

# EIR Science & Technology

## Foes of laser defense are caught lying again

*Paul Gallagher analyzes the latest fraud cooked up by the congressional Office of Technology Assessment.*

On Sept. 27 a Strategic Defense Initiative laser, ground-based in Hawaii, hit and tracked a missile 700 miles up in space, passing through the Earth's atmosphere without distortion or loss of power. So much for the congressional Office of Technology Assessment (OTA), which released in September yet another report attempting to debunk the SDI. This year's OTA evaluation of "Ballistic Missile Defense Technologies" was lucky in one respect, at least: It did not reassert the claim of last year's version, that lasers could not propagate through the atmosphere into space.

Even Capitol Hill's propaganda outlets do not work with quite the license of those in Moscow.

The OTA's new pronouncements are discredited merely by comparing them with its 1984 report of the same title, by Ashton Carter of the Massachusetts Institute of Technology. *All of the major lying claims against the technological feasibility of ABM defenses contained in Carter's 1984 review have been dropped from the 1985 report, with one partial exception—retracted because they have been demonstrated to be untrue.*

EIR refuted the Ashton Carter study point by point, in an Oct. 8, 1984 article headlined, "OTA Report Is Riddled With Errors." We analyzed the OTA's 12 false claims: that the Soviets will use fake silos to elude beam weapon tracking; that the Soviets can easily harden and protect their missiles against beam weapons; that testing of a beam weapon system is impossible in peacetime; that missile targets are invisible at great distances; that very large numbers of orbiting beam weapons would be needed to stop a Soviet missile launch; that x-ray laser beams cannot penetrate the atmosphere; that x-ray laser beams cannot be focused optically; that fast-burning boosters cannot be intercepted; that sensors cannot find post-boost vehicles after the booster burns out; that the disruption effects of beams upon missiles are unknown; that beam weapons cannot defend against submarine-launched, intermediate-, or short-range ballistic missiles; that other

means of delivering nuclear bombs are invulnerable to anti-missile defenses; and that charged particle beams cannot propagate through the atmosphere or in a straight path through space.

Using national laboratory analyses and other independent evaluations of these claims, EIR demonstrated that each one was patently false.

In the 1985 OTA report, only one of these claims is repeated in any form! Seven are admitted, explicitly or implicitly, to have been disproven, including the most important claims having to do with the number of beam weapons required, the ability to test them, etc. *Only one claim, concerning x-ray laser penetration of the atmosphere, is reasserted in any way, and this is watered down, to say merely that "there are natural limits to the propagation of x-ray lasers through the atmosphere."*

Dr. Carter is, mercifully, not listed in the group that produced this year's OTA report. The rush of technological advances in laser, particle beam, and other accelerator technologies has discredited his February 1984 fiasco within a single year, making it obvious that anti-missile defense *will* work.

So the SDI's opponents have adopted a new line, that anti-missile defenses are feasible indeed, but destabilizing, and may cause World War III. This has come simultaneously from three quarters: from the Russians to the Union of Concerned Scientists; from the Union of Concerned Scientists to the "objective" OTA; from the OTA to Rep. Les Aspin (D-Wisc.). The Project Director of the latest OTA report is Thomas Karas, a former active member of the Union of Concerned Scientists, which cooks up the anti-SDI propaganda for OTA, Aspin, and others. UCS leans heavily, in turn, on the tarnished military-science credibility of Dr. Hans Bethe, whose habit of debunking scientific weapons breakthroughs which he opposes for political reasons, has become well known.

This anti-SDI resistance front, closely linked to the re-emerging Zbigniew Brzezinski and the Trilateral Commission, does not hope to get President Reagan to drop the SDI or to bargain it away at Geneva. It is mobilized to make him "flinch" under Soviet pressure and *limit* the SDI, at least for the foreseeable future, to defense of U.S. strategic missile sites, rather than the entire area and populations of the United States and its allies. This they call "minimally effective ABM defense." All critics—except the Russians—have now miraculously become believers in it! Reagan's potential vulnerability to such pressures lies in his ideological acceptance of the austerity and budget-cutting drive, which is destroying the U.S. defense budget and ruling out an SDI crash program.

