

Challenging the anti-ASAT follies

by James E. Oberg

Relying on reports from the Federation of American Scientists and scientists such as Richard Garwin, Rep. Norman Dicks (D-Wash.) and others have introduced legislation to ban the development of U.S. ASATs. Dicks told the House Foreign Affairs Committee in April that the Soviets have only a "primitive" ASAT and that their ASATs are launched on "unique" rockets which could be detected upon launch.

The author of the following article, which disproves these claims, is a professional space engineer in Houston, working on the Space Shuttle project. He has published 200 articles on space topics (including feature articles on space militarization in the April issues of Science Digest and OMNI) and six books (including the widely respected Red Star in Orbit). He is generally considered one of the West's leading experts on the Soviet space program.

One aspect of the disarmament debate has been heating up lately, due to a combination of recent weapons tests, diplomatic efforts, and White House reports. It deals with the issue of anti-satellite weapons, or ASATs.

On Jan. 21, 1984, the U.S. Air Force tested its air-launched ASAT missiles, without the actual warhead. The Soviets have had an operational ASAT satellite for years, but last August—in what turned out to be his last public appearance ever—Soviet Premier Andropov declared a "unilateral moratorium" and urged visiting American senators to block the American weapon.

Then, in early April, the Reagan administration released a special report on the prospects for a negotiated U.S.-U.S.S.R. ban on such weapons. The report was required by Congress. In it, Reagan's experts concluded that the prospects for substantive negotiations and a verifiable treaty were next to zero.

This conclusion did not sit well with many vocal opponents of the Air Force's air-launched ASAT missile. Congressmen, lobbyists, commentators, and academics have been strenuously promoting the idea of a "freeze" on further space

weapons tests. The White House report published April 2 is in direct opposition to such advocacies.

While the debate rages, confusion over the facts of the issue has reached near-cosmic proportions. The technology itself can be obscure, and Soviet statements have been notable for their lack of candor.

Many of the proponents of an equivalent American "freeze" on ASAT testing, as a prelude to negotiations to ban such weapons entirely, have been victims of gross misperceptions and errors of fact. Before a serious public debate can develop to affect administration policy, it must be founded on reality, and it must abandon a number of fallacies.

Fallacy #1: The Soviet ASAT is "primitive, cumbersome, inept," or any number of pejorative terms. This is false. Claims that the Soviet system works only half the time are based on juggled statistics which combine flight results from tests of the operational radar-guided system with tests of a newer infra-red guidance system. The newer system has not performed well, but the operational system has scored successfully in six out of the last seven shots, over the past decade. Since U.S. satellites, potential targets for the Soviet ASAT, do not carry countermeasures to the old system, the new Soviet ASAT is still unnecessary for ensuring a very high "kill probability" for any single shot.

Fallacy #2: The Soviet system, which uses a 150-foot booster rocket, is easily observed by American spy satellites and any negotiated ban could be easily verified. This is false. The Soviet ASAT uses a booster called the SL-11 (or the "F"-class, based on the SS-9 ICBM), which is also used by a number of other military space programs. In 1982-1983 there were 20 launchings of this booster (including several *after* Andropov's self-proclaimed moratorium), but only one carried an ASAT. So the presence of such a booster on a launch pad (there are several pads in Central Asia and also north of Moscow) is not an indication of violation of a hypothetical ASAT ban. The Soviet orbital weapon is launched under an aerodynamic protective shroud indistinguishable from that

used by the other programs, so the ASAT warhead would have to be spotted out in the open, during transport. It is even shorter than the American ASAT missile, and is consequently far more difficult to spot.

Fallacy #3: The U.S. system is "far more sophisticated" and thus offers a provocation to the Soviets to build a matching system. This is false. While the guidance of the U.S. ASAT missile is indeed more precise than that of the Soviet ASAT satellite (since it uses direct impact rather than a blunderbuss shrapnel charge as kill mechanism), the weapons can only be fairly compared in terms of actual capability. In this regard, there is little difference in altitude range, reaction time, reload capability, or detectability. The major difference is that the Soviet system is operational now (and has been for a decade), while the U.S. system will not be operational until 1987-88 at the earliest.

