effort, it can include almost anything. While this policy covers much more than the military's use of space, the small amount of military wording is more significant than the average person on the street might realize. It starts down the path of military use with the following statement: "The United States is committed to the exploration and use of outer space by all nations for peaceful purposes and for the benefit of all humanity. 'Peaceful Purposes' allow defense and intelligence-related activities in pursuit of national security and other goals."[2] Following is a list from U.S. National Space Policy that says national security space activities shall contribute to U.S. national security by:

1. Providing support for the United States' inherent right of self-defense and our defense commitments to allies and friends;
2. Deterring, warning, and if necessary, defending against enemy attack;
3. Assuring that hostile forces cannot prevent our own use of space;
4. Countering, if necessary, space systems and services used for hostile purposes;
5. Enhancing operations of U.S. and allied forces;
6. Ensuring our ability to conduct military and intelligence space-related activities;
7. Satisfying military and intelligence requirements during peace and crisis as well as through all levels of conflict;
8. Supporting the activities of national policy makers, the intelligence community, the National Command Authorities, combatant commanders and the military services, other federal officials, and continuity of government operations.[3]

This list's wording in items 2 and 3 speak to a combative activity of some sort. While combative activities related to space could be conducted against ground stations or could even mean jamming, it is just as plausible to say it includes activities in space. Specifically, the Space Policy goes on to say "DoD shall maintain the capability to execute the mission areas of space support, force enhancement, space control, and force application."[4] This statement, like the wording in the list above, is also broad enough to cover combative activity in space.

To further stress the thought of our National Space Policy being all inclusive while at the same time not specifically committing to weaponization of space, this comment is found under the Defense Space Sector Guidelines: "Consistent with treaty obligations, 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. These capabilities may also be enhanced by diplomatic, legal or military measures to preclude an adversary's hostile use of space systems and services."[5] As discussed in the first chapter, the U.S. finds itself saying it will have space control, which has the associated diplomatic and treaty baggage tied to it, while at the same time saying it will

do everything within treaty obligations. This is where U.S. National Space Policy is broad enough to say the U.S. will do what is necessary but not specific enough to say how the U.S. plans to get around the tough hurdles to allow implementation of programs that will allow space control. The problem with this wording is the fact the U.S. says it will do space control within treaty obligations while, as discussed in the first chapter, to really do space control correctly, some treaties will need to be modified at a minimum.

The discussion above sticks to the national security issues involved in space policy. There are obviously non-military issues included as well. In addition to National Security Space Guidelines there are sections covering Civil Space Guidelines, Commercial Space Guidelines, and Intersector Guidelines. The latter set of policy guidelines covers our use of space when jurisdictional lines cross on issues such as International Cooperation, Space Transportation, Space-based Earth Observation, Nonproliferation, Export Controls, Technology Transfer, Arms Control, Space Nuclear Power, Space Debris, and Government Pricing.[6] The reason for mentioning these other policy issues, is to bring out the fact that all of them fall under the umbrella of National Security to varying degrees, especially if any of them are threatened by an adversary. The other reason for showing how the various areas are intertwined, is to open the discussion of how our previous space policies were developed, by either action or reaction, and were intertwined from the beginning.

Should Policy Drive Programs or Should Programs Drive Policy?

Logic would say policy should be developed to achieve a specific endstate or set of goals before the programs supporting the policy are decided upon. However, this hasn't always been the case in the history of the space program. In this century, we have seen

technocracy flourish. This means technical advancements, and their associated programs, have become their own reason for being and policy was often derived to suit the technology. Technological advancements give power to the owner, therefore, whoever strives for and achieves the biggest advancements becomes the world leader. Based on this, advancement in space, because it was technologically the challenge of the day, became a subset of foreign policy as Walter McDougall stated in his book *...the Heavens and the Earth.* McDougall makes the argument in the following paragraph form his book.