Should the President accept "minimally effective ABM defense," the U.S.-European alliance will split apart, as Soviet General Secretary Gorbachov intends with his "50% arms reduction" summit offer. A minimal ABM program would leave Europe on its own militarily, decoupling the United States from the defense of its allies, as Brzezinski, Aspin, Sen. Sam Nunn (D-Ga.), and Henry Kissinger desire. To Aspin and Brzezinski, the SDI has nothing to do with actual defense of the Western alliance; it is a subcategory of "conflict and crisis instability."

But to any competent strategic planner, the required

breakthroughs on the SDI are a matter of science and technology—and funds. Contrary to the White House's stated policy since 1983, the SDI is vulnerable to the Soviet mobilization to suppress it, because its funding has been held far below its potential technological pace.

Consider, for example, the significance of the Sept. 27 ground-based laser test: A four-watt Argon chemical (violet light) laser, fired from Maui, Hawaii, hit and tracked a small sounding rocket far out in space, and, said an SDI spokesman, "the rocket carried sensors that told us . . . that the laser did not lose power through the atmosphere." Lt.-Gen. James Abrahamson, announcing the success in a Philadelphia speech, stated that SDI lasers would be tracking missiles at ranges of thousands of miles, by 1987. He also pointed, as he has repeatedly, to the explosive advances in the free electron laser technology for ground-based anti-missile lasers. Charles Stevens, Fusion Energy Foundation SDI expert, will demonstrate in next week's *EIR* that the free electron laser program alone could profitably consume the entire current SDI budget, on a crash program of testing high-power laser prototypes, at different frequencies to destroy different missile and hardening materials; this defensive layer could be *deployed* well before 1990.

The Defense Department believes that the Soviet Union

## OTA's new lies cover up for last year's fraud

The congressional Office of Technology Assessment's 1984 study, "Directed Energy Missile Defense in Space—A Background Paper," by Ashton B. Carter, was a pastiche of fraudulent claims that the Strategic Defense Initiative could never work, on technical grounds. A year later, in the OTA's "Ballistic Missile Defense Technologies," by Thomas H. Karas, all but three of the lies have been retracted or silently buried. Those three are presented in a far more circumspect and ambiguous manner.

For example, the OTA no longer makes the absurd claim that on the order of 1,000 space-based lasers would be needed to defend against the existing Soviet missile fleet. But, while agreeing with the 100 satellite projections of Los Alamos and Lawrence Livermore National Labs, the OTA continues to claim that the cost of meeting any increased missile capability would be at least equal to that of the offensive increment. All serious studies show that defense can meet offensive buildups at a fraction of the cost.

Here are other lies from the 1984 study, compared to where the OTA stands now, and what the Defense Department and other advocates of the Strategic Defense Initiative maintain (Cf. *EIR*'s Oct. 9, 1984 cover story):

**'Too many beams would be required'**—OTA 1985: "It is not likely that defensive technologies could so outpace offensive developments as to allow for a comprehensive defense against ballistic missiles." *The Defense Department*: "The SDI research program is examining the feasibility of defenses against ballistic missiles that would be effective and also provide clear disincentives to efforts to counter them with additional offensive forces."

**'X-ray lasers can't penetrate the atmosphere'**—OTA 1985: "There are natural limits on the distance to which x-rays can propagate within the atmosphere." *Dr. Lowell Wood, Lawrence Livermore National Laboratory*: "No technically informed person has supported the assertion that x-ray laser beams cannot penetrate the Earth's atmosphere sufficiently deeply to destroy the next century's ICBM's."

**'Fast-burn boosters can't be intercepted'**—OTA 1985: "If boosters are developed which burn out in the atmosphere in 50 seconds or so . . . some boost-phase defensive techniques would be seriously compromised, if

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already operates at least two ground-based prototype lasers, capable of hitting and damaging U.S. satellites in orbit—requiring a higher power than those tested by the United States so far.

