STRATEGIC DEFENSE INITIATIVE

FACT BOOK

September, 1986

DTIC QUALITY INSPECTED 4

Prepared by:

American Defense Preparedness Association
1700 North Moore Street
Suite 900
Arlington, VA 22209

PLEASE RETURN TO:
BMD TECHNICAL INFORMATION CENTER
BALLISTIC MISSILE DEFENSE ORGANIZATION
7100 DEFENSE PENTAGON
WASHINGTON D.C. 20301-7100

19980309 059

U6077

DISTRIBUTION STATEMENT A

Approved for public release;
Distribution Unlimited

Accession Number:	6077
Publication Date:	Sep 01, 1986
Title:	Strategic Defense Initiative Fact Book
Corporate Author or Publisher:	American Defense Preparedness Association, 1700 N. Moore St., Arlington, VA 22209
Report Prepared For:	ARPA and Rome Laboratory
Abstract:	This fact book is intended to provide decision-makers and political leaders with accurate, factual and up-to-date information on the Strategic Defense Initiative (SDI).
Descriptors, Keywords:	Strategic Defense Initiative SDI Fact Book ADPA
Pages:	200
Cataloged Date:	Sep 26, 1996
Copyrighted or Not:	Y
Document Type:	HC
Number of Copies in Library:	000001
Record ID:	42360

TABLE OF CONTENTS

I. STRATEGIC DEFENSE INITIATIVE

A. Overview

B. History of U.S. Nuclear Deterrence Policy

C. Current U.S. Strategic Policy

D. Triad and Deterrence

E. Triad and SDI

F. Strategic Defense Initiative

G. SDI Program Objectives

H. Mission of SDI

I. Summary of Blue-Ribbon Commission Findings

II. ACDA REPORT: Reprint of Arms Control and Disarmament Agency Report on Soviet Anti-SDI Propaganda Campaign

III. THE SOVIET DEFENSIVE PROGRAMS

A. Programs and Plans

B. Summary

C. Talking Points

IV. CONGRESSIONAL STATUS OF SDI

- A. Senate
- B. House
- C. Consequences of Votes
- D. Specific Impact of Potential Budget Cuts

V. SDI TECHNOLOGY

- A. Multi-layered Defense Strategy
- B. The Program
- C. Technological Successes

VI. SDI: THE COST

- A. The President's 5-Year Proposal
- B. Long-Term Costs of Deploying SDI

VII. SDI AND OUR ALLIES

- A. A Joint European-American Approach
- B. Summary of Allied Participation

VIII. SDI AND ARMS REDUCTIONS

- A. Arms Control "Leverage" or "Bargaining Chip?"
- B. The Current Environment
- C. SDI and the ABM Treaty
- D. The SALT II Treaty

IX. SDI POINT/COUNTERPOINT

A. SDI Debate Points: Issues and Answers

B. Frequently-Asked Questions About SDI

X. SDI TALKING POINTS

A. Issues by Category

B. SDI Themes

XI. QUOTABLE QUOTES: What They're Saying About SDI

XII. PUBLIC OPINION AND SDI

A. Overview

B. Public Support of SDI

C. America's "Defenseless" Posture Not Understood

XIII. GLOSSARY

STRATEGIC DEFENSE INITIATIVE
OVERVIEW AND INTRODUCTION
Executive Summary

This Fact Book is intended to provide decision-makers and political leaders with accurate, factual and up-to-date information on the Strategic Defense Initiative (SDI). Because the debate on SDI has centered more on rhetoric and less on facts, decision-makers have few reliable sources for basic information when the issue is discussed. This Fact Book strives to be such a source.

This first chapter is intended to provide an overview of SDI, information on America's basic strategic policy at the current time, and some historical perspective on the issue of missile defense.

In earlier decades (under both Democratic and Republican administrations), the concept of defending against incoming nuclear missiles has been explored. This is not a new concept -- what is new is the technology that is currently available that could make a defensive system more feasible and more reliable. This is one of the major reasons President Reagan proposed in 1983 that the United States make research into a missile defense system a high priority.

Currently, the U.S. strategic policy is one of deterrence through the threat of massive retaliation. SDI seeks to change this approach. If such a system proves feasible (and many proponents argue that the technology is most

encouraging at this point), the U.S. and the Soviet Union could make a gradual transition to defensive systems, thus reducing reliance on offensive weapons of destruction.

The goal of the SDI program is to provide future decision-makers with an informed choice. SDI is currently a research and development program designed to determine the feasibility of a future system. This five-year program seeks to provide decision-makers in the early 1990s with solid information about the potential of various technologies and the potential for deploying a defensive system. In addition, it seeks to provide our leadership with options in case of a Soviet technological breakthrough or further Soviet "break-out" from the Anti-Ballistic Missile (ABM) Treaty of 1972.

Finally, it should be emphasized that SDI is not meant to replace our current need for modernization of our strategic forces. Such modernization is necessary in order to maintain stability and continue our policy of deterring a Soviet first-strike.

STRATEGIC DEFENSE INITIATIVE

"The world knows that there's no more powerful force than an America united and determined to protect its freedom."

-- Ronald Reagan
June 3, 1986

OVERVIEW

The concept for a Strategic Defense Initiative was first introduced by President Reagan in a televised address to the American people on March 23, 1983. In that address, the President outlined his strategic policy to eliminate the threat of a nuclear exchange and deter a nuclear attack by building a multi-layer, strategic defense system. Accordingly, President Reagan placed his faith in the ingenuity and determination of American scientists to research and develop technologies that eventually could "render nuclear weapons impotent and obsolete." His speech is an invitation to exert the American spirit in accepting that challenge:

> "I call upon the scientific community in our country, those who gave us nuclear weapons, to turn their great talents now to the cause of mankind and world peace, to give us the means of rendering these nuclear weapons impotent and obsolete." (3/23/83 Reagan address)

The critical importance of the President's speech was not only the new direction that it set for U.S. nuclear arms policies, but also the moral justification on which President Reagan based this new policy of defense against nuclear weapons.

> "The human spirit must be capable of rising above dealing with other nations and human beings by threatening their existence ... Wouldn't it be better to save lives than to avenge them?
>
> "We will never be an aggressor. We maintain our strength in order to deter and defend against aggression -- to preserve freedom and peace.
>
> "SDI could pave the way for arms control to eliminate the weapons themselves. We seek neither military superiority nor political advantage. Our only purpose is to search for ways to reduce the danger of nuclear war." (3/23/83 Address)

The same moral philosophy was still evident in the President's radio address delivered on July 12, 1986 -- more than three years later:

> "We can only rid this planet of the threat of nuclear annihilation by searching for a more effective, safe and moral way to prevent war, a deterrence based on defenses which threaten no one, a deterrence that will succeed not by the threat of retaliation but by its ability to protect." (7/12/86 Radio Address)

Thus, the Strategic Defense Initiative was conceived upon a new concept or definition of deterrence, one which would ensure that the Soviet military planners and strategists could not know how many -- if any -- of their weapons (or even which of their weapons) would actually reach their targets in the U.S. This uncertainty, coupled with the strength of U.S. and NATO retaliatory forces, would serve to deter a first strike by the Soviets or any other aggressor. One essential tenet in the President's new initiative for defending America is that, by this definition, SDI need not be 100% effective to work as a DETERRENT. As the President stated:

> "Deterrence [is] making sure any adversary who thinks about attacking the United States, our allies or our vital interests, concludes that the risks to him outweigh any potential gains. Once he understands that, he won't attack." (President Reagan, 3/23/83 Address)

HISTORY OF U.S. NUCLEAR DETERRENCE POLICY

Until the early 1960's, American military supremacy and nuclear superiority over the Soviet Union was so extensive that the threat of a Soviet attack was basically theoretical. President Eisenhower, and initially, President Kennedy both supported defensive programs as a means of deterrence, ones which would limit destruction from an enemy attack. It was not until after the Cuban "missile crisis" that then-Secretary of Defense Robert McNamara and then-Assistant Secretary Harold Brown initiated our long-standing policy of deterrence that is based on the threat of retaliation, which is summarized as follows:

> "Our safety rests on the willingness to destroy the attacker as a viable 20th century nation and not from any ability to partially limit damage to ourselves.
>
> "I would judge that a capability on our part to destroy say 1/5 to 1/4 of her population, and 1/2 of her industrial capacity would serve as an effective deterrent. Such a level of destruction would certainly represent intolerable punishment for a 20th century industrial nation." (Robert McNamara, 1963).

In testimony before the Senate Armed Services Committee in 1968, McNamara and Brown said that "Defense of our cities against a Soviet attack would be a futile waste of our resources." It should be pointed out that their justification may be considered more "theoretical" than scientific since some of the technology for defensive weapon systems already existed in 1968.

The policy of assured retaliation resulted in the subsequent negotiation of the ABM Treaty in 1972 and the signing of the Salt I interim treaty in 1972.

Salt II, negotiated in 1979 to extend SALT I and set limits on offensive weapons, was never ratified by the U.S. Senate, which was concerned about a possible advantage to the Soviets.

The policy of retaliation continued basically unchallenged through the 1970s. Consequently, the shift to proposals for a nuclear defense occurred in the 1980s because of: (1) a massive, continuing Soviet military buildup in, both offensive and defensive weapons systems; (2) continued evidence of Soviet non-compliance with arms control treaties (Salt II and ABM); (3) technological advances that, for the first time, opened the door for the development of truly defensive systems as the basis for nuclear deterrence; and (4) U.S. advances in computer and other technological areas of expertise which will, for the first time, permit integration of components into an interactive, multi-layered defense system.

Reagan restated his intentions to abandon MAD and his Administration's commitment to defense via SDI in the 1984 presidential campaign debate against Walter Mondale:

> "MAD is mutual assured destruction, meaning if you use nuclear weapons on us the only thing we have to keep you from doing it is that we will kill as many people of yours as you will kill of ours. I think that to do everything we can to find something that would destroy weapons and not humans is a great step forward." (10/21/84 Debate)

BACKGROUND: CURRENT U.S. STRATEGIC POLICY

Overall, the primary objectives of America's national security policy in the 1980s may be summarized as follows:

* deter attacks on U.S. and allies
* prevent coercion
* prevent war
* protect economic, political, and military interests
* limit Soviet expansion
* reduce nuclear arms

The strategy which America has followed in pursuing -- and achieving -- these national security objectives -- deterrence -- is comprised of the following:

1. maintain viable strategic forces with retaliatory capabilities -- and a stable balance in overall levels of U.S.-Soviet forces -- sufficient to deter Soviet attack/aggression/coercion
   -- focus on what Soviets value most: political/military structures
   -- ensure Soviets know that the risk of attack outweighs possible gains
2. if deterrence fails
   -- ensure survivable forces capable of retaliation
   -- ensure damage to U.S. is limited
   -- terminate conflict at lowest level by utilizing flexible response options
3. strong deterrent force stimulates Soviets to enter into arms reduction negotiations

The President's 5-Part Defense Modernization Program

In October, 1981, President Reagan outlined a sweeping 5-part program designed to improve and modernize America's strategic forces. The Reagan proposals included modernization of:

* Command, Control and Communications
* Strategic bombers
* Sea-based forces
* Strategic defense systems
* ICBMs

The President's proposal has served as the guiding force for most of the modernization programs approved by Congress since 1981. The Command, Control and Communications programs for all services have been updated and improved, and new strategic weaponry, such as the B-1 bomber, the Trident submarines and the MX missiles, has also been put into place -- thus improving our TRIAD system.

An effective TRIAD depends upon modern strategic weaponry that can act as a deterrent against a Soviet first-strike.

TRIAD AND DETERRENCE: OVER 30 YEARS OF SUCCESS

Our strategic TRIAD is comprised of a combination of land-based missiles (ICBMs), sea-based missiles (SLBMs), and bombers. Our deterrence strategy is predicated upon the maintenance of such a diverse force structure in order to enhance the survivability of U.S. strategic forces.

The dispersal of the strategic nuclear arsenal among ICBMs, SLBMs,, and bombers poses near-impossible difficulties of attack timing for potential first-strike consideration by Soviet planners. Each element of the TRIAD has distinctly different characteristics which require unique methods to defeat. Not only do these individual characteristics necessitate unique attacks to counter each TRIAD element, they also provide complementary survivability for the TRIAD as a whole.

TRIAD and SDI

If TRIAD is the backbone of U.S. strategic policy -- and if it has worked effectively for more than 30 years -- why do we need SDI?

The answer is that the deterrence ability of TRIAD -- its ability to protect the U.S. against a Soviet first-strike -- will continue to be the cornerstone of America's defense until a transition is made to a defensive posture. At the same time, however, it is important to note that TRIAD is part of the "mutual assured destruction" concept of deterrence that has been in place for

four decades. If SDI is successful in moving both superpowers away from destructive offensive weaponry, it is clear that the value of some elements of the TRIAD will be diminished.

