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STRATEGIC DEFENSE INITIATIVE
THREE REASONS TO STAY THE COURSE!

BY

COMMANDER HANS J. BLEEKER
United States Navy

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USAWC MILITARY STUDIES PROGRAM PAPER

Strategic Defense Initiative
Three Reasons to stay the Course!

AN INDIVIDUAL STUDY PROJECT

BY

COMMANDER HANS J. BLEEKER, USN

COLONEL MARK R. WALSH
Project Adviser

U.S. Army War College
Carlisle Barracks, Pennsylvania 17013
12 February 1990

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ABSTRACT

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→ President Reagan's Strategic Defense Initiative announced 23 March 1983 has had a profound effect on the shape the world has taken since that time. While there has been much talk that the system as envisioned by the president is impossible, this study examines three compelling reasons why we should continue forward with the research and development effort. The Strategic Defense Initiative has brought the Soviets to the bargaining table and made CFE a reality. The threat of nuclear and chemical proliferation makes the deployment of a defensive system a logical strategy. The cost of developing and deploying the Strategic Defense Initiative may not be as high as the critics propose if we can use SDI as the third leg of our strategic deterrent. The American people and the people of the rest of the world deserve better than living with the threat of extinction.

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Strategic Defense Initiative

Three Reasons to stay the Course!

CHAPTER 1

Introduction

To have a full understanding of the current Strategic Defense Initiative emphasis, it is necessary to take a look at the history of SDI. SDI as a defensive system could be compared to the first caveman getting out of the rain. Every time man has faced a threat to his well being he has sought out an alternative technology to counter the threat. Armor versus arrow, castle versus cannon, kevlar versus bullet, reactive armor versus armor piercing munitions; the logic to counter the offensive threat posed by nuclear weapons is no different in concept.

The first defensive technique used to face the German V-rocket attacks of World War II was to seek shelter. While this was a satisfactory technique for all but a direct attack on a shelter, for those whose homes were destroyed it was far less than satisfying. With the introduction of nuclear weapons at the end of World War II a new type of threat emerged. Simply hiding from the attack was ineffective because you couldn't return to the bombed site for fear of the lasting effects of radiation. The U.S. and the Soviets spent millions of dollars on civil defense through

the early and mid-fifties. Realizing the threat of nuclear annihilation was as great from the fallout as from the blast, the U.S. abandoned civil defense as ineffective (the Soviets continue to spend vast sums on civil defense for reasons that I will discuss later).

When Secretary of Defense McNamara was briefed on the SIOF (Single Integrated Operations Plan) early in 1961 he was struck by the fact that it was in reality a knee-jerk reaction to a Soviet attack that would result in the destruction of the world as we knew it. Secretary McNamara requested an alternative strategy be developed that would enable the U.S. to have a "Flexible Response" to any Soviet attack. This investigation into "Flexible Response" initiated the first phase of our SDI, though it was known at the time as the anti-ballistic missile system.

In the early sixties both the U.S. and the U.S.S.R. understood that ICBM's could be intercepted. The Soviets rapidly progressed in this arena through actual testing, exploding three ICBM war heads with a small nuclear device in the atmosphere. The U.S. worked from theoretical models. Before the U.S. could duplicate the testing the Soviets had completed, the Soviets agreed to an Atmospheric Test Ban Treaty that precluded further atomic testing in the open atmosphere. The U.S. examined an Anti-Ballistic Missile defense system that was ahead of its time. Yet the U.S.

continued with the theoretical development work which produced a two phase system labeled "Safeguard."

Safeguard consisted of two separate missile systems designed to take out the Soviet's ICBM's before they could destroy their targets. Both systems were centered around exploding a nuclear weapon in close proximity to the incoming ICBM. Spartan was designed for high altitude use and Sprint was designed for low altitude use. Sprint met with considerable public opposition as no one relished the idea of having the U.S. explode a nuclear weapon over their house to prevent a Soviet nuclear weapon from doing greater damage in the same location. Sprint was never designed for use in heavily populated areas. Yet, it was difficult to sell the idea of using a nuclear weapon as a protective device for a missile silo.