### Threat of a first strike?

The precisely formulated new lie on the SDI says that the first deployment of effective anti-missile defenses by the United States will cause the paranoid Russians to conduct a preemptive first strike in order to get their missiles in before the United States strikes them. This line surfaced in the UCS house organ, *Bulletin of the Atomic Scientists*, in August, just at the completion of the semi-secret U.S. organizing tour by Moscow's Georgii Arbatov and other top KGB operatives. The article was by UCS's Dr. Gerald Marsh, who wrote: "An opponent would perceive the deployment of a capable ABM system not as a defensive move, but as a first-strike threat. . . . A moderately effective ABM system exhibits crisis instability." According to this logic, a "minimally effective" system, attempting only to protect U.S. land-based missile sites, does not exhibit such "crisis instability."

Representative Aspin, the Council on Foreign Relations member who orchestrated the killing of the MX missile program in Congress and was suddenly catapulted to the chair-

manship of the House Armed Services Committee earlier this year, claimed in an Oct. 1 press conference that the OTA report proved that the SDI could cause a Russian nuclear first strike, and called for Congress to scale down the SDI before voting it any more funds.

The threat of a Soviet first strike is real, but not for the reasons Aspen cites; indeed, a U.S. breakthrough in the SDI effort is the only sure way to prevent it. As the Department of Defense has recently demonstrated in a pamphlet on the Soviet anti-missile defense program (see article, page 26), a first strike is a matter of capability and force configuration, and only the Soviets have it. To conduct a disarming first strike requires warhead delivery capabilities able to destroy hardened missiles and other military targets, in sufficient numbers to put two to three warheads on each target and wipe out the adversary's ability to retaliate. The Soviet Union, at last count, possessed about 5,000 such targeted, silo-killing warheads, many more than the total number of hard targets for a first strike. The United States, by comparison, commands 900 such warheads (on Minuteman III missiles), far fewer than the number of hard targets on the Russian side. The Soviet "SDI," far larger than the U.S. program, is speedily developing the "guarantee" of the first strike capability the Soviets are already tempted to use.

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not rendered unworkable. These are the particle beam, and, probably, the x-ray laser, both of which might not penetrate to the required altitude without losing the ability to kill." *Los Alamos refutation of the OTA 1984 study is still applicable*: "The supposed fundamental limit on x-ray lasers is simply incorrect. . . . Neutral particle beams would have very high effectiveness against post-boost vehicles, which are heavily dependent on electronics and can stand little interruption in their function, and on re-entry vehicles, which are exposed for a very long time and very susceptible to particle beam effects in mid-course. . . . The OTA's own analysis actually supports the conclusion that particle beams of modest brightness could have a major capability against MX-like ICBMs. The neglect of the neutral particle beam's unique mid-course capability is a fatal omission from the OTA's analysis."

**'There are other ways to deliver bombs'—OTA 1985**: Circumvention . . . could take several forms. A heavy reliance on cruise missiles or other air-breathing delivery systems. . . . Depressed trajectory missiles launched from submarines. . . . The introduction of bombs into the United States by suitcases, commercial routes, or diplomatic pouches could be accomplished." *Los Alamos*:

"That BMD will not protect the U.S. from other means of delivery—is wrong. . . . The assertion that there are alternative schemes such as 'commercial air liners, ships, packing crates, and diplomatic pouches' is without merit. There are adequate techniques today for non-obtrusively monitoring the passage of nuclear materials in microscopic amounts, let alone the kilogram amounts in nuclear weapons."

### More distortions

The OTA 1985 report repeats the error of the previous study in ignoring all phases other than the boost phase, after the missiles is launched. No detailed evaluation is given of post-boost-phase intercepts.

Further, in examining various methods by which beam weapons can destroy offensive nuclear weapons and their platforms, the OTA 1985 study makes the glaring omission of avoiding a discussion of electromagnetic pulses (EMP) and system-generated electromagnetic pulses (SGEMP). In the first place, x-ray lasers are quite effective in generating both of these effects, which can penetrate to any depth of the atmosphere. These kill mechanisms are particularly effective against precisely those offensive configurations which the 1985 OTA study claims demonstrate that defense won't work.