However, until SDI is researched completely -- and until decision-makers in the 1990s have solid research information on which to base a decision on SDI -- the TRIAD must remain the basis for America's national security.

In short, SDI does not reduce the need for TRIAD now. Furthermore, it is imperative that we continue the President's 5-part strategic modernization program in order to match the Soviet advances. In the long run, it is hoped that SDI research will yield an effective system that reduces or eliminates the need for offensive weapons. Until that time, however, our national security will continue to depend on the strategic modernization and readiness of the TRIAD.

THE STRATEGIC DEFENSE INITIATIVE

President Reagan's directive for a comprehensive and intensive ballistic missile defense (BMD) is incorporated into a three-part program to maintain a "flexible response" to possible Soviet aggression. It is important to emphasize that SDI is only one part of a three-part program. It often is incorrectly perceived as an intended deterrent in and of itself.

The three components of Reagan's program to "eliminate the threat posed by nuclear weapons" are:

(1) MODERNIZATION -- modernizing the TRIAD of U.S. Strategic weapons (offensive nuclear retaliatory forces). This has become an ongoing and near-term goal of the President's program which has as its goals the restoration of strategic balance and stability, reversal of the decline of our military strength in the late 1970s, and the negotiation of arms reductions from a position of strength.

(2) ARMS NEGOTIATIONS -- pursuit of real reductions in the strategic nuclear arms of both nations through a MUTAL and VERIFIABLE ARMS REDUCTIONS AGREEMENT with the U.S.S.R. This also is an ongoing and near-term objective.

(3) DEFENSE -- continuing research and development over the long-term, with a decision on deployment to be made in the early 1990s.

Reagan restated this summary of his three-part program in a letter to U.S. Senator Barry Goldwater on June 4, 1986. This letter comprised the President's response to the letter signed by 46 Senators who call for a cut in the President's proposed funding for SDI (copies of the letters are attached).

The President stated:

> "SDI will reduce the risk of nuclear war by establishing a safer, more stable basis for deterrence in the long-term and by providing new and compelling incentives to the Soviet Union for seriously negotiating reductions in existing nuclear arsenals."
>
> -- Reagan letter to Senator Goldwater
> June 4, 1986

It should be pointed out that deployment of some elements of SDI may not be permissible under the terms of the 1972 ABM treaty (which expires in 1987). The treaty prohibits the development of strategic defensive options. Partially due to this fact and critics' questions about the feasibility of the system, President Reagan purposefully defined SDI in very general terms -- as a research project -- and as an initiative to research future technologies. In short, SDI is established as a program to take "steps to determine future options for ensuring deterrence and stability."

SDI PROGRAM OBJECTIVES

The basic goals of the program as outlined by the Strategic Defense Initiative Organization (SDIO is the Department of Defense unit that oversees all SDI activities), include:

- -- Conducting a comprehensive research and development program to develop key technologies for defense against ballistic missiles;
- -- Considering options to increasing the contribution of defenses to an effective deterrent;

-- Providing the basis for an informed decision as to whether to proceed with development in the 1990s;

-- Protecting the option of a near-term deployment as a response to Soviet ABM breakout;

-- Emphasizing non-nuclear mechanisms to "kill" incoming missiles;

-- Coordinating SDI with force modernization programs and arms reductions efforts.

THE MISSION OF SDI

In recent months, there has been considerable debate over the true "mission" of the Strategic Defense Initiative. Is it, as President Reagan has said, meant to protect the population of the United States -- and can such a goal be achieved? Or is it, as others have suggested, a system to provide point defense; i.e., a defense for key military "points," such as our U.S. ICBM silos or other military installations which are likely to be Soviet targets?

The answer is that SDI is not an "either/or" proposition. The President's goal of protecting the population of the United States and its allies remains the primary motivation for the Strategic Defense Initiative. Proponents of SDI argue that the required technology is available and achievable -- that the issue of SDI viability will eventually be a political decision, not a technological one.

To be sure, it may be possible -- over the short-term -- to utilize some of the SDI technology to provide "point defense" of military targets in America. The strategy, in and of itself, would enhance deterrence because it would cause greater uncertainty among the Soviet military planners as to whether or not they could succeed with a nuclear first-strike attack on the U.S.

The Administration argues that the debate over "population defense" versus "point defense" misses the point: that it is a desirable goal to protect -- to defend -- our people from nuclear attack and, therefore, this should remain the long-term objective of our research on nuclear defense technologies. At the same time, of course, SDI research may also be used to enhance our current national security systems and to defend our military assets.

Defense Secretary Caspar Weinberger and President Reagan have continued to insist that "population defense" is the goal of the Strategic Defense Initiative. Both recognize that any short-term benefits, such as "point" defense, must be considered in the next decade, but they have said time and time again that the primary purpose of any deployed SDI system must be to defend people. Said Secretary Weinberger recently:

> "It is not our missiles we seek to protect but our people, and we must never lose sight of that goal."
> (Defense Secretary Caspar Weinberger; July 2, 1986)

Will It Work?

For those who say that a "leakproof" defense is impossible to achieve, there are several factors to be considered:

* SDI is a research program, one that has only just started -- critics are prejudging scientific research before it is completed;

* Even if a "leakproof" defense proves technically impossible to achieve, a strategic defense that could stop most incoming missiles -- say, 90 or 95 percent -- would remain a very effective deterrent. If Soviet military planners knew that a massive first-strike would not succeed -- if they knew that enough of our retaliatory capability would survive because of SDI -- they would be deterred from launching such a first-strike from the beginning.

There are still many issues and questions about SDI that remain to be resolved through continued research. Hence, regardless of the various forms the debate takes -- in the contexts of technology, politics and elections, budgetary decision, arms negotiation strategies and national security policies -- it is critical that SDI research be continued at sufficient levels to ensure that American decision-makers in the 1990s will know exactly what options we have for strategic defense and national security. Equally important, if there is a way to defend our nation against the threat of nuclear missiles, and if there is a way to end the "balance of terror" of the nuclear age, America can lead the way in finding it through an adequately sustained program of research and development.

SUMMARY OF FINDINGS BY SDI STUDY COMMISSIONS

Two studies were commissioned by the President to make recommendations on how to proceed following his speech. They were the Defensive Technologies Study and the Future Security Strategy Study. The former, also known as the Fletcher Study (headed by NASA Administrator James Fletcher), assessed technical issues. It concluded that:

(1) technology does not now exist to provide a basis for a decision to produce and deploy actual weapon systems that are capable of satisfying the President's goals;

(2) powerful new technologies are becoming available, however, that justify a major technology development effort to provide future technical options to defend against ballistic missiles;

(3) research and technology development should be initiated of a multi-layered defense to destroy incoming ballistic missiles at any and all stages of their trajectory (e.g., boost, during which the missile is launched and ascends into space; post-boost, during which up to perhaps 10 independently targeted warheads might be released from the missile; mid-course, during which the warheads or re-entry vehicles (RVs) and perhaps decoys travel on ballistic trajectories through space; and terminal, during which the RVs plummet toward their targets on Earth);

(4) the ability to develop sensors and battle management systems many times more effective than those now in use would be needed for an effective multi-layered defense;

(5) the defensive system ultimately should have the capability to destroy missiles in the boost phase before multiple warheads are deployed, necessitating that certain system components by based in space; and

(6) an informed decision on system development cannot be made before the end of the decade, but there are near-term demonstrations that would indicate progress as well as U.S. resolve to explore the potential of a new ballistic missile defense (BMD) system.

The latter study, also known as the Hoffman Study (headed by Fred Hoffman of Pan Heuristics), addressed policy issues. It concluded that:

(1) pursuit of advanced defensive technologies could offer options to enhance deterrence and increase strategic stability;

(2) some uncertainties remain regarding stability and deterrence that will not be resolved fully until more is known about the technical characteristics of defensive systems and how the Soviet Union will respond to the U.S. initiative;

(3) these uncertainties notwithstanding, options for deployment of advanced BMD should be studied further and a broad-based research and development (R&D) effort would provide a necessary and vital hedge against the possibility of a one-sided Soviet deployment;

(4) defensive systems must afford security to U.S. allies and cannot reduce America's capability to maintain commitments around the world so that, even as R&D is pursued, a strong and modern offensive deterrence capability will still be required; and

(5) initially, a broad research program on defensive technologies will be entirely consistent with existing U.S. arms control obligations.

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release July 12, 1986

RADIO ADDRESS
BY THE PRESIDENT
TO THE NATION

Camp David

12:06 P.M. EDT

THE PRESIDENT: My fellow Americans, one week ago we showed the world what it means to love liberty. The spectacular celebration of our independence and Miss Liberty's centennial will likely be described by historians as a reflection of the good will, joy, and confidence so apparent in our country.

Instead of focusing on problems, America is looking for solutions. Instead of fretting about this or that shortcoming, we're out creating, building, and making things better. Instead of lamenting dangers, we're putting our best minds to work trying to find ways of making this a safer, more secure world.

And that's what I want to talk with you about today: our major research effort called the Strategic Defense Initiative, SDI, which is aimed at ridding this planet of the threat of nuclear annihilation.

Back in 1983, we enlisted some of America's top scientists and set in motion a research program to see if we could find a way to defend mankind against ballistic missiles, an anti-missile shield, if you will. Our SDI research is searching out a more effective, safe, and moral way to prevent war, a deterrence based on defenses which threaten no one, a deterrence that will be viewed as a success not by the threat of deadly retaliation but, instead, by its ability to protect.

And never was a purely defensive system so sorely needed. Since the early 1970's, the Soviet Union has been racing forward in a vast and continuing military build-up, including the expansion of their offensive nuclear arsenal and an intense effort to develop their own strategic defense. And as described in a publication issued last October by our State and Defense Departments, the Soviets also have deployed the world's only anti-ballistic missile system. These Soviet strategic defense programs have been termed "Red Shield" in an article in this month's "Reader's Digest." They were confirmed in an open letter issued last month by a group of 30 former Soviet scientists now living in the U.S.

In stark contrast, we are defenseless against the most dangerous weapons in the history of mankind. Isn't it time to put our survival back under our own control?

Our search for an effective defense is a key part of a three-pronged response to the Soviet threat. We also have been moving ahead to modernize our strategic forces and, simultaneously, to reach fair and verifiable arms reduction agreements with the Soviet Union. The Soviets have yet to agree to arms reduction despite the strenuous efforts of several U.S. administrations. However, our SDI research to make nuclear missiles less effective also makes these missiles more negotiable. And when we talk about negotiations, let's be clear. Our SDI research is not a bargaining chip. It's the number of offensive nuclear missiles that need to be reduced, not the effort to find a way to defend mankind against these deadly missiles. And reliable defenses could also serve as insurance against cheating or breaking out of an arms reduction agreement.

MORE

All this makes it ever more important to keep our strategic defense research moving forward. We have set up a well-managed program which, in just over 3 years, has already accomplished much. Even faster progress than expected has been made in developing the system's "eyes" -- scientists call them sensors, and its "brains" -- which guide an interceptor toward its target, and methods of stopping incoming missiles, especially with non-nuclear means. Technological advances now permit us to detect and track an aggressor's missiles in early flight. It is in this boost phase that missiles must be intercepted and knocked out to achieve the protection we're looking for.

There have been some major achievements in the diplomatic field as well. Great Britain, West Germany, and Israel have signed agreements to participate in the research, and talks with other major allies are expected.

Nothing of great value, of course, comes cheap. But a defensive system which can protect us and our allies against all ballistic missiles, nuclear or conventional, is a prudent investment. I am sorry to say, however, that some members of Congress would take a short-sighted course, deeply cutting the funds needed to carry out this vital program. So it is imperative your voice is heard. In the weeks ahead, it would be a tragedy to permit the budget pressures of today to destroy this vital research program and undercut our chances for a safer and more secure tomorrow. President Eisenhower once said, "The future will belong, not to the faint-hearted, but to those who believe in it and prepare for it."

I agree with that, and I know you do, too. Until next week, thanks for listening, and God bless you.

END 12:11 P.M. EDT

CASPAR W. WEINBERGER

Morality Demands the SDI As Only Alternative to U.S.-Soviet Suicide Pact

It is truly unfortunate that President Reagan's proposal to study the potential of a defense against Soviet ballistic missiles was instantly named "Star Wars." This catchy term calls up images that are the exact opposite of the intentions of our Strategic Defense Initiative (SDI). And what's worse, the Soviet Union compounds the confusion with fraudulent charges about how SDI seeks to "militarize space." Again, a catch-phrase is used to mislead and misinform.