Fallacy #4: The Soviets have promised to stop testing their own ASAT satellite, and to dismantle their system as part of a negotiated disarmament. This is false. What Andropov really promised last August was that "the Soviet Union would never be the first to put any kind of anti-satellite weapons into space." This solemn vow was sadly invalidated by the Soviet's pre-existing history of exactly such acts: putting anti-satellite weapons into space. Soviet officials have steadfastly denied they have such a weapon, and consequently they are supposed to have nothing which needs to be dismantled. Strictly speaking, the Air Force test last January did not violate the moratorium since no warhead was installed (only the ASAT rocket booster was launched, an operation the Soviets themselves have carried out as well, several times since Andropov's pledge). The Soviets have *never* explicitly stated that they possess any space weapon of any kind, and they have *never* promised to dismantle "their anti-satellite weapon," under any circumstances.

Fallacy #5: If the Soviets were to dismantle their anti-satellite "killer satellite," space would once again be demilitarized. This is false. The Soviets also possess an anti-satellite capability based on their anti-missile system around Moscow, and short of dismantling that whole system (an extremely unlikely prospect) would be able to retain that capability even under the most stringent treaty verification efforts.

Fallacy #6: The development of the American system will "force" the Russians to "match" it. This is false. The Soviet system already possesses all essential capabilities which the American system is supposed to have several years from now.

Fallacy #7: The air-launched nature of the American ASAT missile makes it extremely destabilizing since it is much more flexible than the Soviet ASAT missile. This is false. The American system needs an air-mobile launcher mainly to allow a head-on launch from directly in front of a target satellite, which otherwise could pass hundreds of miles to the east or west of the ASAT base. Worldwide basing has

no obvious advantage since any reasonable target's orbit will always eventually carry it within range of the United States several times a day. In contrast, the Soviet system can use fixed launch sites because it has the speed and endurance to wait for the precise moment the launch pad is carried by Earth's rotation into the target satellite's orbital plane, at which point the Soviet "killer-satellite" goes into orbit and spends several hours hunting down its prey. The American system is much more severely limited in lifetime and speed.

Fallacy #8: The U.S. ASAT is dangerous because it can kill a Soviet satellite secretly, leading the Soviets to assume that any satellite failure might be the result of enemy action. This is false. The Soviets have deployed a chain of infra-red satellites which pass over North America, watching for missile launchings. The American ASAT booster rocket is probably big enough to be noticed by these satellites, providing firm confirmation of enemy action.

Fallacy #9: The American ASAT missile is destabilizing because it can attack Soviet communications and missile-warning satellites (while the Soviets do not have a similar capability). This is false. While these Soviet satellites do dip to within 400 miles of Earth's surface, well within the presumed range of the ASAT missile, they do so over the far southern oceans, off the coast of Antarctica. The current carrier for the ASAT missile, the F-15, would need gross modifications and Rube Goldbergish ad hoc rearrangements to reach these points.

Fallacy #10: There is no military need for the American ASAT missile. This is false. The Soviets have been diligently developing and deploying nuclear-powered active radar satellites for scanning the oceans for Western naval forces. These systems would, under conventional warfare conditions, be able to pinpoint fleets and to direct long-range strike forces against them. The Soviet intention to develop such a capability was the deciding factor in the U.S. decision to develop a counter to it.

The facts in this case need not depend on "appeals to authority" of blue-ribbon panels of experts. They can be determined by a diligent examination of the public record, including material published by the Library of Congress's Congressional Research Service, the British Interplanetary Society, the Foreign Broadcast Information Service (for first-hand accounts of Soviet statements), the Stockholm International Peace Research Institute (SIPRI), as well as many charts and tables published by the anti-ASAT groups themselves (particularly those released by the Federation of American Scientists).

But until those facts enter the policy debate, there is no prospect for any realistic basis for either national policy debate nor international disarmament negotiations. Debaters who ignore the facts sabotage their own professed points of view.