

## Weapons in Space

The United States' "National Space Policy" has changed over the last fourteen years. From 1996, when it spoke of "concluding agreements governing activities in space" to 2007, when it most recently declared, "Proposed arms control agreements must not impair the rights of the United States to conduct research, development, testing and operations in space – and if indicated, to deny these rights to an adversary." This change in official policy has been prompted by the growing awareness in the military services of their dependence on orbiting satellites for: reconnaissance, targeting, Communication and surveillance. To date, these functions are accomplished with approximately 25 percent of the over 400 satellites controlled by The United States (US). The remaining majority are used for telecommunication, navigation, banking and business, and scientific purposes.

Satellites are unarmed, relatively lightweight and travel in predictable paths. They would be very vulnerable from ground- or air- launched missiles carrying homing projectiles, explosive charges, lasers or by direct impact. These are collectively termed anti-satellite weapons (ASATS). Once delivered into space, each ASAT would have its own thrusters and homing instruments to reach its target satellite. In earlier years, The Space Program considered using the ground launched interceptor missiles of the long-standing Ballistic Missile Defense Program to deliver the ASATS. The planning and designing now is for placing many ASATS into permanent low earth space orbits (i.e., having highly maneuverable micro- Satellites / the "Test Bed" Program). Though requested, Congress has so far declined to fund this very aggressive and expensive program.

The main reasons **not** to put weapons into space are:

- 1) Other countries would very quickly develop ASAT capability, threatening or destroying our vital communication system and observation platforms, and ultimately start a war beginning in space.
- 2) It would undermine relations with other countries. With the abrogation of the Outer Space Treaty which clearly disallows weapons in space or domination of space by one country, the US would no longer have cooperation on disarmament or combating terrorism.
- 3) Debris from destroyed satellites would form hazardous shells of orbiting 'space junk.' (There are 1600 orbiting pieces greater than ten centimeters in size from China's destruction of the one ton Feng Yun satellite in 2007). This accumulation would soon make an insurmountable hazard for all orbiting satellites and space stations.

At a recent PSR meeting, Kitty Boniske brought a reprint from the *Union of Concerned Scientist's* periodical The Catalyst (Spring/2010). It is titled, "Securing the Skies," written by physicist Laura Gregos . It details the recommendations that are being conveyed to the Obama Administration as it formulates a new US National Space Policy this year. The recommendations are:

- 1) Pledge not to be the first nation to station weapons in space.
- 2) Do not proceed with the planned deployment of space-based interceptors (SBIs).
- 3) Do not use any land-, sea-, or air-based missile defense system to attack or destroy a satellite and do declare a moratorium on the intentional disabling of satellites.
- 4) Take measures to make US satellites less vulnerable by:
  - a) Decentralizing work loads to multiple satellites
  - b) Backing up high-priority functions such as navigation and communication with ground- and air- based

Systems.

- c) Providing anti-signal jamming for satellites.
- 5) Assemble a negotiating team with diplomatic, technical and legal expertise
- 6) Identify a productive venue for negotiating, and layout an agenda to cover the full range of space security issues and the approaches for solving them.
- 7) Review and modify international regulations of commercial and civil space activities.

If space does become a battleground, there will be no victors. We humans will now decide to share the generous fruit of our technology or use it to 'dominate" and kill each other. The heavens await our decision.

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