In order to understand the truth about SDI, you must consider our current strategic relationship with the Soviet Union. For some years now, we have believed that we could deter a Soviet nuclear attack by threatening retaliation with our own nuclear weapons. Our retaliation would be so destructive that the Soviets would never consider it reasonable to attack in the first place. The risks would simply be too great for any possible benefits.

We assumed that the Soviet Union also respected this concept of deterrence and in 1972 we signed an agreement with them — the Anti-Ballistic Missile (ABM) Treaty — that prohibited each nation from defending itself against nuclear attack. This policy of deterrence is known as "agreed mutual vulnerability" or "mutual assured destruction." Neither side would dare strike first, because it would have no way to defend against an unspeakably devastating retaliation.

Recently, however, we have come to see that the Soviet Union does not subscribe to this idea of deterrence. Rather, for a long while they have vigorously pursued defenses against our retaliatory nuclear missile force. In fact, the Soviet Union now spends ten times more than we do on all forms of strategic defense. We must recognize what this means — the Soviets are seeking a first-strike capability and plan accordingly.

The Soviets have around Moscow the only operational ABM system in the world and even now they are upgrading it. Moreover, they have violated the 1972 ABM Treaty by building a missile detection and tracking radar in Siberia. While the Treaty allows nations to build radars for early warning, this Soviet radar is clearly not intended for this purpose. Rather it is a part of an emerging nation-wide strategic defense system.

The Soviets, however, deny that they are working on strategic defense and label any mention of it by us a "slanderous attack."

In addition to a strategic defense effort that far outpaces our own, the Soviets have designed their offensive nuclear force — especially their land-based missiles — to be first-strike weapons. This is clearly inconsistent with deterrence based on agreed mutual vulnerability. In order for such deterrence to be successful, we need only build nuclear weapons that can strike back with sufficent destructive power. There is no need for a tremendous number of weapons, or for these weapons to be particularly accurate. Consequently, our nuclear force has remained largely the way it was in 1972 when we signed the first arms control agreement with the Soviets, known as SALT I.

The Soviets, however, have continued to modernize their nuclear forces. Since 1971, they have deployed at least four new types of ICBMs, nine improved versions of their existing ICBM and submarine missiles, and will soon deploy their new intercontinental bomber. The lifting power, number of warheads and accuracy of this force makes it impossible to view it as a retaliatory arsenal designed for deterrence through agreed mutual vulnerability.

This massive Soviet military effort forced us to modernize our retaliatory arsenal, and to reconsider the idea that deterrence is best secured though mutual vulnerability — not the least reason being that there is no mutuality in the notion.

SDI, however, is more than a mere reaction to the Soviet military build up. Our strategic defense research asks the very simple question: Isn't there a better way to protect ourselves and our allies from nuclear war than through this mutual suicide pact? Even if the Soviets were not forging ahead with their own defense, it would be prudent and moral for us to investigate how we might defend people, how we might learn to kill weapons rather than people.

Our critics, however, seem to think that strategic defense is highly provocative, threatening to peace, and a terrible waste of money. You will notice, I think, that most critics of SDI never even mention the Soviet Union's massive offensive and defensive forces.

We are offered essentially two arguments against SDI — that it will work and that it won't work. If SDI does work, some argue, it will threaten great power stability by moving us away from the policy of mutual vulnerability. Others say SDI will not work, that it is technically infeasible, and so we should stop wasting money on it.

In a truly innovative piece of logic, some critics incorporate both arguments. SDI is a waste of money, they say, but the mere researching of this useless project is threatening to the Soviets. Therefore, SDI should be used as a bargaining chip in arms control negotiations in the hope of gaining significant concessions from the Soviets. It is never really made clear how a progrm like SDI can be at the same time useless *and* threatening, or how this supposed waste of money can possibly be a good bargaining chip.

Our critics must understand that the current policy of deterrence is being challenged by the Soviet Union. Our prudent desire for a strong and moral deterrence demands that we research the possibility of moving beyond this mutual suicide pact. We can choose to live in a strategic never-never land, or we can explore a real opportunity to base our security on defense rather than the threat of mutual annihilation.

Caspar W. Weinberger is the secretary of defense.

THE WHITE HOUSE

WASHINGTON

June 4, 1986

Dear Barry:

Soon you and your colleagues will be engaged in deliberations about one of the most important defense programs this country has ever undertaken. I want to emphasize once again my strong commitment to this program.

The Strategic Defense Initiative (SDI) holds the promise of reducing the risk of nuclear war by establishing a safer, more stable basis for deterrence and by providing new and compelling incentives to the Soviet Union for seriously negotiating reductions in existing nuclear arsenals.

I am particularly concerned about the letter which you received from 46 of your colleagues who recommended an SDI funding freeze. In making the difficult budget decisions before you, I hope you will bear in mind why SDI must continue to be a top national priority.

The SDI research program has already yielded considerable dividends on our investment. Because of good management, the program has progressed significantly, meeting our technical expectations and more. Moreover, the Soviets are back at the table in Geneva discussing nuclear arms reductions for the first time in recent memory, and SDI is one of the key factors which brought them back.

Cuts in SDI funding would undermine our broad program for responding to the Soviet strategic threat. Our effort to maintain the balance which has kept the peace has three components: modernizing our offensive nuclear retaliatory forces over the near term; negotiating radical reductions in offensive nuclear arms; and taking steps now to determine future options for ensuring deterrence and stability over the long

term through the introduction of effective strategic defenses.

Each of these efforts is necessary and complementary to the others; to reduce our commitment to one is to undermine the effectiveness of the others, including arms control.

Cuts made in SDI funding requests last year have already slowed progress in several key areas and have narrowed the range of technologies we can explore. Further cuts would seriously compound these problems. They would increase our risks in two ways: first, we would not have sufficient funds to explore thoroughly some important technologies; second, the risk to our national security would also be increased by setting back SDI's potential to answer the relentless growth of Soviet programs in both strategic offense and defense.

The debate about strategic defenses has been widespread and lengthy. No doubt it will continue. But to make an informed judgment about the possibility of effective strategic defenses, the SDI program must be sustained.

Now is the time to come together and support the vital scientific and technological exploration of strategic defenses at the levels of funding I have requested. To do otherwise would be short-sighted. I urge you to join me in a continued commitment to SDI and a safer future.

Sincerely,

Ron

The Honorable Barry Goldwater
Chairman, Committee on Armed
Services
United States Senate
Washington, D.C. 20510

MARK O HATFIELD OREGON, CHAIRMAN

TED STEVENS, ALASKA
LOWELL P. WEICKER, JR., CONNECTICUT
JAMES A. McCLURE, IDAHO
PAUL LAXALT, NEVADA
JAKE GARN, UTAH
THAD COCHRAN, MISSISSIPPI
MARK ANDREWS, NORTH DAKOTA
JAMES ABDNOR, SOUTH DAKOTA
ROBERT W. KASTEN, JR., WISCONSIN
ALFONSE M. D'AMATO, NEW YORK
MACK MATTINGLY, GEORGIA
WARREN RUDMAN, NEW HAMPSHIRE
ARLEN SPECTER, PENNSYLVANIA
PETE V. DOMENICI, NEW MEXICO

JOHN C. STENNIS, MISSISSIPPI
ROBERT C. BYRD, WEST VIRGINIA
WILLIAM PROXMIRE, WISCONSIN
DANIEL K. INOUYE, HAWAII
ERNEST F. HOLLINGS, SOUTH CAROLINA
LAWTON CHILES, FLORIDA
J. BENNETT JOHNSTON, LOUISIANA
QUENTIN N. BURDICK, NORTH DAKOTA
PATRICK J. LEAHY, VERMONT
JIM SASSER, TENNESSEE
DENNIS DeCONCINI, ARIZONA
DALE BUMPERS, ARKANSAS
FRANK R. LAUTENBERG, NEW JERSEY
TOM HARKIN, IOWA

J. KEITH KENNEDY, STAFF DIRECTOR
FRANCIS J. SULLIVAN, MINORITY STAFF DIRECTOR

United States Senate
COMMITTEE ON APPROPRIATIONS
WASHINGTON, DC 20510

1986 MAY 22 AM 11:29

May 22, 1986

Honorable Barry Goldwater, Chairman
Honorable Sam Nunn, Ranking Minority Member
Committee on Armed Services
U. S. Senate
Washington, D. C. 20510

Dear Barry and Sam:

As the Armed Services Committee marks up the FY 1987 Department of Defense Authorization bill, we want you to know we support your efforts to ensure that U. S. defense capabilities are not compromised because of budget constraints. We recognize it is uncertain whether it will be possible to generate broad, bipartisan support for any real growth in the defense budget. Accordingly, even though we as a Nation will be committing significant resources to DoD, the Committee faces the difficult task of substantially paring the Department's budget request.

Our concern is that the Strategic Defense Initiative has received excessive and inappropriate emphasis in DoD's budget. It is difficult to conceive of a sound rationale for increasing the combined DoD/DoE SDI budget by 77 percent while the entire DoD budget will likely be frozen at zero real growth and other vital military research programs are facing budget cuts. Not only are the goals of the research effort unclear, the need for accelerated funding for a long-range program such as SDI has not been demonstrated.

We support a vigorous ballistic missile defense research program which conducts research into innovative technologies. Such a program is necessary to hedge against Soviet breakout from the ABM Treaty, to protect the U. S. from technological surprises, and to maintain an array of strategic options including strategic defense.

We are concerned, however, that the SDI program is being rushed to a premature development decision in the early 1990's in order to meet an unrealistic schedule. As a result, SDI's director, General James Abrahamson, has been forced to deemphasize certain research efforts and reallocate money to other projects earlier than he would like. This has led to unnecessary technical risks being incurred in the program.

Ambassador Nitze has recently stated "it now appears that we will be well into the 1990's" before we can determine if SDI can meet "the President's criteria of feasibility, survivability, and cost-effectiveness at the margin." Moreover, the Fletcher Panel concluded that a vigorous SDI effort within a controlled budget would result in minimal schedule slippage. Therefore, we feel that a more evenly paced and broadbased SDI program is warranted at this time.

Former Secretaries of Defense James Schlesinger and Harold Brown have counseled that annual funding increases in excess of 25 to 35 percent would result in wasted funds and could ultimately damage the program. Yet, since 1984, the SDI budget has tripled. The current budget request would quintuple the program since its inception.

By any measure budget growth in the SDI has outpaced the progress of technology and, more importantly, has begun to impinge on other military research and development. The FY 1986 SDI budget is twice as large as the combined Advanced Technology budgets of the three military services and is nearly as large as the Technology Base budget of the entire Department of Defense.

For these and other reasons, we question whether the combined DoD/DoE SDI program should be funded for FY 1987 at a level higher than that which would allow for approximately three percent real growth. Such an increase, after all, is equal to the increase the President is seeking for all military programs.

We deeply appreciate your attention to our concerns. As leaders in the effort to ensure we maintain a strong defense second to none, we know that you will be doing all you can to see that America's tax dollars are spent wisely to protect U. S. national security interests. We, therefore, look forward to working with you closely on an appropriate funding level for SDI.

Sincerely,

John H. Chafee
United States Senator

J. Bennett Johnston, Jr.
United States Senator

Daniel J. Evans
United States Senator

Lawton Chiles
United States Senator

Charles McC. Mathias, Jr.
United States Senator

William Proxmire
United States Senator

Special
Report
No. 129

The Strategic Defense Initiative

June 1985

United States Department of State
Bureau of Public Affairs
Washington, D.C.

In his speech of March 23, 1983, President Reagan presented his vision of a future in which nations could live secure in the knowledge that their national security did not rest upon the threat of nuclear retaliation but rather on the ability to defend against potential attacks. The Strategic Defense Initiative (SDI) research program is designed to determine whether and, if so, how advanced defensive technologies could contribute to the realization of this vision.

The Strategic Context

The U.S. SDI research program is wholly compatible with the Anti-Ballistic Missile (ABM) Treaty, is comparable to research permitted by the ABM Treaty which the Soviets have been conducting for many years, and is a prudent hedge against Soviet breakout from ABM Treaty limitations through the deployment of a territorial ballistic missile defense. These important facts deserve emphasis. However, the basic intent behind the Strategic Defense Initiative is best explained and understood in terms of the strategic environment we face for the balance of this century and into the next.

The Challenges We Face. Our nation and those nations allied with us face a number of challenges to our security. Each of these challenges imposes its own demands and presents its own opportunities. Preserving peace and freedom is, and always will be, our fundamental goal. The essential purpose of our military forces, and our nuclear forces in particular, is to deter aggression and coercion based upon the threat of military aggression. The deterrence provided by U.S. and allied military forces has permitted us to enjoy peace and freedom. However, the nature of the military threat has changed and will continue to change in very fundamental ways in the next decade. Unless we adapt our response, deterrence will become much less stable and our susceptibility to coercion will increase dramatically.

