
Documentation

Dr. Teller tells Senate about beam weapons

Famed physicist Edward Teller gave some essential guidance to the Senate Armed Services Committee on May 2, in one of the first public discussions to occur on Capitol Hill about carrying out President Reagan's March 23 strategic directive.

Testifying at hearings before the committee, Dr. Teller described in detail for the first time a research and development approach to build a "varied, comprehensive defensive system" based on several layers of directed-energy weapons driven by nuclear-power pulses. Teller, considered to be a major influence in the President's anti-ballistic missile defense decision, called for a "pop-up defense," which is launched into action on warning, rather than expensive and vulnerable space-based battle stations.

Dr. Teller distinguished his approach from those of Sen. Malcolm Wallop (R-Wym.), and Gen. Daniel Graham, both of whom testified at the same hearings, and directed particularly sharp criticism of the "High Frontier" proposal promoted by Graham, a rehash of the 23-year old "Project Defender" system. *EIR's* report is a close paraphrase of the scientist's testimony, which was delivered extemporaneously.

Teller said that, to his mind, the President's March 23 speech, with its challenge to the technical and scientific community to develop a varied, comprehensive defensive system, is an act of great historic importance. The President made his decision based on information he had received about a number of novel, "hopeful ways in which defense can prevail over offense."

Dr. Teller identified a "political problem." Incomplete or unfeasible proposals are published and then much time is taken to disprove them. But those ideas which have real hope are kept secret and not even published, he said. The discussions concerning these most critical areas are governed by ill-defined rules of secrecy. The physicist, who is associated with Lawrence Livermore Laboratory in California, told the Senate committee he thinks that the American people should be informed. "Instead, we see a campaign of disinformation."

Dr. Teller said that the two most important, or among the most important systems are:

1. Third generational nuclear systems. Currently a nuclear explosion is indiscriminate. But we can make them smaller, very small. We can have a concentration of energy comparable to that which goes on in the sun and the hottest stars.

This can be exploited to give rise to novel effects. We know the Soviets are working in these areas, and they are probably ahead of us in some. We are talking about energy concentration, not an indiscriminate release of energy which affects masses of people or missile silos but which can be used against "weapons in action." This is truly defensive. There are a great variety of these weapons. The work started at Livermore has spread to Los Alamos and Sandia (National Laboratories), Dr. Teller said. Such high energy concentration gives rise to new types of effects.

2. We would prefer not to deploy weapons systems in space. Putting them in space is expensive and the destruction of space-based systems is easy, although we need some such systems for observation. Whether we can keep a few eyes in the sky is a great challenge. Dr. Teller stressed as "one very important point I want to make" that instead of battle stations in space, we can pop up a defensive object when the need exists. We can have a layered defense—terminal systems, systems which destroy ICBMs in their early boost phase. In this way we can not achieve a perfect defense. But short of perfection, we can induce doubt in the minds of the Kremlin. If we can create serious doubts in Moscow about their prospect of winning, then they won't start the fight, he said.

In speaking of lasers, Dr. Teller specified that he meant x-ray lasers, electromagnetic pulse (EMP) generation, particle beams, all of which are being considered in various forms. There is a second class of lasers—the common lasers that we have today—including the longer wave-length lasers, infrared and chemical, which do not fulfill the basic requirement of a good defense because they are much more expensive than the offsetting countermeasures, he said.

Dr. Teller noted that the United States has a unique relationship with Great Britain, and that we share everything in scientific and technical areas. There should be no limit to cooperation with other countries in these areas. We must work with all nations.

In answer to a question from a senator, Teller called for a specific upgrading of funding for "below long-wave lasers" (high-frequency lasers such as the x-ray laser) to \$150 million in FY84, and for third generation nuclear weapons to between \$170 and \$270 million in FY84. He also called for an immediate and series program of study of the effects of EMP, the plasma effects in the atmosphere which effect communications and all weapons through strong electrical discharges, x-ray radiation fluxes, etc.

Dr. Teller has previously indicated that the United States lags badly in this crucial area of scientific understanding—most recently in his January, 1983 presentation at the Georgetown Center for Strategic and International Studies. It is widely believed that the Soviet Union completed a comprehensive study of EMP-related effects (a study which requires atmospheric nuclear-explosives testing) just prior to the British management of the 1963 Partial Nuclear Test Ban Treaty. This treaty then interrupted U.S. study of the same phenomena before crucial insights had been correlated and tested.