> The technocratic model triumphed under Presidents Kennedy and Johnson. Four months after taking office, Kennedy asked Congress to commit the United States to go to the moon. The decision was a product of the growing technocratic mentality and immediate political trends evident in the reverses in Laos, the Congo, the Bay of Pigs in Cuba, and the flight of Yuri Gagarin, the first man in space. The moon program was a lever by which the young President, who extolled vigor and assaults on The New Frontier, and the nation, which seemed to have lost faith in itself, could find their legs and come to grips with the internal and external challenges of the post-Sputnik world. As Vice-President Johnson capsulized: "Failure to master space means being second best in every aspect, in the crucial arena of our Cold War world. In the eyes of the world first in space means first, period; second in space is second in everything." Space technology was drafted into the cause of national prestige. Later, advanced technology in general was tapped as the vehicle for national and international regeneration.[7]

This argument shows a policy driving a program to put man on the moon before the Soviets. However, it also shows how the technology race, therefore technological programs, caused a policy to be formulated to take advantage of the technology in a political sense. While this example almost becomes a "which came first – the chicken or the egg" sort of issue, the other main point to be garnered is how a peaceful use of space, man on the moon, was used to win a battle in the Cold War.

This brings us back to the point that the various uses of space are inextricably linked to national security. At one end of the spectrum we can see the military using space for various functions such as command and control, intelligence gathering, etc, and at the other end we see commercialization of space needing to be protected from a hostile threat. Therefore, space policy is both driven by the technology and programs, in the case of uses for peaceful purposes, as well as technology and programs being driven by space policy, as in the case of national security. Given this relationship, the US Air Force finds itself in a dilemma. On one hand it wants to weaponize space to have the best military capability possible and truly achieve space superiority and to fulfil the mission of space control as directed by National Space Policy, but on the other hand, political realities, both international and domestic, dictate that the weaponization of space is something not looked upon as an acceptable thing for a nation to do.

Other Space Policy Shortcomings

Just as the Air Force finds itself in a dilemma when it comes to achieving the goals set out in National Space Policy, without the authority to programmatically accomplish the task, or in other words left holding the bag by current space policy, NASA finds itself in a similar position. Before the current Space Policy was issued, NASA felt it was being encouraged, or at a minimum allowed, to pursue manned flight to Mars. Just prior to the current Space Policy release, *Space News* reported that "Spurred by public excitement about possible life on Mars, a group of NASA officials is devising scenarios for human missions to the red planet as early as 2011."[8] President Clinton even made the press announcement on 7 Aug 96 about the findings of the NASA-Stanford University team – there may be past or present life on Mars![9] NASA officials were very vocal about the

need for the U.S. to pursue manned mission to Mars. As stated in *Space News,* "Wesley Huntress, NASA associate administrator for space science, said that robots can do a reasonable job at selecting samples on Mars' surface for return. He also acknowledged there will likely be a long-term need to send astronauts to Mars to conduct site research." Huntress also said, "The human can do a lot of intelligent integrating of the area…a synthesis job that we still don't yet know how to do in a robotic brain."[10] However, after the Space Policy was released with no mention of manned missions to Mars, NASA ceased official discussion of a manned mission and was rumored to feel betrayed by the administration.

The bottom line from this discussion is the realization that official policy, including Space Policy, must on the one hand be generic enough to sound acceptable to everyone inside the Beltway while on the other hand, providing some hope for those wanting specifics enough to actually proceed down a particular path.

However, as seen in the NASA and space control issues above, if the policy is so generic as to not have the teeth required to proceed down a controversial path, it does little good for those charged with mission accomplishment.