While the theory was on the mark, the technique needed vast improvement before it could win any type of popular support. The time was not right for deployment of defensive systems in the U.S. for three major reasons; we possessed little capacity to place objects in space; we lacked the technology in miniaturization and computer advances; and, the political environment of the 60's where MAD came to be regarded as the nonthreatening approach within the spirit of detente.¹ This coupled with the vast amounts we were spending on the Vietnam war prevented the U.S. from expending our assets on an ABM system.

Mutual Assured Destruction was the strategy that the U.S. adopted as a result of not being able to afford, develop, or sell ABM to the American people. As a consequence of this lack of investment in the mid-sixties, our only alternative was to develop sufficient nuclear weapons so as to convince the Soviets that they would not survive if they launched a first strike. Thus began the age of nuclear escalation and the start of the arms race.

This approach had one major flaw, it required that the intelligence agencies be able to accurately estimate the capabilities of the Soviets to build nuclear weapons. This fact was grossly underestimated by the intelligence community and by the mid-late seventies the Soviets out-gunned the U.S. nearly 5 to 4.² Though their missiles were larger, ours were more accurate. Therefore, arguments over whether the Soviets or the U.S. had missile superiority can be made on both sides, and neither would be wrong.

By March 1983 and the now famous Star Wars Speech given by President Reagan, the world had lived under the threat of nuclear extinction for the better part of two decades without having a real threat of nuclear war (many may argue that the Berlin Crisis, the Cuban Missile Crisis and to a lesser extent the Soviet alert as a result of the '73 Arab/Israeli war brought the U.S. to the brink of nuclear confrontation.

I disagree, the fear of possible nuclear escalation prevented further involvement and conventional escalation). The question then becomes why change a system that seems to have worked for twenty years? The answer to that lies in President Reagan's firm belief that the American people deserve better than living under the constant threat of nuclear war.³ His vision, some say, began in earnest after his first SIOP briefing when he expressed with some dismay "there must be a better way."⁴ The Strategic Defense Initiative is his legacy to the nation that can, if implemented, provide greater security.

Before any further discussion of the Strategic Defense Initiative (SDI) we need to have a firm grasp of what SDI is and what it is not. SDI as envisioned by President Reagan was a funded study to evaluate the possible systems that could be used to defend the country from incoming nuclear missiles. It is not the "STAR WARS" systems about which so many news agencies and critics of the President protested.

While there is no definite vision of the shape a Strategic Defense umbrella may take, the President was insistent upon a research effort that would exploit the known technologies and the untested ones to come up with a system that would defend the heartland of the USA. Several technologies were known, in theory, to be effective,⁵ but none had been actually tested because of the ABM treaty. The President's vision then was to evaluate the possible

options and develop an alternative to the Mutual Assured Destruction strategy.

The President's evaluation looked at more than just existing technologies in order to develop the SDI. It went into an experimentation phase that assessed the viability of using new technology weapons to counter the threat. These new technology weapons are where the greatest controversy lies. The misnomer "Star Wars" is due to the fear that a new class of weapons would make the current arsenal look meek in comparison. ⁶ That some how these weapons, lasers particle beams, etc. would be used in an offensive manner. This is where the critics of the SDI have led the American people astray. SDI is not and has never been the search for better offensive weapons. On the contrary it is furthering technology for the defense of the nation from a real threat, that of extinction.

CHAPTER 2

Defending The Nation From All Missile Threats

The original vision of SDI was the defense of the nation from a Soviet-based missile attack.⁷ As the Iron Curtain continues to dissolve, the probability of a surprise attack in the form of a first strike from the U.S.S.R. becomes less likely. However, the proliferation of missile systems throughout the world is cause for concern. If an effective system can be placed in use, the benefit of rendering impotent the missile systems that are becoming more prevalent in the rest of the world should not be ignored.

Numerous nations currently possess nuclear weapons and a few have delivery systems capable of reaching the U.S. China, India, France, Great Britain, Iraq, South Africa, Israel, Pakistan, Libya all either have or will have nuclear weapons by the turn of the century.⁸ This nuclear proliferation is becoming more of a threat each day. A nuclear attack by any nation that is intercepted by our Strategic Defense system would afford the U.S. time to deal with the offending party in a more calculated manner. Thus possibly avoiding an escalation or retaliation on our part. Giving the U.S. time to respond is one of the greatest, yet least talked about benefits of a Strategic Defense system. Being able to know for certain that the attack was deliberate or only launched by a disgruntled general has tremendous advan-

tages. It provides the U.S. with the opportunity to resolve a problem in a rational manner without the hysterics associated with a successful attack against the U.S.

