

THE WHITE HOUSE  
WASHINGTON

June 11, 1985

MEMORANDUM FOR DON REGAN

FROM: JAY KEYWORTH *JK*

SUBJECT: Dr. EDWARD TELLER'S VISIT WITH THE PRESIDENT  
(11 JUNE 1985)

Edward Teller will see the President this afternoon at 3:45. He will most likely discuss the SDI-related accomplishments of his parent laboratory, Lawrence Livermore Laboratory -- keying on the bomb-pumped laser. Although the meeting is supposedly to be "alone" with the President, I must assume that you or Bud will be there as well.

Livermore has done some remarkable work on a "free-electron" laser, and a reactor-pumped laser. Both of these devices are breakthroughs that could permit demonstration of the feasibility of the SDI by 1988-89. As a result, I have recommended the President call Livermore's Director, Roger Batzel, and commend him on his work. This may have already occurred as of the meeting with Dr. Teller this afternoon.

My greatest concern, however, is that Edward will largely dwell on tentative developments in the bomb-pumped X-ray laser, or "Excaliber." There have been some rather startling claims made for this device by Dr. Teller's protege, Lowell Wood.

If Excaliber were to work as advertised it would be an incredible weapon. Dr. Teller will most probably extol this as "...the dawn of a new age which will eclipse the creation of the atomic bomb," and make the case that just one of these devices could destroy every Soviet missile, every Soviet warhead, and every decoy they might ever try to deploy.

Edward may also make the case that while the Soviets are working on this bomb-pumped X-ray technology, we are not. In fact, we are funding investigation of this technology through DOE. Edward's difficulty is that we have not made it centerpiece option within the SDI.

Were it to work (its feasibility is uncertain), this device would be a powerful preemptive attack weapon -- and destabilizing. It therefore tends to run counter to the spirit of the President's SDI, as well as the capabilities

of all other technologies now under development by the SDIO which can only be effectively used in a defensive mode. For this reason, and because it is nuclear, we have deliberately kept this program out of SDI's limelight. At the same time we do know the Soviets are working on it. And because almost all the work is wrapped up in underground nuclear tests and pure laboratory research, it is quite unverifiable by either side.

Dr. Teller will want increased funding for Excaliber, and probably ask for sufficient money (\$50-80 million next year) to fund a series of underground experiments. This money could, and should, be available within DOE. Our continued work on any device of this type should quite rightly always be separate from SDI, and continue to be referred to as a "hedge" against Soviet breakthroughs.

cc: R. C. McFarlane