Our Assumptions About Deterrence. For the past 20 years, we have based our assumptions on how deterrence can best be assured on the basic idea that if each side were able to maintain the ability to threaten retaliation against any attack and thereby impose on an aggressor costs that were clearly out of balance with any potential gains, this would suffice to prevent conflict. Our idea of what our forces had to hold at risk to deter aggression has changed over time. Nevertheless, our basic reliance on nuclear retaliation provided by offensive nuclear forces, as the essential means of deterring aggression, has not changed over this period.

This basic idea—that if each side maintained roughly equal forces and equal capability to retaliate against attack, stability and deterrence would be maintained—also served as the foundation for the U.S. approach to the strategic arms limitation talks (SALT) process of the 1970s. At the time that process began, the United States con-

cluded that deterrence based on the capability of offensive retaliatory forces was not only sensible but necessary, since we believed at the time that neither side could develop the technology for defensive systems which could effectively deter the other side.

Today, however, the situation is fundamentally different. Scientific developments and several emerging technologies now do offer the possibility of defenses that did not exist and could hardly have been conceived earlier. The state of the art of defense has now progressed to the point where it is reasonable to investigate whether new technologies can yield options, especially non-nuclear options, which could permit us to turn to defense not only to enhance deterrence but to allow us to move to a more secure and more stable long-term basis for deterrence.

Of equal importance, the Soviet Union has failed to show the type of restraint, in both strategic offensive and defensive forces, that was hoped for when the SALT process began. The trends in the development of Soviet strategic offensive and defensive forces, as well as the growing pattern of Soviet deception and of noncompliance with existing agreements, if permitted to continue unchecked over the long term, will undermine the essential military balance and the mutuality of vulnerability on which deterrence theory has rested.

Soviet Offensive Improvements. The Soviet Union remains the principal threat to our security and that of our allies. As a part of its wide-ranging effort further to increase its military capabilities, the Soviet Union's improvement of its ballistic missile force, providing increased prompt, hard-target kill capability, has increasingly threatened the survivability of forces we have deployed to deter aggression. It has posed an especially immediate challenge to our land-based retaliatory forces and to the leadership structure that commands them. It equally threatens many critical fixed installations in the United States and in allied nations that support the nuclear retaliatory and conventional forces which provide our collective ability to deter conflict and aggression.

Improvement of Soviet Active Defenses. At the same time, the Soviet Union has continued to pursue strategic advantage through the development and improvement of active defenses. These active defenses provide the Soviet Union a steadily increasing capability to counter U.S. retaliatory forces and those of our allies, especially if our forces were to be degraded by a Soviet first strike. Even today, Soviet active defenses are extensive. For example, the Soviet Union possesses the world's only currently deployed antiballistic missile system, deployed to protect Moscow. The Soviet Union is currently improving all elements of this system. It also has the world's only deployed antisatellite (ASAT) capability. It has an extensive air defense network, and it is aggressively improving the quality of its radars, interceptor aircraft, and surface-to-air missiles. It also has a very extensive network of ballistic missile early warning radars. All of these elements provide them an area of relative advantage in strategic defense today and, with logical evolutionary improvement, could provide the foundation of decisive advantage in the future.

Improvement in Soviet Passive Defenses. The Soviet Union is also spending significant resources on passive defensive measures aimed at improving the survivability of its own forces, military command structure, and national leadership. These efforts range from providing rail and road mobility for its latest generation of ICBMs [intercontinental ballistic missiles] to extensive hardening of various critical installations.

Soviet Research and Development on Advanced Defenses. For over two decades, the Soviet Union has pursued a wide range of strategic defensive efforts, integrating both active and passive elements. The resulting trends have shown steady improvement and expansion of Soviet defensive capability. Furthermore, current patterns of Soviet research and development, including a longstanding and intensive research program in many of the same basic technological areas which our SDI program will address, indicate that these trends will continue apace for the foreseeable future. If unanswered, continued Soviet defensive improvements will further erode the effectiveness of our own existing deterrent, based as it is now almost exclusively on the threat of nuclear retaliation by offensive forces. Therefore, this longstanding Soviet program of defensive improvements, in itself, poses a challenge to deterrence which we must address.

Soviet Noncompliance and Verification. Finally, the problem of Soviet noncompliance with arms control agreements in both the offensive and defensive areas, including the ABM Treaty, is a cause of very serious concern. Soviet activity in constructing either new phased-array radar near Krasnoyarsk, in central Siberia, has very immediate and ominous consequences. When operational, this radar, due to its location, will increase the Soviet Union's capability to deploy a territorial ballistic missile defense. Recognizing that such radars would make such a contribution, the ABM Treaty expressly banned the construction of such radars at such locations as one of the primary mechanisms for ensuring the effectiveness of the treaty. The Soviet Union's activity with respect to this radar is in direct violation of the ABM Treaty.

Against the backdrop of this Soviet pattern of noncompliance with existing arms control agreements, the Soviet Union is also taking other actions which affect our ability to verify Soviet compliance. Some Soviet actions, like their increased use of encryption during testing, are directly aimed at degrading our ability to monitor treaty compliance. Other Soviet actions, too, contribute to the problems we face in monitoring Soviet compliance. For example, Soviet increases in the number of their mobile ballistic missiles, especially those armed with multiple, independently-targetable reentry vehicles, and other mobile systems, will make verification less and less certain. If we fail to respond to these trends, we could reach a point in the foreseeable future where we would have little confidence in our assessment of the state of the military balance or imbalance, with all that implies for our ability to control escalation during crises.

Responding to the Challenge

In response to this long-term pattern of Soviet offensive and defensive improvements, the United States is compelled to take certain actions designed both to maintain security and stability in the near term and to ensure these conditions in the future. We must act in three main areas.

Retaliatory Force Modernization. First, we must modernize our offensive nuclear retaliatory forces. This is necessary to reestablish and maintain the offensive balance in the near term and to create the strategic conditions that will permit us to pursue complementary actions in the areas of arms reduction negotiations and defensive research. For our part, in 1981 we embarked on our strategic modernization program aimed at reversing a long period of decline. This modernization program was specifically designed to preserve stable deterrence and, at the same time, to provide the incentives necessary to cause the Soviet Union to

join us in negotiating significant reductions in the nuclear arsenals of both sides.

In addition to the U.S. strategic modernization program, NATO is modernizing its longer range intermediate-range nuclear forces (LRINF). Our British and French allies also have underway important programs to improve their own national strategic nuclear retaliatory forces. The U.S. SDI research program does not negate the necessity of these U.S. and allied programs. Rather, the SDI research program depends upon our collective and national modernization efforts to maintain peace and freedom today as we explore options for future decision on how we might enhance security and stability over the longer term.

New Deterrent Options. However, over the long run, the trends set in motion by the pattern of Soviet activity, and the Soviets' persistence in that pattern of activity, suggest that continued long-term dependence on offensive forces may not provide a stable basis for deterrence. In fact, should these trends be permitted to continue and the Soviet investment in both offensive and defensive capability proceed unrestrained and unanswered, the resultant condition could destroy the theoretical and empirical foundation on which deterrence has rested for a generation.

Therefore, we must now also take steps to provide future options for ensuring deterrence and stability over the long term, and we must do so in a way that allows us both to negate the destabilizing growth of Soviet offensive forces and to channel longstanding Soviet propensities for defenses toward more stabilizing and mutually beneficial ends. The Strategic Defense Initiative is specifically aimed toward these goals. In the near term, the SDI program also responds directly to the ongoing and extensive Soviet antiballistic missile effort, including the existing Soviet deployments permitted under the ABM Treaty. The SDI research program provides a necessary and powerful deterrent to any near-term Soviet decision to expand rapidly its antiballistic missile capability beyond that contemplated by the ABM Treaty. This, in itself, is a critical task. However, the overriding, long-term importance of SDI is that it offers the possibility of reversing the dangerous military trends cited above by moving to a better, more stable basis for deterrence and by providing new and compelling incentives to the Soviet Union for seriously negotiating reductions in existing offensive nuclear arsenals.

The Soviet Union recognizes the potential of advanced defense concepts—especially those involving boost, postboost, and mid-course defenses—to change the strategic situation. In our investigation of the potential these systems offer, we do not seek superiority or to establish a unilateral advantage. However, if the promise of SDI technologies is proven, the destabilizing Soviet advantage can be redressed. And, in the process, deterrence will be strengthened significantly and placed on a foundation made more stable by reducing the role of ballistic missile weapons and by placing greater reliance on defenses which threaten no one.

Negotiation and Diplomacy. During the next 10 years, the U.S. objective is a radical reduction in the power of existing and planned offensive nuclear arms, as well as the stabilization of the relationship between nuclear offensive and defensive arms, whether on earth or in space. We are even now looking forward to a period of transition to a more stable world, with greatly reduced levels of nuclear arms and an enhanced ability to deter war based upon the increasing contribution of non-nuclear defenses against offensive nuclear arms. A world free of the threat of military aggression and free of nuclear arms is an ultimate objective to which we, the Soviet Union, and all other nations can agree.

To support these goals, we will continue to pursue vigorously the negotiation of equitable and verifiable agreements leading to significant reductions of existing nuclear arsenals. As we do so, we will continue to exercise flexibility concerning the mechanisms used to achieve reductions but will judge these mechanisms on their ability to enhance the security of the United States and our allies, to strengthen strategic stability, and to reduce the risk of war.

At the same time, the SDI research program is and will be conducted in full compliance with the ABM Treaty. If the research yields positive results, we will consult with our allies about the potential next steps. We would then consult and negotiate, as appropriate, with the Soviet Union, pursuant to the terms of the ABM Treaty, which provide for such consultations, on how deterrence might be strengthened through the phased introduction of defensive systems into the force structures of both sides. This commitment does not mean that we would give the Soviets a veto over the outcome anymore than the Soviets have a veto over our current strategic and intermediate-range programs. Our commitment in this regard reflects our recognition that, if our research yields appropriate results, we should seek to move forward in a stable way. We have already begun the process of bilateral discussion in Geneva needed to lay the foundation for the stable integration of advanced defenses into the forces of both sides at such time as the state of the art and other considerations may make it desirable to do so.

The Soviet Union's View of SDI

As noted above, the U.S.S.R. has long had a vigorous research, development, and deployment program in defensive systems of all kinds. In fact, over the last two decades the Soviet Union has invested as much overall in its strategic defenses as it has in its massive strategic offensive buildup. As a result, today it enjoys certain important advantages in the area of active and passive defenses. The Soviet Union will certainly attempt to protect this massive, long-term investment.

Allied Views Concerning SDI

Our allies understand the military context in which the Strategic Defense Initiative was established and support the SDI research program. Our common understanding was reflected in the statement issued following President Reagan's meeting with Prime Minister Thatcher in December, to the effect that:

First, the U.S. and Western aim was not to achieve superiority but to maintain the balance, taking account of Soviet developments;

Second, that SDI-related deployment would, in view of treaty obligations, have to be a matter for negotiations;

Third, the overall aim is to enhance, and not to undermine, deterrence; and,

Fourth, East-West negotiations should aim to achieve security with reduced levels of offensive systems on both sides.

This common understanding is also reflected in other statements since then—for example, the principles suggested recently by the Federal Republic of Germany that:

- The existing NATO strategy of flexible response must remain fully valid for the alliance as long as there is no more effective alternative for preventing war; and,
- The alliance's political and strategic unity must be safeguarded. There must be no zones of different degrees of security in the alliance, and Europe's security must not be decoupled from that of North America.

SDI Key Points

Following are a dozen key points that capture the direction and scope of the program:

1. The aim of SDI is not to seek superiority but to maintain the strategic balance and thereby assure stable deterrence.

A central theme in Soviet propaganda is the charge that SDI is designed to secure military superiority for the United States. Put in the proper context of the strategic challenge that we and our allies face, our true goals become obvious and clear. Superiority is certainly not our purpose. Nor is the SDI program offensive in nature. The SDI program is a research program aimed at seeking better ways to ensure U.S. and allied security, using the increased contribution of defenses—defenses that threaten no one.

2. Research will last for some years. We intend to adhere strictly to ABM Treaty limitations and will insist that the Soviets do so as well.

We are conducting a broad-based research program in full compliance with the ABM Treaty and with no decision made to proceed beyond research. The SDI research program is a complex one that must be carried out on a broad front of technologies. It is not a program where all resource considerations are secondary to a schedule. Instead, it is a responsible, organized research program that is aggressively seeking cost-effective approaches for defending the United States and our allies against the threat of nuclear-armed and conventionally armed ballistic missiles of all ranges. We expect that the research will proceed so that initial development decisions could be made in the early 1990s.

3. We do not have any preconceived notions about the defensive options the research may generate. We will not proceed to development and deployment unless the research indicates that defenses meet strict criteria.