Notes

[1] The White House, *Fact Sheet on National Space Policy.* National Science and Technology Council, September 19, 1996.
[2] *Ibid.* 1.
[3] *Ibid.* 5.
[4] *Ibid.* 6.
[5] *Ibid.* 6.
[6] *Ibid.* 9-14.
[7] Walter A. McDougall, *…the Heavens and the Earth* (New York: Basic Books, Inc., 1985), 8.
[8] Leonard David, "NASA Group Eyes 2011 for Mars Mission," *Space News* 7, no. 33 (Aug 26 – Sep 1, 1996): 3.
[9] *Ibid.*

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[10] Leonard David, "Skeptics Take Aim at Mars Research," *Space News* 7, no. 32 (Aug 12-18, 1996): 18.

Chapter 3

What is Politically Acceptable?

Presidential Use of Line Item Veto on Space Projects

Official Reasons

As mentioned in the first chapter, we need to look at why we want to weaponize space. The argument is made that we already use space for military purposes, albeit peaceful in peacetime, but we need to be able to do more in space should a wartime scenario dictate. If we are unable to prepare for such a wartime use of space control, we will find ourselves trying to do too little too late. However, this is a case where conflicting signals are being received by the Air Force. On one hand the National Space Policy from the White House advocates space control, as previously discussed, but on the other hand President Clinton, on 14 October 1997, line item vetoed several space items from the 1998 defense budget that would have been a move toward an actual space control capability.

One of the space items vetoed was the Military Spaceplane mentioned in the first chapter. While the NASA funded portion of the X-33 reusable launch vehicle program is intact, the military portion known as the Military Spaceplane was the portion vetoed. NASA's reusable launch vehicle program, a replacement for the Space Shuttle, is on

track to have a pilotless scaled down version complete flight testing in 1999 and 2000. The program will be run out of Edwards AFB and will sometimes land at Malmstrom AFB. The point to be made here is the military is still involved even though the funding for military application was cut. One explanation for the veto is the fact the funds were not in the President's FY98 budget request – they were added by Congress as part of a plus up. However, as previously discussed, it is a project the Air Force sees as a requirement but it has fallen below the funding line in the President's budget. In contrast, many other projects not in the Presidents budget, but plussed up by Congress, were not line item vetoed from the defense budget. This raises the question of why Military Spaceplane was really vetoed. The answer may be found in the idea that even the name Military Spaceplane sounds too much like the Air Force is trying to weaponize space. After all, it is the same vehicle as the NASA X-33, but with some militarily driven requirements.

Another program line item vetoed from the defense budget was Clementine II, more formally known as the Clementine Asteroid Intercept Technology Demonstrator. Congress has funded this project for several years but the Administration hasn't allowed the money to be spent because it doesn't fit within politically correct bounds for the Administration. This year, with the new ability to line item veto, the Administration had another way of keeping the Congressional plus up from being spent. While there are some scientific reasons to have Clementine II intercept an asteroid, the reason Congress tries to fund it in the defense budget, and the reason the Administration is always against it, is because of its "space-based kinetic kill intercept technologies that were associated with a program that was called Brilliant Pebbles."[1]

This space-based kinetic kill capability is a concept once funded by the Reagan administration as a part of SDI, often called Star Wars. During the Reagan administration, the policy was to move ahead in the space based missile defense realm even though there was active argument as to whether or not this violated the aforementioned ABM treaty. Today, under the Clinton administration, the entering argument is to fail to the conservative side on anything that is even questionable in relation to the ABM treaty or even has the perception of using space for other than peaceful purposes. In the press release explaining the line item vetoes, the administration's Senior Director for Defense Policy and Arms Control, Bob Bell, had the following to say, "Now, obviously, there is a lot of commonality between the scientific and technological challenge of detecting, tracking and intercepting and incoming asteroid and that of detecting, tracking and intercepting an incoming missile warhead. There are differences, to be sure, but the point I want to emphasize is that the proposed asteroid intercept tests have not yet been submitted to the Pentagon's Compliance Review Group or to lawyers in the relevant national security agencies for any assessment of the compliance of such tests with the ABM treaty."[2]

The third space related program vetoed was the Army's KE-ASAT. This program, while not an Air Force program per se, was very much a space control program and also a left over from the Reagan administration.