In addition to the growing nuclear threat an effective strategic defense system would be ideally suited to deal with the continued advances by the "poor man's nuclear weapons" specifically biological and chemical weapons. The threat these types of weapons pose is in all probability greater than that from a nuclear attack. The willingness of Iraq to use these chemical weapons in the Iran-Iraq war, and the purported use by Libya against Chad only serve to further illustrate this threat. Since the U.S. used two nuclear bombs to bring the Japanese to their knees at the end of World War II, no nation has had to explode nuclear weapons to solve a problem. Yet the use of chemical weapons has continued throughout the period with increasingly dramatic and fatal results. A strategic defense system does not differentiate between types of weapons launched, it treats all incoming missiles equally. By destroying them before they reach their targets, strategic defense systems would reduce our vulnerability to attack against all types of weapons significantly.

With strategic defenses in place the U.S. would have the ability to deal with any nation that threatens the U.S. with outright hostility or through less stringent controls

of their nuclear arsenals. This would increase the world stability. If the U. S. had this ability to deter aggression, it would be a significant step in stabilizing the world. We could and would export a strategic defense system to our NATO allies,⁹ and most probably to Japan.

By exporting our system we improve the stability of the free world, and put increasing pressure on the Soviets to come to the bargaining table to negotiate a good faith arms deal. The current CFE talks in Vienna may in some way be linked to how the Soviets perceived the threat of our SDI. The world becomes a safer place for all of the nations as strategic defenses become the next stage of weapons development. Missile systems will move into the museums and our grandchildren will wonder what all the fuss was about, just as we wonder how battering rams and armor could have changed the world in the Middle Ages. Granted this scenario is not around the corner, but it could very well be the course of events in the next century if we can maintain the fortitude to continue with this endeavor.

CHAPTER 3

FITTING SDI INTO THE NUCLEAR TRIAD

The nuclear Triad involves ICBM's, SLBM's, and Bombers carrying nuclear bombs and missiles. This is the strategic offensive punch of the U.S., while I have already stated that SDI is not designed as an Offensive weapons system, an examination of where it could fit into our strategic weaponry is appropriate.

The rationale behind the use of the three separate systems is the synergistic effect that takes place when they are used together. We have the nuclear TRIAD today because we needed the assurance that our strategic systems would work, and we would be able to launch some type of retaliatory attack if the Soviets launched first and the forces launched had an acceptable probability of arriving on target. With the advent of modern technology and the improvements through redundancy, it would be reasonable to question the validity of stationary targets as a part of the TRIAD.

Let's quickly examine the goals of a Soviet first strike. Their number one goal should be the removal of the U.S. ability to retaliate, i.e. destroy the U.S.'s nuclear missiles. A prerequisite to any effective targeting solution is knowing where the targets are at launch. With submarines and bombers that is not good enough, to effectively target them you must know where they will be in the

next thirty minutes. Therefore, the only targets the Soviets have a reasonable assurance of hitting at the beginning of a conflict are the ICBM's. While the air bases that the strategic bombers fly from are fixed, they are not the Soviet target. If the Soviet nuclear weapons impact the base after the bombers have left the weapons effectiveness is minimal, as the only things destroyed are the facilities. The weapons the bombers are carrying are on their way towards the Soviet Union in a retaliatory attack.

Targeting ICBM's is relatively easy since they don't move. The idea of a strategic shield that would protect the entire U.S. from a nuclear attack is no longer the thrust of our SDI. Rather, some type of system that would prevent the Soviet weapons from reaching their targets (our strategic forces) is the direction towards which most supporters of the system are headed. If we were to defend the ICBM's from attack by covering them with a shield of some sort we would effectively prevent the Soviets from launching a first strike. Even if our Strategic Defense system was not 100% effective, not knowing which of their missiles made it through the shield to reach its target would complicate the Soviet planning problem sufficiently to prevent them from launching a first strike.