The United States is pursuing the broadly based SDI research program in an objective manner. We have no preconceived notions about the outcome of the research program. We do not anticipate that we will be in a position to approach any decision to proceed with development or deployment based on the results of this research for a number of years.

We have identified key criteria that will be applied to the results of this research whenever they become available. Some options which could provide interim capabilities may be available earlier than others, and prudent planning demands that we maintain options against a range of contingencies. However, the primary thrust of the SDI research program is not to focus on generating options for the earliest development/deployment decision but options which best meet our identified criteria.

4. Within the SDI research program, we will judge defenses to be desirable only if they are survivable and cost effective at the margin.

Two areas of concern expressed about SDI are that deployment of defensive systems would harm crisis stability and that it would fuel a runaway proliferation of Soviet offensive arms. We have identified specific criteria to address these fears appropriately and directly.

Our survivability criterion responds to the first concern. If a defensive system were not adequately survivable, an adversary could very well have an incentive in a crisis to strike first at vulnerable elements of the defense. Application of this criterion will ensure that such a vulnerable system would not be deployed and, consequently, that the Soviets would have no incentive or prospect of overwhelming it.

Our cost-effectiveness criterion will ensure that any deployed defensive system would create a powerful incentive not to respond with additional offensive arms, since those arms would cost more than the additional defensive capability needed to defeat them. This is much more than an economic argument, although it is couched in economic terms. We intend to consider, in our evaluation of options generated by SDI research, the degree to which certain types of defensive systems, by their nature, encourage an adversary to try simply to overwhelm them with additional offensive capability while other systems can discourage such a counter effort. We seek defensive options which provide clear disincentives to attempts to counter them with additional offensive forces.

In addition, we are pressing to reduce offensive nuclear arms through the negotiation of equitable and verifiable agreements. This effort includes reductions in the number of warheads on ballistic missiles to equal levels significantly lower than exist today.

5. It is too early in our research program to speculate on the kinds of defensive systems—whether ground-based or space-based and with what capabilities—that might prove feasible and desirable to develop and deploy.

Discussion of the various technologies under study is certainly needed to give concreteness to the understanding of the research program. However, speculation about various types of defensive systems that might be deployed is inappropriate at this time. The SDI is a broad-based research program investigating many technologies. We currently see real merit in the potential of advanced technologies providing for a layered defense, with the possibility of negating a ballistic missile at various points after launch. We feel that the possibility of a layered defense both enhances confidence in the overall system and compounds the problem of a potential aggressor in trying to defeat such a defense. However, the paths to such a defense are numerous.

Along the same lines, some have asked about the role of nuclear-related research in the context of our ultimate goal of non-nuclear defenses. While our current research program certainly emphasizes non-nuclear technologies, we will continue to explore the promising concepts which use nuclear energy to power devices which could destroy ballistic missiles at great distances. Further, it is useful to study these concepts to determine the feasibility and effectiveness of similar defensive systems that an adversary may develop for use against future U.S. surveillance and defensive or offensive systems.

6. The purpose of the defensive options we seek is clear—to find a means to destroy attacking ballistic missiles before they can reach any of their potential targets.

We ultimately seek a future in which nations can live in peace and freedom, secure in the knowledge that their national security does not rest upon the threat of nuclear retaliation. Therefore, the SDI research program will place its emphasis on options which provide the basis for eliminating the general threat posed by ballistic missiles. Thus, the goal of our research is not, and cannot be, simply to protect our retaliatory forces from attack.

If a future president elects to move toward a general defense against ballistic missiles, the technological options that we explore will certainly also increase the survivability of our retaliatory forces. This will require a stable concept and process to manage the transition to the future we seek. The

concept and process must be based upon a realistic treatment of not only U.S. but Soviet forces and out-year programs.

7. U.S. and allied security remains indivisible. The SDI program is designed to enhance allied security as well as U.S. security. We will continue to work closely with our allies to ensure that, as our research progresses, allied views are carefully considered.

This has been a fundamental part of U.S. policy since the inception of the Strategic Defense Initiative. We have made a serious commitment to consult, and such consultations will precede any steps taken relative to the SDI research program which may affect our allies.

8. If and when our research criteria are met, and following close consultation with our allies, we intend to consult and negotiate, as appropriate, with the Soviets pursuant to the terms of the ABM Treaty, which provide for such consultations, on how deterrence could be enhanced through a greater reliance by both sides on new defensive systems. This commitment should in no way be interpreted as according the Soviets a veto over possible future defensive deployments. And, in fact, we have already been trying to initiate a discussion of the offense-defense relationship and stability in the defense and space talks underway in Geneva to lay the foundation to support such future possible consultations.

If, at some future time, the United States, in close consultation with its allies, decides to proceed with deployment of defensive systems, we intend to utilize mechanisms for U.S.-Soviet consultations provided for in the ABM Treaty. Through such mechanisms, and taking full account of the Soviet Union's own expansive defensive system research program, we will seek to proceed in a stable fashion with the Soviet Union.

9. It is our intention and our hope that, if new defensive technologies prove feasible, we (in close and continuing consultation with our allies) and the Soviets will jointly manage a transition to a more defense-reliant balance.

Soviet propagandists have accused the United States of reneging on commitments to prevent an arms race in space. This is clearly not true. What we envision is not an arms race; rather, it is just the opposite—a jointly managed approach designed to maintain, at all times, control over the mix of offensive and defensive systems of both sides and thereby increase the confidence of all nations in the effectiveness and stability of the evolving strategic balance.

10. SDI represents no change in our commitment to deterring war and enhancing stability.

Successful SDI research and development of defense options would not lead to abandonment of deterrence but rather to an enhancement of deterrence and an evolution in the weapons of deterrence through the contribution of defensive systems that threaten no one. *We would deter a potential aggressor by making it clear that we could deny him the gains he might otherwise hope to achieve rather than merely threatening him with costs large enough to outweigh those gains.*

U.S. policy supports the basic principle that our existing method of deterrence and NATO's existing strategy of flexible response remain fully valid, and must be fully supported, as long as there is no more effective alternative for preventing war. It is in clear recognition of this obvious fact that the United States continues to pursue so vigorously its own strategic modernization program and so strongly supports the efforts of its allies to sustain their own commitments to maintain the forces, both nuclear and conventional, that provide today's deterrence.

11. For the foreseeable future, offensive nuclear forces and the prospect of nuclear retaliation will remain the key element of deterrence. Therefore, we must maintain modern, flexible, and credible strategic nuclear forces.

This point reflects the fact that we must simultaneously use a number of tools to achieve our goals today while looking for better ways to achieve our goals over the longer term. It expresses our basic rationale for sustaining the U.S. strategic modernization program and the rationale for the critically needed national modernization programs being conducted by the United Kingdom and France.

12. Our ultimate goal is to eliminate nuclear weapons entirely. By necessity, this is a very long-term goal, which requires, as we pursue our SDI research, equally energetic efforts to diminish the threat posed by conventional arms imbalances, both through conventional force improvements and the negotiation of arms reductions and confidence-building measures.

We fully recognize the contribution nuclear weapons make to deterring conventional aggression. We equally recognize the destructiveness of war by conventional and chemical means, and the need both to deter such conflict and to reduce the danger posed by the threat of aggression through such means. ■

Published by the United States Department of State · Bureau of Public Affairs
Office of Public Communication · Editorial Division · Washington, D.C. · June 1985
This material is in the public domain and may be reproduced without permission; citation of this source is appreciated.

THE ARMS CONTROL AND DISARMAMENT AGENCY (ACDA)

REPORT ON SOVIET ANTI-SDI CAMPAIGN

At the end of August, 1986, the State Department's Arms Control and Disarmament Agency released a new report on the Soviet campaign against the Strategic Defense Initiative.

The report effectively chronicles what many top decision-makers have known for a long time: the Soviet Union is engaged in an active effort to stop or "slow down" the American SDI effort through a well-planned propaganda campaign.

A copy of this most recent report -- and the ACDA press release summarizing its findings -- is attached.

PRESS RELEASE

ACDA *25th Anniversary*

Thursday
August 28, 1986

For Immediate Release

New ACDA Study Analyzes Soviet Anti-SDI Themes

The U.S. Arms Control and Disarmament Agency today issued an unclassified publication entitled The Soviet Propaganda Campaign Against the U.S. Strategic Defense Initiative.

The ACDA study is the first U.S. publication to offer a detailed analysis and critique of the extensive Soviet propaganda effort conducted over the past three years.

The study provides a theme-by-theme evaluation of Soviet arguments against SDI, drawing extensively on Soviet documents and official statements. The study points out that Soviet charges are without foundation and rely on a fundamental misrepresentation of the strategic defense research now underway in the U.S. and Allied countries.

The study also examines the methods of the Soviet campaign, a broad effort which involves statements from high officials, interviews with Soviet spokesmen on Western broadcast media, newspaper articles, press releases, pamphlets, and petitions from front organizations and state-controlled Soviet scientific groups.

Soviet charges against Western efforts in strategic defense research mask a longstanding and vigorous Soviet strategic defense effort. The purpose of the Soviet campaign is strategic and political: to inhibit Western research of defenses while Soviet ABM and other strategic defense efforts continue.

One of the study's findings is that the vast majority of criticisms raised in the current anti-SDI campaign are virtually identical to arguments raised by Soviet sources during the 1979-83 Soviet campaign against NATO's decision to deploy new intermediate range missiles in response to the Soviet SS-20--despite the obvious differences between the two programs. Like the Soviet campaign against the NATO INF decision, the Soviet propaganda effort is designed to serve the same longstanding Soviet policy goal of dividing the US from its allies.

The study is designed in a modular format for quick reference, with analysis of the Soviet themes summarized in boldfaced type.

Copies of the publication are available from ACDA Public Affairs, 320 21st Street, NW, Room 5847, Washington, DC 20451. Telephone Robert Waters, (202) 647-8714.

"25 years of working for a safer world and a lasting peace."

the Soviet propaganda campaign against the US Strategic Defense Initiative

U.S. ARMS CONTROL AND DISARMAMENT AGENCY

UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY

Acknowledgements

This edition was prepared by the staff of the Office of Public Affairs and the Bureau of Strategic Programs

Comments and questions regarding this publication are welcome. They may be directed to:

Office of Public Affairs
U.S. Arms Control and Disarmament Agency
Washington, D.C. 20451
Attn: Matthew F. Murphy
Telephone (202) 647-8714

ACDA Publication 122
Released August 1986
First Printing

the Soviet propaganda campaign against the US Strategic Defense Initiative

Foreword

In the spring of 1983, shortly after President Reagan proposed that the United States actively begin to explore the feasibility of advanced technologies to defend against offensive nuclear missiles, the Soviet Union embarked on an extensive propaganda campaign criticizing the President's proposal.

Over the past three years, the Soviet Union has devoted considerable energies to its campaign against the U.S. Strategic Defense Initiative. Statements from high officials, interviews with Soviet spokesmen on Western broadcast media, newspaper articles, press releases, pamphlets, petitions from front organizations and state-controlled Soviet scientific groups have flooded the West. Soviet officials have charged, among other things, that the program is part of a U.S. effort to acquire a "first-strike" capability against the USSR, that it could result in the production of new offensive weapons, that it will upset the military balance and make further arms control agreements impossible, that it will escalate the arms race, and even that it violates existing arms treaties. Soviet writers and spokesmen have also echoed charges, leveled originally by Western critics of the Strategic Defense Initiative, that the program is technologically infeasible and too costly.

Notably, these protests and arguments against the U.S. strategic defense program come from Soviet sources at a time when the USSR itself is vigorously engaged in its own strategic defense programs and while the Soviet Union continues to violate the agreement covering ballistic missile defenses—the 1972 ABM Treaty.

As suggested by the long-standing Soviet commitment to strategic defense systems as well as by the current level of Soviet criticisms of SDI, the Soviets have no doubts about the value of defensive systems. On the contrary, every indication is that the Soviet Union values highly its current ballistic missile defense system and is enthusiastically pursuing new technologies.

The aim of the Soviet anti-SDI campaign is strategic and political: its purpose is to stimulate opposition to SDI in the United States and other Allied countries, inhibiting Western research and development into defenses – even as the Soviet Union forges ahead with its own ABM programs, including research and development in advanced ballistic missile defense technologies. The evident Soviet goal is to forestall any comparable Western defense effort and, if possible, to ensure for the long term a unilateral Soviet advantage in strategic defense systems and technologies. Obviously, a continued Soviet advantage in defenses, combined with the ongoing Soviet offensive nuclear buildup, would severely undermine the East-West balance which has kept the peace.

Honest and informed debate is always valuable; differences of opinion on major policy issues are inevitable in democracies. But few would argue that democratic debate is enhanced or furthered by the injection of obfuscation and duplicity from the outside. Such, unfortunately, has been the character of the Soviet statements on the Strategic Defense Initiative.