Unofficial Reasons

While the preceding explanations of why the President would veto space control enablers, in a move seemingly contrary to his own National Space Policy's requirement for space control, are truthful and logical, there happened to be some activity in the space

arena immediately preceding the veto that warrants examination. On 17 October 1997, in a joint test between the Air Force and Army, a laser was fired from the ground at a satellite in space. The Army's Mid-Infrared Advanced Chemical Laser (MIRACL), developed for SDI, fired several brief shots from its location in the White Sands Missile Range and hit an Air Force satellite near the end of its useful life. The laser illuminations of the satellite were of low enough intensity to not destroy it but merely measure the hits. The test was billed as an experiment to see how vulnerable satellites are to lasers fired from earth. The "Pentagon views the test as proof of a long-held concern: that its own satellites, as well as intelligence, civilian and commercial satellites, are vulnerable."[3]

However, this did not go unnoticed by both the Russians and those in the US who feel this was really an anti-satellite test that escalates warfare into space. Russian Foreign Ministry spokesman Gennady Tarasov had this to say on behalf of Russian leadership, "We must state very definitely that such activities cause growing concern in Moscow. Objectively, the development of laser programs could become a step to the creation of an anti-satellite potential. The creation of anti-satellite weapons could sharply change the strategic situation. Considering the fact that technologies to be tested were formerly developed for the purposes of anti-missile defense, the question also arises of how compatible such work is with progress achieved on joint measures to ensure compliance with the ABM treaty."[4] Even before the actual test, the United States gave Russia advance notice to try to keep things calm. However, according to a *Defense Daily* article on the day of the test, Russian President Boris Yeltsin sent a 26 September 1997 letter to President Clinton expressing displeasure with the test.[5]

In the US, the test raised concerns of arms control advocates and some members of Congress. In September, Senator Tom Harkin (D-IA) wrote the President voicing his concerns about this anti-satellite (ASAT) test and the associated lack of clear policy on space control. He also and called for congressional debate on the matter. In an 18 November 1997 response to Senator Harkin, President Clinton said the laser test was "fully consistent" with National Space Policy. He said, "That policy specifically tasked the Defense Department and intelligence community with ensuring potential adversaries cannot impede our own use of space (for example, damaging satellite sensors.)"[6] He went on to explain to Senator Harkin that he didn't believe there was a threat justifying an ASAT capability for the US. He cited his veto of funds for the Army's KE ASAT program as proof of his belief in an attempt to convince Congress and Russia that the MIRACL test was defensive in nature.

The thought behind this discussion of other events is to bring out a couple of points. One is the thought that the line-item vetoes of particular space programs were attempting to sooth fears, both internationally and domestically, caused by the laser test. While the vetoed programs seem to have been in support of the National Space Policy's space control, the administration says the laser test, which has just as much offensive potential as the vetoed items, was well within space policy. This political maneuvering, behind the guise of National Space Policy, brings us to the second point. Is our policy so unclear, as Senator Harkin alleges, that anything goes, or is it exactly what the US wants – a vague document that allows us to pursue military options as required while trying to please everyone? In reality, it is a typical political document providing plenty of wiggle room to

allow compromises. However, this type of policy is what makes it very difficult for the military to know what programs to pursue.

Something Not Line-item Vetoed

One space program met the same veto criteria as the ones mentioned but managed to survive. It is the SBL Readiness Demonstrator. This program is intended to demonstrate the capability to fire a laser from space with the intent of supporting missile defense. In a letter from Senators Lott (R-MS), Thurmond (R-SC), and Smith (R-NH) to the Air Force Chief of Staff, they thanked the Air Force for taking a strong stance in support of SBL. This can be read as the Air Force was willing to fund a portion of the demonstration as long as Congress found additional dollars to fund the remainder. The letter addresses this when it says, "We also understand that these costs may exceed the funding level that the Department of Defense may be able to program in future budgets. However, let us assure you that, once the Air Force and BMDO have programmed an adequate share of the funding, we will work hard to ensure that Congress provides the remaining amount in its annual authorization and appropriation process."[7] Funding issues aside, the letter also says, "The SBL Readiness Demonstrator needs to employ a lethal laser configuration in space."[8]