Today the U.S. spends in excess of 12 billion dollars¹¹ per year to maintain (their)^{its} ballistic missile systems. This does not include the cost of maintaining the forces

required to operate them, nor does it include the cost of constructing Trident submarines (1.96 billion per copy with out government furnished equipment), Stealth bombers B-2 (532 million per copy)¹² and the associated support elements Fighters, SSNs, etc.. The total cost to maintain the strategic nuclear forces in a protected, ready condition is well in excess of the 12 billion quoted. The costs soar to well in excess of 30 billion. Some could argue that this is inexpensive for the security it has provided over the past 45 years, yet we need to seek alternatives to this continual building and spending to ensure a more cost effective security.

The question then is what does the U.S. lose if it does away with one leg of the TRIAD and substitutes SDI for that leg? While The ICBM's are the most responsive elements of the TRIAD¹³, they are also the most vulnerable to attack. If the U.S. was to remove all ICBM's it could concentrate our defenses on the cities and urban areas. The funds currently spent on ICBM development, maintenance and improvement could be used to offset SDI costs. The U.S. would still have sufficient weapons to retaliate should the Soviets attack. The U.S. would force the Soviets to center their attack on our population, a much less appealing option.¹⁴ Especially since the control of nuclear forces in both nations is a political dilemma and not purely a military option left to the discretion of the military commanders.¹⁵

The competition for the federal dollar is growing because of the pressure to decrease the federal deficit. Social programs, the education system, the environment, and every other program funded by the Congress have legitimate claims to increased funding. They are all worthwhile to their sponsors and provide a useful service to some segment of the population. Yet there are insufficient dollars to fund every program to the desired level. Continuing to fund research into SDI with an idea that we may be able to eliminate a portion of the Strategic forces seems to be a worthwhile investment in our future.

The U.S. proposes to spend 2.76 billion dollars to upgrade the current ICBM inventory in 1990.¹⁶ This money is going into upgrading an existing technology and has little potential for "spin-off" technologies. Yet, the funds that are being used for research into the Strategic Defense Initiative are sure to produce "... innovations that do have commercial potential-such as new software languages, next generation computers and new integrated circuit designs... ." ¹⁷ These advances will improve the economic base of the U.S., and perhaps provide new revenues that will provide for increased funding of the peripheral programs that Congress currently can not fully fund.

CHAPTER 4

AN ETHICAL CHOICE

The American people deserve better than living with the threat of nuclear destruction. The current philosophy of Mutually Assured Destruction is a morally bankrupt strategy. It assumes that the Soviets agree they would also be destroyed in a nuclear exchange. Increasingly we see that they do not necessarily believe that they would be destroyed. When, under the Kennedy administration we agreed as a nation to subscribe to MAD, we did so with the intention of building sufficient weapons to destroy the Soviets and no more. We assumed, in error, that the Soviets would build to the same level and we would then have parity. For Mutual Assured Destruction to be an effective strategy both parties must have a "mutual" belief that they can not survive. This has not been the case.

The Soviets exceed our capacity to wage nuclear war in every case except SLBM's. They have more reentry vehicles, more bombers and more megatons than we have. ¹⁸ Additionally, they continue to pursue an active civil defense program and have outspent the U.S. on strategic defense research since early in the Sixties. Prior to approval of SDI funding the Soviets were outspending the U.S. by 2.8 billion ¹⁹ dollars annually for defense. President Reagan's proposal seeks to find a viable alternative to this "MAD" strategy.

The Soviets are not eager for or anticipating a nuclear war, rather their approach is totally foreign to the U. S. They have been invaded and have had portions of their country occupied and pillaged by one invading army after another for centuries. Because of their history, defense of the homeland has been the focus of their efforts for eons. While nuclear war is not desirable, they believe it can be won if the correct precautions are taken. The Soviets have a functioning ABM system, and a trained nuclear survival cadre of greater than 20 million people. "The Soviet Union plans on and for, their survival of a nuclear war."²⁰

Yet the U.S. view is dramatically different. We gave up on the possibility of winning a nuclear exchange and stopped funding our defense programs, both civil and military by 1968.²¹ The U.S. believed that MAD was a better alternative than total escalation. Furthermore, since we could not fully fund or garner sufficient support for early efforts in the ballistic missile defense arena, MAD seemed the only viable strategy worth pursuing. By the late 70's prevailing support for MAD in the U.S. had begun to alter. Yet not until 1980, and the U.S. realization that it was on the short end in the strategic stability arena, were we willing to attempt to do something about MAD.