Without exception, all the various Soviet charges concerning SDI are spurious. They are based either on a fundamental misrepresentation of the nature of strategic defense research now underway in the United States and Allied countries, or on a wholly inaccurate picture of the realities of the current strategic balance.

One of the most interesting findings of the study is that the vast majority of criticisms raised by the Soviets in the current campaign against the Strategic Defense Initiative are virtually identical to arguments invoked only a few years ago in the Soviet campaign against NATO's decision to deploy new intermediate-range missiles in response to the Soviet SS-20 – despite the obvious differences between the programs at issue then and now.

Arms control negotiations provide the opportunity for dialogue on differences between the Soviet Union and the United States. Discussion at Geneva continues on the subject of strategic defenses. We wish to press forward in this dialogue. Indeed, if effective defenses against offensive nuclear missiles prove feasible, we seek a jointly managed transition to greater reliance on such systems. We favor defenses that would heighten the security and reduce the threat on both sides. But an indispensable first step to a serious exploration of these future prospects will be a candid acknowledgement by the Soviet Union that it has long been engaged in strategic defense research of the kind being carried on in the U.S. SDI program.

Regrettably, the Soviets have to date chosen to deny their own program.

In the meantime, it is crucial that the citizens of the democracies keep clear eyes in assessing their security needs. It is essential, above all, that we recognize the distinction between honest argument and mere propaganda. It is hoped that this publication will contribute to clarification of the issues and better-informed debate.

Kenneth L. Adelman

Introduction: The Idea of a Defense

On March 23, 1983, in an address to the American people, President Reagan proposed that the United States embark on a new program to examine whether it would be possible to devise systems that could effectively "intercept and destroy strategic ballistic missiles before they reached our own soil or that of our allies." Within a year the President's proposal had resulted in the creation of the Strategic Defense Initiative program.

The rationale for new research into defensive systems was threefold.

First, the President expressed the strong view that it was important to raise now the long-term question of whether the deterrence of nuclear war must remain forever dependent on the threat of devastating offensive retaliation. Clearly, there is no ready alternative to the present deterrent regime. The President noted that the idea of mounting an effective defense against nuclear missiles represents "a formidable technical task, one that may not be accomplished before the end of this century." Yet he added that "current technology has attained a level of sophistication where it is reasonable for us to begin this effort." Indeed, the technologies relevant to ballistic missile defense have progressed at such a remarkable pace since the signing of the ABM Treaty in 1972 that new, defensive options are highly promising. Such research into new technologies was anticipated in the negotiations and the text of the ABM Treaty. The U.S. SDI program complies fully with the ABM Treaty.

Second, the United States has been and continues to be concerned by the threat posed to stability by the massive growth of the Soviet Union's offensive nuclear arsenal. When the United States and the Soviet Union signed the ABM Treaty in 1972, Americans expected that the stringent limits on defenses against ballistic missiles would make it possible to negotiate significant reductions in strategic offensive nuclear arms. Our expectations have not been met.

Of particular concern to the United States is the growth during the past decade in the accuracy and power of the Soviet land-based "heavy" missile force, which has posed an increasing threat to our land-based retaliatory force and, in this manner, to the stability of deterrence itself. To forego the opportunities embodied in new defensive research would be to leave unattended the growing problem of U.S. vulnerability.

Finally, the Soviet Union has long been engaged in both upgrading and expanding its existing ABM system around Moscow, and in high-technology strategic defense research of the kind embodied in SDI. In other ABM activities, the Soviet Union has violated and is in potential violation of key provisions of the ABM Treaty. The aggregate of those activities suggests that the USSR may be preparing an ABM defense of its national territory, which the Treaty prohibits.

In several areas of defensive technology research, Soviet efforts have been ahead of the United States. In particular, when measured in terms of manpower, capital, and facilities, Soviet research into the more advanced and exotic ballistic missile defense technologies, such as high energy lasers, exceeds anything undertaken in the U.S. To fail to respond to these Soviet efforts would be to put the security of the United States and its Allies in jeopardy. While effective defenses on both sides may greatly enhance the stability of deterrence, deployment of defensive systems by the Soviet Union alone would pose an unprecedented threat to our safety. SDI is a necessary response to the combination of Soviet efforts in offense and defense.

The U.S. View of Strategic Defense

The Strategic Defense Initiative is a cooperative venture involving the mutual interests and common hopes and values of free and sovereign nations. The United States is proceeding with the Strategic Defense Initiative in the firm belief that it will strengthen the bonds between ourselves and our Allies and friends. The President emphasized this commitment in his March 23, 1983 address:

> As we pursue our goal of defensive technologies, we recognize that our Allies rely upon our strategic offensive power to deter attacks against them. Their vital interests and ours are inextricably linked—their safety and ours are one. And no change in technology can or will alter that reality. We must and we shall continue to honor our commitments.

The United States remains unambiguously committed to deterrence. To cite President Reagan again: "As we proceed, we must remain constant in preserving the nuclear deterrent and maintaining a solid capability for flexible response." We should be clear about an essential point: SDI is a research program designed to determine scientifically and

strategically whether a defensive alternative is possible, not a blind commitment to pursue defensive systems regardless of their merits or feasibility.

If effective defensive systems prove feasible, the United States is committed to using the arms control process to facilitate a jointly managed transition to grcater reliance on strategic defense by both the Soviet Union and the United States. Indeed, we have begun to discuss this subject now in the talks on defense and space systems now underway in Geneva. The United States' position is clear: it is not for the purpose of aggression, but rather for the purpose of strengthening deterrence by denying the potential rewards of aggression that we are pursuing defensive research. At every opportunity, we have emphasized this point to the Soviet Union. "We seek," as President Reagan affirmed, "neither military superiority nor political advantage. Our only purpose—one all people share—is to search for ways to reduce the danger of nuclear war."

The Western Debate and the Soviet Union

Like virtually every major new undertaking in the realm of public policy, the Strategic Defense Initiative has evoked a vigorous and spirited debate within the democracies of America, Europe, and Asia. This, as always, is a healthy sign. To disagree on major initiatives of public policy is the birthright of all citizens; controversy, honestly pursued, is one of the forces that keeps democracies vital and strong.

But as is always the case with debates conducted in open societies, there is free participation from the outside as well. One major participant in the Western debate on strategic defenses has been the Soviet Union.

Two distinctions are important in this regard: first, the distinction between honest negotiations among governments and diversionary tactics or obfuscation; second, the distinction between honest argument in domestic policy debate and propaganda. In both cases, even as they welcome the former, open societies must be particularly on guard against the latter.

The United States has consistently emphasized to the Soviet Union its wish for an honest dialogue on our possible differences over the defensive programs we are both pursuing, in order to see how cooperation between the two sides might be enhanced. Thus far, however, the Soviet Union has prevented such a dialogue by refusing even to acknowledge that it is engaged in researching advanced strategic defense technologies. The Soviet position cannot be taken seriously. Indeed, it must be understood for what it is – a cynical tactic to avoid accountability and to gain a unilateral advantage over the United States.

Similarly, while debate on strategic defenses is healthy in democracies – and indeed vital to promoting public understanding of the issues at stake – the Soviet public contribution to the current Western debate has been wholly propagandistic in character. This should not be surprising, as the Soviet Union sees its interests to be in fundamental conflict with the citizens of democracies.

It is to a detailed analysis of the Soviet campaign against SDI that this study now turns.

Basic Themes of the Soviet Campaign

The basic themes of the Soviet public campaign against SDI were established within weeks of President Reagan's March 23 address. The first major Soviet statements on the subject came in a published interview with the General Secretary of the Communist Party, Yuri Andropov, in *Pravda* on March 27, 1983, a few days after President Reagan's speech. The first part of a later *Pravda* article revisited familiar charges against NATO's response to Soviet deployment of SS-20 missiles in Europe and

Asia; the second part focused upon the newer subject of SDI. In a brief statement, Andropov laid down what became the Communist Party line on SDI – first, that SDI was not defensive but rather part of a U.S. effort to acquire a nuclear first-strike capability, and second, that SDI would damage prospects for arms control and "open the floodgates of a runaway arms race."

To these observations were later added two other major claims, which were incorporated into the Soviet propaganda campaign only after they had been stressed in some commentaries in the U.S. These were, first, that SDI would prove technically infeasible or impractical and would be subject to easy countermeasures; and second, that the costs of a defensive system would be prohibitive.

Old Themes

It is worth noting that the basic themes of the Soviet attack on SDI are neither new nor unique to SDI. On the contrary, nearly all the major themes or arguments marshalled by the Soviets against SDI were also used in the Soviet campaign against NATO's decision to deploy Pershing II and ground-launched cruise missiles in response to Soviet SS-20 deployments, if negotiated agreements failed to obviate U.S. deployments. In fact, in recent years virtually every new U.S. weapons system in the nuclear field has been attacked by the Soviets on the grounds that the United States was seeking a "first-strike capability" and that the U.S. program would "spur another round in the arms race." In Soviet propaganda new American weapons systems are portrayed routinely as part of a "U.S. effort to achieve military superiority over the Soviet Union."

Chart 1 compares the arguments now cited by Soviet sources against the Strategic Defense Initiative with those that were used in the propaganda campaign against NATO's INF deployments.

Chart 1 - Continuity in Soviet Propaganda Themes

Theme	Used against SDI (3/83-Present)	Used against NATO's INF Decision (79-83)
The program is part of a U.S. effort to acquire a "first-strike" capability against the USSR.	X	X
SDI technology would be used for offensive weapons.	X	
The program is part of a U.S. effort to achieve military superiority against USSR.	X	X
A military balance currently exists, which the U.S. program will upset.	X	X
The U.S. program will prompt "a new round in the arms race"/ force the Soviets to take countermeasures.	X	X
The U.S. program will increase the likelihood of confrontation or conflict.	X	X
The U.S. program will complicate or make impossible arms control negotiations on such systems.	X	X
The U.S. program violates an arms control agreement(s).	X	X
The U.S. intends the program to be a means for "limiting" nuclear war to Europe, leaving U.S. territory a sanctuary.	X	X
The U.S. program would "militarize space".	X	
The U.S.program is technically infeasible.	X	
The U.S. program is too costly.	X	

There are some differences in emphasis between the anti-SDI and anti-INF campaigns. Notably, the general charge that a U.S. program violates an arms control agreement has been given much more play in the campaign against SDI, which the Soviets falsely claim violates the 1972 ABM Treaty.

An exception to this pattern of thematic continuity are arguments Soviet propagandists have absorbed from Western discussion of SDI – namely, that it is not technically feasible because countermeasures are available and that it would be too costly. Two other charges new to the the anti-SDI campaign obviously would have made no sense in the context of the INF controversy – the claim that

SDI technologies will yield offensive rather than defensive weaponry and the argument the U.S. "seeks to militarize space." The notion that SDI technology would be used for offensive weapons is really a variation on the old theme that the U.S. is seeking a "first-strike" capability; the idea, meanwhile, that the U.S. is seeking to "militarize space" has actually been a standard Soviet theme since the late 1950s, when the Soviet Union first sought to divert attention from its own extensive military space programs.

For all its repetitiveness, however, the Soviet propaganda campaign against SDI is conducted with some sophisticated approaches.

For example, the Soviets have begun to make frequent use of an arms-control term, "stability," which is widely employed in the West but which, in the past, has played no important role in Soviet statements or thinking about the strategic nuclear balance. To portray themselves as resisting U.S. efforts to upset stability through the SDI requires a high degree of Soviet disingenuousness, given ongoing Soviet strategic offensive and defensive programs.

"Hero and Villain" Approach

The Soviets would have the world believe that they are playing a heroic role, seeking to achieve disarmament and to "end the nuclear arms race," while the United States is the principal, dangerous obstacle to arms control and to reducing international tension.

In their statements about the potentially dire consequences of U.S. research, the Soviets sometimes use quite ominous rhetoric. On April 19, 1983, Andropov warned that SDI "is capable of bringing the world closer to the nuclear precipice." Similarly, the introductory page of the Soviet propaganda pamphlet, *Star Wars: Delusions and Dangers,* issued in July 1985, is laced with portentous terms: "danger," "threat," "annihilated," "dangerous," and "destructiveness." The apparent hope is that such language will play upon Western fears of war and of increased tensions. As in the early days of NATO, the Soviets characteristically seek to persuade Western publics that their own governments' actions in response to Soviet power and conduct are provocative, and that the Soviets are the aggrieved party.