Why did SBL survive the veto pen when the Military Spaceplane, Clementine II, and KE-ASAT didn't? Two reasons SBL survived the veto pen are plausible. The first, and weakest, reason is the fact it uses a laser. Possibly, like the MIRACL test against the satellite, the Administration is more comfortable with pushing the envelope on space weaponry if it uses something other than the old brute force kinetic/explosive kill we are used to seeing on earth and in the sky. The second, and more explainable, reason is

politics. Since Senator Lott, the Senate majority leader whose state stands to benefit from the program, and two members of the Senate Armed Services Committee, including the Chairman and a subcommittee chairman, signed the letter to the Air Force discussing support, the argument can be made that SBL had the personal interest of some very influential legislators. The President may have felt it wasn't worth the political fight at the early stage of the SBL program.

But even with these political reasons for SBL to stay alive, as mentioned in the discussion of the ABM treaty, space-based missile defenses are prohibited. Given this is just a demonstrator, and not an operational capability, the U.S. might be able to pull it off if the Russians and the arms control enthusiasts, mentioned in the discussion of the recent ground to satellite laser test, concede. However, the likelihood of it happening short of a major diplomacy effort is questionable. What is supposed to happen with the treaty if the demonstration is successful and the U.S. decides to go ahead with deployment? Unless the US suffers a significant emotional event that rallies unified support for such a system, it is still wrapped up in the same argument that occurred over the laser test and the reason why Military Spaceplane, Clementine II, and KE-ASAT were vetoed.

Will Politics Continue to Drive Programs Instead of Policy?

In an effort to link programs to policy, instead of to politics, a group of 43 retired generals and admirals sent an open letter to the President urging stronger support for space control programs.[9] The signatories quote the National Defense Panel's (NDP) admonition against what it called "the greatest danger": "an unwillingness or an inability to change our security posture in time to meet the challenges of the next century."[10] They

then go on to link this to space control when they say, "We can think of few challenges likely to pose a greater danger to our future security posture than that of adversaries seeking to make hostile use of space-or to deny us the ability to dominate that theater of operations."[11] The following paragraphs from the letter summarize the concern over politics driving programs instead of policy:

> Our experience tells us that the contribution made to U.S. national security in the future by space-based reconnaissance, communications, navigation and other systems will only continue to grow. We agree wholeheartedly, moreover, with the National Defense Panel in their conclusion that the decades to come will see great advances in the abilities of potential adversaries to exploit space for aggressive purposes and to interfere with our operations in outer space.
>
> Against this backdrop, we are deeply concerned about your recent line-item veto of three technology development programs that will bear directly upon our military's future ability to exercise control of space in wartime. The Clementine II, Kinetic-Kill Anti-Satellite and Military Space Plane programs are the technological seed corn for such crucial capabilities as space-based missile defenses, neutralizing enemy satellites and having prompt, reliable and inexpensive access to and use of space. In our judgment, these are missions the United States military must be prepared to perform.
>
> It is especially worrying if, as some press reports suggest, your decision was prompted by the prospect that our equities in space could be protected through an arms control agreement with the Russians (and/or others). Even assuming one could craft a verifiable ban, for example, on anti-satellite weapons (which appears altogether unlikely), if such an accord rendered the United States unable to neutralize hostile spacecraft in time of war, it would not be consistent with our national security requirements.

After the aforementioned letter to the President was unsatisfactorily discussed in Congressional hearings with William S. Cohen, the Secretary of Defense, the following four questions were asked of Mr. Cohen in a letter from Senator Inhofe of the Senate Armed Services Committee:

1. Do you agree that the United States must be able to exercise control of outer space, including, as the NDP put it, having the capability to "deny the enemies the use of space"?