A growing Anti-Nuc element was establishing itself as a "grass roots" movement, and the American Bishop's Pastoral

letter on nuclear war criticized the U.S. offensive force
and endorsed a freeze.²² This placed the existing response
to any prior Soviet build-up in jeopardy. To believe that
we could or should strive for parity with the Soviets in
strategic arms through another arms escalation was naive.
President Reagan had shown great appreciation for the Mutual
Vulnerability "trap" since 1967. When, as Governor of
California, he visited Livermore weapons laboratory and
expressed his dissatisfaction with current deterrence policy
and his faith that American technology would lead a way out
of the MAD strategy.²³

President Reagan strongly believed that the American
people deserved a better strategy than the same old "knee-
jerk" reaction to a Soviet first strike. His words of 23
March 1983 illustrate: "Would it not be better to save lives
than to avenge them? Are we not capable of demonstrating
our peaceful intentions by applying all our abilities and
our ingenuity to achieve a truly lasting stability?"²⁴

There are many critics of the President's Strategic
Defense Initiative. Yet none can muster a strong argument
against his rationale. His is the morally correct position,
no sane critic would argue that it is better to avenge a
life than to save one. The critics have stated that the
current technology would not allow the U.S. to build a "STAR
WARS" system. The President's vision was not to build the
system, but rather to see what was feasible and how emerging

technologies could fit into this vision.

The major concern today centers on the fact that no shield would provide 100% protection against incoming missiles. Therefore, not everyone would be saved if the Soviets launched a first strike. While no single system can provide this guarantee, the system as it is envisioned today involves the layering of defenses. When combined in layers an average effectiveness of only 60% per layer would equate to a total of 97% effectiveness with only four layers.²⁵ This degree of effectiveness is sufficient to dissuade the Soviets from launching a first strike.

Some argue that if the system were 97% effective the Soviets' only alternative would be to launch an attack at the first sign of U.S. deployment. This argument also lacks validity. Even at the first stage of strategic defense deployment critics of SDI agree that the U.S. would be able to use existing technologies to protect the retaliatory forces. "Reducing the Soviets confidence in their ability to launch an effective first strike by defending our retaliatory forces should be the key to enhancing crisis stability."²⁶

The thought of the Soviets attacking after we have an effective defensive system in place is contrary to reason. With an effective shield in place the Soviets would not be

able to predict which of their missiles would be able to reach the target. This alone would serve to deter a first launch. With careful analysis they could probably predict the total number of missiles that they could reasonably expect to reach the U.S. but no analysis would be able to predict which of the missiles would be destroyed.²⁷ This attack then would leave the U.S. with sufficient weapons in its inventory to assure success of a retaliatory attack. This would put the Soviets at a disadvantage that they could not bear. Therefore they would not be inclined to launch a first strike after deployment.

The current situation in Eastern Europe does not inspire confidence in the stability of the region. The U.S. and NATO's conventional forces have always been and continue to be outnumbered and outgunned in this region. However, our ability to confront the Warsaw Treaty Organization on an equal footing in Europe has always relied on the U.S. first use of strategic nuclear weapons in the event that the Soviets launched an attack across the Inner German Border, or the U.S. would be forced to give up a vital interest in the area. The alternative to defeat in this region has always placed the lives of 100-160 million Americans at risk. But would an American President be willing to accept those casualties to maintain that vital interest?²⁸

How then would the SDI change our position in this area? If one assumes that the U.S. has an effective Strate-

gic Defense system, and that this system is in operation in both NATO and the U.S. I submit that the Soviets would be even less likely to launch an invasion into Europe. On a strictly conventional attack the Soviets still rely heavily on missile systems to take out key targets in the Western European theater.²⁹ The presence of a Strategic Defense system would again place the Soviet military planners in a position from which they could not reasonably predict success. The conclusion then must be that SDI would make the whole European theater more stable. Critics of the SDI used the argument that "... the initiative would greatly complicate the already difficult problem of calculating balances within arms control agreements..."³⁰ However, the changing Soviet outlook towards SDI, the movement in Vienna towards CFE, and recent unilateral troop withdrawals by the Soviets only serve to further illustrate the error in the critics vision.