Tactics

As in their propaganda campaign against NATO's INF decision, the Soviets have sent numerous spokesmen to lobby for their views at various forums in NATO countries. By carefully staging a few rare opportunities for "news" from Moscow (where access by the Western media is sharply limited and controlled) they have gotten front-page coverage in the Western press highlighting their propaganda themes. Also the Soviets have recently paid for prominently displayed advertisements in Western newspapers. Such advertisements are often used to republish *Pravda* editorials that the Soviets wish to direct to larger audiences in the West.

The Soviets have also employed one of their oldest front organizations in the campaign: the World Peace Council (WPC)* which actually has a contingent of KGB officers assigned to it. On January 24-28, 1985, the WPC's "International Liaison Forum of Peace Forces" sponsored a meeting in Vienna, Austria. The meeting, which attracted more than 400 delegates, adopted resolutions urging a halt to the development of "space weapons" and the "militarization of space." At a WPC Presidium session in Moscow, similar denunciations were voiced. In early 1985, the WPC issued a pamphlet with the provocative title, "The U.S. Space Offensive: Road to Nuclear Annihilation," repeating the party line about SDI. In March 1985, the WPC "Presidential Committee," meeting in Moscow, issued a "No To 'Star Wars' (Appeal Against Washington's Space Madness)" which followed closely the language of the Andropov "interview" in *Pravda* two years earlier.

Awareness of the diminished credibility of the older and more transparent front organizations like the WPC has prompted the Soviets to create new fronts and new satellite groups of old fronts, which are now employed in their campaign against SDI. One such organization is the Generals for Peace and Disarmament (GPD), a group of eight retired NATO senior officers. This front, established in 1980 as part of the Soviet efforts against NATO's planned INF deployment, has recently added SDI to the list of NATO and U.S. programs it regularly denounces. Its members have traveled widely to convey their message. The GPD has been professionally choreographed in an attempt to disguise its origins and ties to Soviet front efforts.**

*The WPC was founded in 1949 as the World Committee for Partisans for Peace and adopted its present title in 1950. The WPC was based in Paris until 1951 when the French Government expelled it for "fifth column activities."The WPC moved to Prague and then to Vienna in 1954, where it remained until banned in 1957 for "activities directed against the Austrian state." However, it continued to operate in Vienna as the "International Institute for Peace" until it moved to its present location in Helsinki in 1968.

**See "Soviet Active Measures: the World Peace Council", Foreign Affairs Note, Department of State, April 1985, pp. 6-7.

A newer development is the use of prominent Soviet scientists to argue against SDI. Ironically, many of these scientists have been and continue to be heavily involved in Soviet ballistic missile defense research, even as they denounce parallel U.S. efforts. On April 9, 1983, the Soviet news agency TASS related in English the full text of the Soviet scientists' "Appeal to All Scientists of the World," which declared the practical infeasibility of SDI. This appeal, published in *The New York Times*, denounced the SDI program. In fact, a number of the signatories of this letter have played key roles in Soviet programs researching both traditional and advanced ballistic missile defense technologies. Among these are Mr. Y. P. Velikhov, the Deputy Director of the Kurchatov Atomic Energy Institute, and a central figure in Soviet laser and particle-beam weapon efforts; Mr. N.G. Basov and Mr. A.M. Prokhorov, both of whom are scientific advisers to laser weapon programs; and Mr. Avduyevskiy, who is responsible for a number of research projects on the military uses of space, including a space-based laser weapon. Other signatories have devoted their careers to developing strategic offensive weapons and other military systems.

Themes of the Soviet Propaganda Campaign

The major themes used by the Soviets in their propaganda against the Strategic Defense Initiative are analyzed in the pages that follow. For the reader's convenience, brief criticisms and responses to each Soviet theme are numbered and printed in boldface type. Detailed explanations of the criticisms follow. The format is designed for quickness and ease of reference – also to render the technical issues of the debate easier to understand. Because the Soviet themes themselves are intertwined, the reader may find in some cases that the detailed information supplied in response to two different Soviet themes overlaps.

SOVIET PROPAGANDA THEME:

SDI is part of an effort to acquire a "first-strike" capability.

> The US President recently announced the start of the development of a large-scale, highly effective ABM (anti-ballistic missile) defense. But these measures will in reality be not defensive but offensive, aimed at securing for the United States a first nuclear strike potential.
>
> – Defense Minister Dmitriy Ustinov, speech in East Germany, *Krasnaya Zvezda,* Apr. 7, 1983

> What can these weapons do? Of course, they can be an element of a first strike; and as such, this type of weapon can present a very real threat which bolsters the capability to carry out a first strike.
>
> – Academician Yevgeniy Velikhov, Vice President of the USSR Academy of Sciences, Moscow Television Service, 25 May 1985.

Several points need to be made about this theme:

1. Strategic defense systems would work to enhance stability and deterrence by making a "first strike" more difficult to achieve. SDI is not designed to replace deterrence but rather to improve and strengthen it. Deterrence requires that a potential adversary be convinced that the problems, risks, and costs of aggression outweigh the gains he might hope to achieve. A popular view of deterrence is that it must take the form of a threat of devastating nuclear retaliation. But deterrence can also take the form of directly denying the military objectives of an attacker. An effective strategic defensive system need not be perfect to complicate greatly an aggressor's first-strike planning and counteract the temptation to launch an attack.

2. U.S. strategic forces are not configured for or capable of a "first strike," and the United States has consistently rejected such a strategy. Consistent with its longstanding policy, the United States has structured a retaliatory force unsuited for a first-strike strategy. Notably, the U.S. has large numbers of bombers and SLBMS which are either not fast enough or not accurate enough to destroy Soviet missiles in their silos. Such a force would make no sense as part of an aggressive first-strike strategy. The Soviet Union, however, has more than twice as many prompt counterforce warheads as there are strategic military targets in the U.S.

This huge asymmetry in counterforce capability is the overriding cause of a dangerous instability in the current strategic situation, which the President has sought to mitigate through the strategic modernization program and the current Nuclear and Space Talks in Geneva, and over the long term through investigation of defensive technologies for a better basis for deterrence. Deployment of the hard-target-capable MX and Trident II SLBM will reduce the Soviet lead in prompt counterforce capability, but will not match the Soviets in this area. Indeed, the U.S. does not seek to match the enormous prompt counterforce potential of the USSR, but seeks rather to offset the Soviet advantage, and blunt its impact by improving the survivability and reliability of our forces (including command, control, and communication).

3. It is Soviet — and not U.S. — doctrine and deployments which have evolved with the aim of developing a "first-strike" strategy. The execution of a "first-strike" attack presupposes possession of nuclear weapons sufficiently numerous, powerful, accurate, and swift to destroy a large portion of the opponent's force in a first strike and still retain a large reserve force. These are exactly the traits of the weapons that the Soviet Union has chosen to emphasize in its strategic nuclear force.*

Heavy, accurate Inter-Continental Ballistic Missiles (ICBMs) are ideally suited for prompt counterforce missions. The Soviets have 308 SS-18 "heavy" ICBMs and the US none. These are the most powerful, rapid and threatening nuclear weapons and the best suited for carrying out a first strike.

The Soviet SS-18 force alone is capable of destroying almost the entire land-based portion of the U.S. retaliatory force, leaving approximately 2,000 SS-19 warheads to attack remaining land-based military targets. In addition, Soviet Submarine-Launched Ballistic Missiles (SLBMs) would contribute to a large residual strategic force after the initial attack. The 308 SS-18 ICBMs deployed by the USSR, each credited with 10 warheads, have more destructive potential than the entire combined force of all U.S. ICBMs and SLBMs.

Moreover, Soviet military doctrine, profoundly influenced by the initial success of the Nazi blitzkrieg inflicted against the USSR in World War II, places a premium on achieving surprise, seizing the initiative, and concentrating its use of offensive firepower ("shock").

4. The Soviet Union asserts that only one side — the U.S. — would develop strategic defenses. That assumption is belied by the long-standing Soviet strategic defense programs (detailed in a State/Defense publication of Oct. 1985). President Reagan, in his October 24, 1985 speech before the UN General Assembly, made clear that the U.S. envisions defense against ballistic missiles for both sides:

> We do not ask that the Soviet leaders, whose country has suffered so much from war, leave their people defenseless against foreign attack. Why then do they insist that we remain undefended? Who is threatened if Western research, and Soviet research that is itself well-advanced, should develop a nonnuclear system which would threaten not human beings but only ballistic missiles? Surely the world will sleep more secure ... when the sword of Damocles that has hung over our planet for too many decades is lifted *by western and Russian scientists* working to shield their cities and citizens.... [emphasis added]

The US has stressed publicly, as well as to the Soviets in Geneva, that should new defensive technologies prove feasible, we seek a jointly managed transition to greater reliance on defensive systems. In the meantime, we are pursuing a dialogue on the offense-defense relationship as a possible basis for such a transition.

5. A host of U.S. systems — even the Space Shuttle — have been attacked over the years by Soviet propagandists as contributing to an alleged "first-strike" capability. The fact is that Soviet commentators can be counted on to call almost any new U.S. nuclear weapon program a "first-strike" system. The term has been applied indiscriminately to the U.S. longer-range INF missiles for NATO (both the Pershing II ballistic missile and ground-launched cruise missile), the MX missile, the "stealth" bomber, and the B-1 bomber, as well as to the Space Shuttle.

SOVIET PROPAGANDA THEME:

SDI research would lead to development of "space strike arms" designed to hit earth targets from space.

> They ["space strike arms"] may be used not only to knock out ballistic missiles after the latter

*See "Soviet Strategic Force Developments," Testimony Before a Joint Session of the Subcommittee on Strategic and Theater Nuclear Forces of the Senate Armed Services Committee and the Defense Subcommittee of the Senate Committee on Appropriations, June 26, 1985, by Robert M. Gates and Lawrence K. Gershwin, CIA.

are launched, but also to deliver a strike from outer space at earth, air, and sea targets. Such targets may be missiles at launch sites, command, control and communication centers, various enterprises, power stations, aircraft in airfields, and many other stationary as well as moving targets.

—Soviet pamphlet, *Star Wars: Delusions and Dangers,* (Military Publishing House, Moscow, 1985), p.27.

The above is a variation on the theme that SDI is aimed at achieving a "first-strike" capability.

There are two points to be made here:

1. The defensive nature of the SDI program is demonstrated most clearly by the fact that most of the technologies under investigation are not capable of penetrating the earth's atmosphere and cannot be used to strike terrestrial targets. And while some technologies could in theory penetrate the atmosphere, they would not be militarily effective in such a role.

The approaches being examined in SDI hold much promise that the technical requirements necessary for an effective defense against ballistic missiles is possible. The same is not true of the technical requirements necessary for the effective offensive uses of those same approaches. It would be far easier to counter such weapons than it would be to use them to attack quickly and effectively a large number of hardened and protected military assets on the ground.

2. To demonstrate the defensive nature of the technologies being explored in SDI, the United States has proposed an "open laboratories" initiative. Under this initiative inspection teams from the U.S. and the U.S.S.R. would visit facilities in both countries where strategic defense research is being undertaken to determine firsthand the defensive nature of the research.

SOVIET PROPAGANDA THEME:

SDI represents a U.S. attempt to achieve strategic superiority and upset the existing military balance.

In fact, Washington's new strategy is another attempt to disrupt the strategic military parity between the USSR and the United States . . .

—Colonel M. Ponomarev, article in *Krasnaya Zvezda,* 10 April 1983.

The Pentagon is now rushing into space. What for? Once again to attempt to achieve military superiority over the USSR, through space this time.

—Defense Minister S. L. Sokolov, Interview in *Krasnaya Zvezda,* 8 May 1985.

1. According to Soviet propaganda, U.S. military programs always "upset" the balance, while Soviet military programs always "maintain" the balance. For example, in recent years, the Soviets have claimed that both the MX and NATO's INF missile deployments would upset the balance as part of a U.S. effort to acquire military superiority over the USSR. This charge was leveled despite the existence at the time of Soviet monopolies in both types of weaponry. By the end of the 1970s, the Soviet Union possessed over 600 ICBMs of comparable or greater power than the MX. The pattern with regard to INF missiles was equally clear. In 1982, for example, when the Soviet advantage in such missiles' warheads had grown to 1,200 to zero, Defense Minister Ustinov declared that there was "approximate parity."

Soviet propaganda seeks to have it both ways. The Soviets claim that the strategic balance is resilient to massive Soviet build-ups (such as the over 800 Soviet fourth-generation ICBMs deployed after SALT I), yet extremely sensitive to any new U.S. programs (such as plans to deploy 100 MX ICBMs or to pursue an SDI research program).

2. The actual trend in the strategic balance over the past 14 years has been in the opposite direction—toward Soviet superiority. The deterioration of the strategic balance since the signing of SALT I in 1972 was one of the major factors behind President Reagan's decision to pursue the Strategic Defense Initiative. SALT I and the ABM Treaty did not, as was hoped in the West, slow the momentum of Soviet strategic offensive programs. The number of Soviet strategic warheads and bombs has quadrupled since SALT I was signed. Moreover, the Soviet capability to destroy hard targets has increased more than tenfold.

