

LASER WINTER: GROUND INCENDIARY CAPABILITY OF BALLISTIC MISSILE DEFENSE LASERS, Lay Summary

Taylor Trowbridge,* Mar. 2003

Preamble: *The project summary reproduced below was completed in 1991. Since then the USSR has ceased to exist and its successor, Russia, has ceased to be a viable competitor to the USA. However, with the USA recently abandoning the United Nations and the arms treaties and obviously beginning a campaign to militarily rule the world, an alliance of economically developed nations with the militarily developed Russia is likely to emerge as a viable competitor. US relations with France and Germany have turned antagonistic. Russia recently announced its initiation of a Star Wars program. Now China has become a serious opposition.*

Evangelists of the Strategic Defense Initiative -- more appropriately known as Star Wars -- paint for us a picture of an idyllic heaven-on-Earth in which the great powers have military defense and no military offense. They paint a world of nations safe within shields like the force-fields of science fiction, with no ability to commit nuclear aggression upon one another. Returning to reality, it is known that even if Star Wars is possible, which is extremely controversial, every Medieval knight in his suit of "defensive" armor knew that defense is a powerful aid to offense, even though indirectly. But beyond even this myth of benign defense, evidence is now emerging that a Star Wars system of infrared lasers can be used for offense directly. And this evidence is also showing that that offensive use would be as destructive as a nuclear attack itself -- even to the point of initiating a "laser winter."

Under a Defense Department contract, two scientists, Latter and Martinelli of the research firm R & D Associates of Marina Del Rey apparently have shown that such a Star Wars system of lasers in space could be used to start 100 million fires on the surface of the Earth. Little news of the study had become public when the Defense Department censored it. However, the study is not difficult to perform and does not require a big expense account. Dr. Caroline Herzenberg of Argonne National Labs, and a number of other scientists experienced with analysis of laser weapons have performed the calculations on their own. One of these is your author who has the experience of 15 years with the Defense Department analyzing the performance of a variety of laser weapons systems. He has been told that he has gone even further than the Latter and Martinelli study -- his study additionally considers how much the laser beam deteriorates as it passes down through the Earth's atmosphere.

But you don't have to be a weapons scientist to imagine the offensive potential of a fleet of hundreds of space-borne lasers each the size of a football field. And equally awesome and deadly would be its pointing abilities. It would have to be able, within

just a few minutes, to zap thousands of missiles rocketing at thousands of miles per hour from thousands of silos across the endless steppes of Asia.

Our studies confirm that such a Star Wars system could easily be designed to include the capability to start fires on the Earth's surface. And with such incredible pointing capability, each laser beam could strobe over a city leaving dozens separate and precisely located fires every second. The result, hundreds of thousands of precisely located individual fires spread over hundreds of cities, is an awesome offensive threat.

But we find much more than even that. Closely spaced individual fires in large numbers can become much more than their sum. As few as 500 fires in a city may start what is called a firestorm. In Dresden and other cities during World War II, thousands of fires from Allied incendiary and high explosive bombing united to form a single vast fire. The firestorm generated hurricane winds to fan its own flames and united all of the fires to form a single column of flame and smoke extending into the stratosphere.

The "nuclear winter" studies show that smoke from cities ablaze from a nuclear attack would darken the skies for months or years and turn summer into winter. Massive crop failures and environmental chaos would threaten possibly the survival of the human species. The nuclear winter studies also show that the most dangerous smoke is that injected into the stratosphere by firestorms in cities. They find that the burning of as few as 100 cities (with only 5% in firestorms) would trigger nuclear winter effects. Our studies find that the Star Wars system could initiate firestorms in more than one thousand cities. This shows that Star Wars could indeed be capable of bringing on a "laser winter."

The idyllic world that Ronald Reagan fantasized in his Star Wars Speech would be vulnerable to a Star Wars war of equally severe consequences -- immediate consequences comparable to a nuclear exchange, followed by a laser winter. After some trillions of dollars, rubles, marks, franks, and so on, the world would be no better off it is than now.

Actually, it would be worse off. Now the world benefits from some nuclear "stability" because each side knows that if it attacks first the other side can retaliate. There is some stability because there is a disincentive to attack. In contrast, if both sides were to have Star Wars systems, one system could attack the other system at the speed of light and destroy it entirely. Each side would know that if it presses the button, then poof, the other side would be disarmed, could not retaliate, and would have to surrender or face a nuclear like annihilation. Incentive to attack would be infinite and stability zero.

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