An added benefit of the SDI is the improvement in response time to any attack. One of the worst effects of our present nuclear strategy is that there is no time for diplomacy before a response must be made to a Soviet attack. A Strategic Defense system affords the U.S. the opportunity to exhaust diplomatic channels before we must retaliate since some of the incoming missiles would be rendered useless by the Strategic Defense shield. If the attack was an unauthorized launch we would not be compelled to respond in

kind. This would increase the stability of the U.S. and the world. by providing options to a complete retaliation.

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There can be no doubt that SDI is the ethical choice for the Nineties and beyond. If there were a choice between Mutually Assured Destruction or Strategic Defense with a measured response, I submit there would not be many who would opt for MAD. The time is right to move forward in this endeavor with the fullest vigor.

Coupled with effective arms reduction treaties such as START or INF, SDI only becomes stronger. The U.S. and the Soviets are negotiating their nuclear arsenals down to only a token of what they are today. As the number of missiles diminish SDI becomes more important. The effectiveness goes up as greater numbers of people will survive since fewer missiles will be available for use. For this reason the U.S. should continue the arms reduction talks with the Soviets, and continue to emphasize strategic defense research. Until there are no longer any nuclear missiles aimed at the U.S. SDI will be required. Even when the nuclear arsenals are gone SDI will provide protection from a missile attack and that adds to stability as discussed in chapter 2.

CHAPTER 5

CONCLUSION

There are more sides to the SDI debate than can adequately be covered in this paper, however, the arguments that have been put forward here are all worth investigating. President Reagan has left a mark on this nation that will not easily be forgotten, yet his greatest contribution may only be as visible as the tip of an iceberg at this early stage of SDI development. A new strategy based on our ability to destroy incoming nuclear forces before they can damage the population is a legacy we should be proud to leave our grandchildren.

Much speculation has already been voiced over the true reason that the Soviets have subscribed to the new era Perestroika, yet one must ask, did the Congress's funding of the SDI force Gorbachev's hand? The Soviets are behind the rest of the developing world in the technology field and our emphasis on improving strategic defenses only served to widen that gap. As the rest of the world begins to benefit from new technology, the Soviets are only beginning to realize they are not much better off than most third world nations, with the exception of their armed forces.

Their life expectancy, infant mortality rate, infection rate, alcoholism, are no better than those found in third world nations and not close to the rates experienced by

industrialized nations. They can not continue to build their armed forces at the expense of the population. There is grave concern in the Soviet union that Communism has failed and that some other system of government must take over to keep the Soviet Union strong.³³ During this time of transition in the Soviet Union the U. S. would be a safer place to live if we were able to have a strategic defense system in place to deal with the unexpected. With political upheaval waiting for the next mistake that Mr. Gorbachev makes it would be reassuring to know that the Soviets could not make a successful attack against the U.S. if some hard line conservative came into power after the current Soviet administration.

The American people deserve to live their lives without the fear that a Soviet first strike would destroy the very fabric of their existence. A strategic defense system provides that assurance. The rest of the world would be a safer place if the U.S. and the Soviets could agree on an arms reduction treaty that still provided sufficient security to both parties to enable them to lay down their arms. A strategic defense system held by both parties could provide that assurance.

We are on the edge of a new world where we may be able to render all missile systems obsolete. Certainly this is not a reality for the next year, but who knows how far this

research may take the U.S. A strategic defense shield that could protect the entire world, would allow the nations of the world to concentrate their defense dollars on items more beneficial to mankind. In a world safe from the threat of missile attack maybe we could find a means of living with each other in a more harmonious way, where our greatest concern is how we can better control the environment. A far fetched dream? Maybe, but then it was only thirty years ago that most people were saying that it would be impossible to get a man on the moon before the Soviets.

While I do not feel that the time is right today to beat all our arms into plow shares, the advent of an effective strategic defense system may allow the U.S. to take the first teetering steps in that direction without ^{the}und~~o~~ fear of invasion or armed conflict.

While the argument for and against SDI will continue until such time that it is either proven to be effective or impossible, I strongly feel that the time is right to put a good faith effort into the program. The alternative, living with the threat of nuclear extinction, is too much to continue to ask of the U.S. population and the rest of the world.

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(26) Ibid. p. 107.

(27) Valhos, Michael, p. 55.

(28) Payne, Kieth B., pp. 13-14.

(29) Hoffman, Wohlstetter & Yost, p. 328.

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(31) Pourelle & Ing, p. 95.

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