2. Do you believe that the space-based laser and airborne laser technology development programs can be brought to fruition and deployed without violating Administration policy? If so, how?
3. Is the Administration, in fact, engaged in discussion of new limitations on anti-satellite weapons with Russia?
4. Have you calculated what the impact would be on our force structure requirements and warfighting capabilities of a hostile power were able to deny us use of space for communications, intelligence, navigational or other purposes, to say nothing of being able to exploit space against us?[12]

Once again, these questions were based on the line item veto of the three space control programs that brings into question whether the U.S. is really serious about its National Space Policy.

Until such time that programs are allowed to be connected to policy, either via political acceptability or via out of the box thinking like the Reagan administration used for SDI, the Air Force is left with the tough position of trying to develop the correct political spin for programs such as the Military Spaceplane and SBL. In the case of the Military Spaceplane, as previously mentioned, efforts are under way to redefine its CONOPS to a more politically correct version. This means possibly changing the name to an "X" vehicle, such as the NASA variant known as the X-33, in an effort to disassociate military from spaceplane, even though it would be the same program. In addition, there could be an effort to change the wording on space control missions to make them sound defensive only. However, this would not be what is truly desired and needed from such a platform to accomplish space control as laid out in National Space Policy. It would just sound more politically correct.

Reference the SBL, the Air Force, at the time of this writing, is developing the SBL CONOPS. While on the one hand it finds itself trying to tone down the Military Spaceplane wording to sound less militaristic and hopefully get funding and approval in

the future, it is having to use the same offending words and concepts to justify the requirement for SBL. In this case, as previously discussed, SBL survived the veto pen and is possibly in a better position to use more realistic wording for military use. Thus far, the CONOPS includes Space Control, Force Application, and Force Enhancement.

> Primary missions include ballistic missile defense (TMD and NMD) and Counterspace. The SBL's large optical mirror will also provide an inherent capability to contribute to value-added ancillary missions on a non-interference basis. Some being considered are target designation, ground surveillance and reconnaissance, space tracking, astronomical data collection, hyper-spectral imagery, and employment against time-sensitive or difficult-to-reach terrestrial targets.[13]

In this instance, the space control portion would obviously include defensive counterspace as well as offensive counterspace. If the system is designed to destroy a missile in flight, it takes little stretch of the imagination to see it destroying satellites or anti-satellite weapons. In fact, the tougher problem would be to make it capable of destroying targets on the ground, yet that is one of the thoughts being discussed. Having said all of this about the militaristic nature of the SBL, it must be remembered that the program is only a demonstrator and any attempt to make it operational would require renegotiation of the ABM Treaty or a radical departure from convention such as used by the Reagan administration when it said the ABM treaty only applied to the missiles and radar of the day, but not new technologies such as lasers.

Now that several examples of Space Control programs were discussed with varying political survival abilities, just what is politically acceptable? It depends! If the question is pertaining to internal U.S. politics, then whatever is politically acceptable, whether discussing weaponization of space or anything else, is dependent upon constituent interests as well as true heartfelt concerns about national security. Moreover, even in this case, it depends on the different political ideologies within Congress as well as the

struggle between the Administration and Congress as they work within the framework of democracy. If the question of political acceptability pertains to international politics, then it depends on a particular country's perspective. If a country feels threatened by U.S hegemony, even in space, than the country will probably be against it. If, on the other hand, the country stands to benefit from the protection provided by the U.S., then it will most likely be for U.S. Space Control unless there is a significant feeling that weapons should not be in space no matter what.

Notes

[1] Bob Bell, Senior Director for Defense Policy and Arms Control, Excerpts from News Briefing on the Line-item Veto, 14 Oct 97.

[2] Air Force Space Command Legislative Update, Lt Col Robin Squatrito, HQ AFSPC/XPPL, 17 October 1997.

[3] Steven Komarow, "Army Scores a Hit on Satellite in Test of Laser" *USA Today*, 21 October 1997.

[4] *Reuters,* 22 October 1997.

[5] Air Force Space Command Legislative Update, Lt Col Robin Squatrito, HQ AFSPC/XPPL, 17 October 1997.

[6] *Inside Missile Defense,* 3 December 1997.

[7] Air Force Space Command Legislative Update, Lt Col Robin Squatrito, HQ AFSPC/XPPL, 4 November 1997.

[8] *Ibid.*

[9] Air Force Space Command Legislative Update, Lt Col Robin Squatrito, HQ AFSPC/XPPL, 16 January 1998.

[10] *Ibid.*

[11] *Ibid.*

[12] Air Force Space Command Legislative Update, Lt Col Robin Squatrito, HQ AFSPC/XPPL, 6 February 1998.

[13] Air Force Space Command staff notes, 20 Dec 97 – 16 Jan 98.

Chapter 4

Conclusions

The original question was whether the U.S. Air Force could weaponize space in a manner such that it could actually achieve Air and Space Superiority by using Space Control as directed in National Space Policy. In particular, the question was viewed through the lens of defensive methods of space control. This question was run through the gauntlet of legal/treaty issues, U.S. policy, and finally politics.

So, what is the bottom line answer to the legal question? There are ways the U.S. can work on the defensive counterspace mission, short of weaponizing space, within current law. Examples include passive means such as having multiple sensors and decoys on-orbit to reduce the probability of losing capability. However, defensive counterspace and/or offensive counterspace that uses a space weapon, or attack a space asset, would either require a redefining of terms as done for SDI, further negotiation to specific treaties, withdrawal from a treaty the U.S. finds a hindrance, or an attack on U.S. space assets invoking a defensive response under the auspices of the UN Charter's right to self defense wording. The two treaties of significance in this scenario are the Outer Space Treaty, prohibiting the use of weapons of mass destruction from space, and the ABM treaty. Given that treaties have been abandoned in the past, U.S. policy, and the

politics behind it, will drive the U.S.' position on when and how to address the treaty concerns.

Concerning the issue of what is allowed under National Space Policy, Space Control is one of the approved and declared capabilities. However, since no specifics of how to accomplish this without weaponizing space are given, there is plenty of room for debate amongst those who say the only way to achieve Space Control is via weaponizing space to some extent and those who say Space Control can be accomplished by breaking the ground portion of the satellite network. However, this latter idea doesn't take into account the fact an aggressor may take out U.S. space assets in space leaving the U.S. defenseless in that area. Therefore, the bottom line from the policy perspective references the fact that U.S. National Space Policy says the U.S. will have Space Control.

Finally what about the political perspective? Can the U.S. weaponize space politically? The answer here can be found in the fact that the answer to almost any question of this nature is political. So what does that mean? It means the U.S. can weaponize space from a political perspective when the leadership of both the Executive branch and Congress agree on such a course. An example is the go ahead for the demonstration of SBL. However, as mentioned earlier, this particular program is cleared for a demonstration only. Any further progress toward deployment would require renegotiating the ABM treaty or a bold declaration that it is OK within existing treaties per the Reagan SDI example.

So where do all of these "it depends" type answers leave the U.S. Air Force in its attempt to weaponize space to achieve Air and Space Superiority? The Air Force will be able to weaponize space only after a significant emotional event occurs, either an attack

on U.S. capabilities in space which will allow self defense actions, a meeting of the Executive branch and Congressional minds, or an even more astounding occurrence such as the U.S. and Russia agreeing to change the ABM treaty to allow space based defenses. Until one of these occur, the Air Force will have to keep leaning as far forward as possible, within bounds, to ensure we can field space control weapons in the shortest amount of time possible. This will make the process very frustrating.

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