In 1981 the U.S. embarked on a strategic modernization program to reverse a long period of relative decline. This modernization program was designed to preserve deterrence and, at the same time, to provide the incentives necessary for the Soviet Union to join the U.S. in negotiating significant reductions in the nuclear arsenals of both sides.

3. The Soviet Union is actively pursuing its own strategic defense research. SDI in part merely responds to a pre-existing Soviet effort. Soviet propagandists would have the world believe the U.S. program would leave the Soviet Union defenseless. The Soviets' persistent denial

that they are engaged in advanced defense technologies research is calculated to advance the myth that the U.S. seeks superiority and is undermining the "balance" through SDI.

4. Because of Soviet efforts to consolidate "prompt counterforce" capability, the recent trend in the strategic balance has been toward greater instability. SDI is necessary to offset this trend. The question arises: what would be the effect on the strategic balance (especially five or ten years from now) if the U.S. did not pursue the SDI research program and the Soviet Union continued its long-established pursuit of both conventional ballistic missile defense and advanced technologies for strategic defense? Given the current Soviet strategic defense effort, which goes well beyond research in some cases, SDI is necessary, at a minimum, as a hedge. But beyond that, SDI holds out the promise of a more stable, defense-reliant strategic balance.

SOVIET PROPAGANDA THEME:

SDI will generate a new round in the arms race.

> [The deployment of a U.S. strategic defense] would actually open the floodgates of a runaway arms race of all types of strategic arms, both offensive and defensive.
>
> —General Secretary Yuri Andropov, answer to correspondent's questions in *Pravda,* 27 March 1983
>
> The development and introduction of defense against nuclear missile weapons . . . whips up the arms race even more . . . .
>
> —Georgiy A. Arbatov, Director of USA and Canada Institute of the USSR Academy of Sciences, 12 December 1984
>
> . . . the truth is that the space-based antimissile system which is being created by the United States programs an arms race in all salients and leads to the undermining of international security.
>
> —Soviet Defense Minister S. L. Sokolov 5 May 1985

These claims are based not only on a wholly misleading picture of Soviet conduct over the past two decades but on a fundamental misunderstanding of the criteria which the United States is committed to apply in evaluating the results of SDI research.

1. Efforts to reverse the Soviet buildup have proved unsuccessful. While we have shown restraint, the Soviets raced ahead. At the signing of the ABM Treaty in 1972, many in the West hoped that the treaty would break what was thought to be an "action-reaction" arms race cycle and prevent a new cycle of reactive responses resulting from defensive deployments. The U.S. eliminated its ballistic missile defense capability and drastically reduced air defenses after signing the ABM Treaty, while the pace of Soviet ABM research and development increased.

As U.S. spending on strategic offensive forces declined in the years immediately following SALT I in 1972, the Soviets deployed at a high rate a whole series of new strategic offensive systems. In 1979, Secretary of Defense Harold Brown summarized the phenomenon this way: "When we build, they build; when we stop building, they nevertheless continue to build."

2. Over the past decade and a half, the major initiator of new weapons programs has been the Soviet Union. Soviet spokesmen seek to give the impression that major strategic weapons developments are exclusively of U.S. origin and that the Soviet Union merely reacts to U.S. actions. This notion does not square with recent history, as the evolution of the strategic balance after SALT I shows. The data plainly show that the Soviet Union has run a one-sided race.

For example, the U.S. initiated development of the MX missile after SALT I. Initial deployment is scheduled to begin in late 1986. The Soviets characterize the MX as a spur to the "arms race". In fact, since the U.S. deployed its most modern type of ICBM, the Minuteman III, the Soviet Union has deployed at least four new types of ICBMs (the SS-17, SS-18, SS-19, and SS-25), including 360 SS-19s roughly comparable in size to the MX, each with six warheads, and 308 of the much larger SS-18, each credited with ten warheads. Moreover, the Soviets have already begun deployment of one new type of ICBM, the SS-25, and will soon begin deployment of another new type, the SS-X-24. (Only one "new type" is permitted under SALT, and therefore the SS-25 violates the SALT II Treaty of 1979.) This means five new Soviet ICBMs compared to one – the MX – for the U.S. And yet the Soviets repeatedly assert that the MX (the development of which was stretched out in the 1970s and the deployment force goal for which has been reduced from 200 to 100 missiles) will "prompt another round in the arms race."*

---

*An instructive example of the Soviets' use of standardized propaganda charges regardless of the actual circumstances was the Soviet accusation in mid-1977 that President Carter's cancellation of the planned production of 241 B-1 bombers was an escalation of the arms race and would complicate arms con-

3. Because of the cost-effectiveness criterion, strategic defenses once deployed, would tend to inhibit further expansions of offensive weapons. Within the SDI research program, the U.S. will judge defenses to be desirable only if they are militarily effective, survivable, and cost-effective at the margin. The cost-effectiveness criterion will ensure that any deployed defensive system would create powerful disincentives against responding with additional offensive arms. A key issue in evaluating options generated by SDI research concerns the degree to which certain types of defensive systems, by their nature, encourage an adversary to try simply to overwhelm them with additional offensive capability while other systems can discourage such a counter effort. The U.S. seeks defensive options which would provide clear disincentives to attempts to counter them with additional offensive arms. This criterion is couched in terms of cost effectiveness; however, it is much more than an economic concept.

SOVIET PROPAGANDA THEME:

SDI is part of US efforts to "militarize space."

> . . . the idea of developing ABM systems conceals an intention to shift the arms race to outer space and threaten mankind from there.
>
> —A. Tolkunov, "Space Fraud," *Pravda,* May 10, 1983

> The program for creating a large-scale, echeloned ABM system using space-based elements, . . . is also aimed at transferring the arms race into space . . . . the plans that the United States is implementing for the militarization of space via the creation of various kinds of antisatellite weapons.
>
> —A. Sitnikov, "For A Clear Sky," *Pravda,* July 5, 1984

1. The Soviet Union took the initiative in "militarizing" space in the 1950s by deploying the first ICBMs which would travel through space when launched. In the 1960s, the Soviet Union conducted unannounced orbital tests of, and subsequently developed, a fractional orbital bombardment system designed to launch weapons from space.

In the late 1960s, the Soviets developed and tested an anti-satellite weapon. Since then, the Soviets have tested this ASAT in space a considerable number of times. Faced with a demonstrated Soviet capability to threaten the survivability of some vital U.S. satellites, the U.S. in 1977 began a research and development program aimed at acquiring an ASAT capability. To date, however, the Soviet Union is the only nation with an operational ASAT weapon deployed.

At about the same time the Soviets began to suggest that the U.S. was "militarizing space," a 1982 study by the Congressional Research Service noted:

> In defense of its developing ASAT system the Soviets took the offensive, accusing the United States of militarizing space, an old propaganda canard dating back early in the Space Age and in an air of offended innocence portraying the Soviet Union as the victim not the perpetrator. . . . Thus, the United States was portrayed as the violator of peace in outer space, the Soviets as the enforcer of peace.

Meanwhile, the Space Shuttle became the principal focus of the Soviet propaganda charge that the U.S. was seeking to militarize space. In April 1982 the Soviet news agency TASS charged that military missions of the shuttle posed "a special danger to mankind" and suggested that the Shuttle would be used "as a space bomber with nuclear weapons on board." In July 1981, the Soviets claimed "the shuttle provides a basis for a new ASAT system."

2. In contrast to the heavily civilian-oriented U.S. program, the Soviet space program has long been predominantly military in nature. In 1984 the Soviet Union conducted about 100 space launches, some 80 of which were purely military in nature. In the same year, by comparison, the U.S. conducted a total of just eleven space missions. All Soviet space launches are conducted by their Strategic Rocket Forces—the same military branch charged with maintaining and commanding the Soviet land-based nuclear arsenal. There is no Soviet equivalent to NASA, America's civilian space agency. The majority of Soviet military satellites have been launched from Plesetsk Missile and Space Test Center, the same site at which nuclear missiles are tested. (The Soviets did not even acknowledge the existence of Plesetsk as a launch site until 1983, by which time they had – since 1966 – launched over 800 spacecraft from that site.)

---

trol negotiations because, the Soviets argued, the US was pursuing air-launched cruise missiles. (Those missiles were for penetrating air defenses the Soviets refused to include in arms control agreements.) Thus even a major unilateral cutback by the US was portrayed by the Soviets as a spur to the arms race and an obstacle to reaching an arms control agreement. (See TASS commentary in English, July 1, 1977 and *Pravda* weekly revew, "International Week," July 3, 1977.)

SOVIET PROPAGANDA THEME:

SDI violates or undermines the ABM Treaty of 1972.

> . . . in concluding the treaty on the limitation of ABM systems in 1972 the USSR and the United States reached accord on banning the development of systems for the antimissile defense of the territory of each of the two countries and also the creation of the bases for such defense . . . It is precisely this fundamental provision of the ABM treaty that US Administration figures are currently undermining.
>
> —Editorial, *Pravda,* 23 March 1984
>
> The United States' so-called 'research' in the field of the development of ABM defense with space-based elements is leading to the creation of a situation in which the entire system of international law . . . might be jeopardized. . . .
>
> —Editorial, *Izvestiya,* 25 January, 1985
>
> The United States has been malevolently undermining the Treaty on the Limitation of ABM Systems for a long time now.
>
> —Marshall S. Akhromeyev, Chief of the USSR Armed Forces General Staff and First Deputy Defense Minister, article in *Pravda,* 4 June 1985

It has been a common technique of Soviet propaganda over the years to accuse adversary powers falsely of precisely the misdeeds and violations in which the Soviet Union happens itself to be engaged. Such is the case with the groundless allegations that SDI violates the ABM Treaty.

1. SDI is strictly within the limits of the ABM Treaty. Indeed, the U.S. program is proceeding under guidelines more restrictive than the treaty provisions themselves. The ABM Treaty contains constraints governing the development, testing, and deployment of ABM systems and components. Research is not constrained in any way. To understand why this is, it is useful to review briefly the history of the treaty's negotiation.

The lack of constraints on research in the ABM Treaty resulted from two factors. First, both the United States and the Soviet Union recognized that it would be impossible to devise effective or verifiable limits or bans on research. (In fact, the Soviet side insisted during negotiations that research could not be limited.)

Additionally, it was clear in negotiations that neither side considered it desirable to limit research. The treaty was also designed by both sides to permit adaptation to future circumstances. This was particularly important given that the treaty was to be of unlimited duration. Specific provisions were incorporated into the treaty to allow for its modification.

The language of the ABM Treaty clearly indicates that the possibility of new technologies was foreseen. That future types of permitted ABM systems and components were contemplated is obvious from the language of Article II, which defines ABM systems as "currently consisting of" ABM interceptor missiles, launchers, and radars. Furthermore, the language of "Agreed Statement D" in the treaty acknowledges the possibility that new ABM systems based "on other physical principles" might be created in the future and provides for consultations with a view to possible amendment of the treaty contraints on such systems prior to their deployment.

The SDI program is being conducted in a manner fully consistent with all U.S. treaty obligations. The President has directed that the program be formulated in a fully compliant manner. A U.S. review last year led to the judgment by the President that a reading of the ABM Treaty that would allow the development and testing of systems based on other physical principles, regardless of basing mode, is fully justified.

The SDI program was originally structured in a manner that was designed to permit it to achieve critical research objectives while remaining consistent with the more narrow interpretation of the ABM Treaty which the U.S. was observing. This being the case, in October 1985, while reserving the right to conduct the SDI program under the legitimate broader interpretation at some future time, the President deemed it unnecessary to restructure the SDI program towards the limits of the ABM Treaty which the U.S. could observe. Consistent with that determination, the Administration applies the more restrictive treaty interpretation as a matter of policy, although we are not legally required to do so, in evaluating the experiments in the SDI program.

The Soviets are of course fully aware of this fact, and interestingly enough, before SDI came on the scene, they openly acknowledged it. In a major statement before the Soviet Presidium in 1972, shortly after the treaty was signed, then Soviet Defense Minister Grechko stated that the ABM Treaty "places no limitations whatsoever on the conducting of research and experimental work directed toward solving the problem of defending the country from nuclear missile strike."

2. Ironically, it is the Soviet Union, and not the United States, which is clearly acting in violation of the ABM Treaty, as well as other major

arms agreements. A number of Soviet ABM-related activities since 1972 have been inconsistent with or in outright violation of the ABM Treaty. Most notably, the construction of a large phased-array ballistic missile tracking radar near Krasnoyarsk in central Siberia violates the ABM Treaty's provisions concerning siting, orientation and capability of such radars. The Krasnoyarsk radar violation goes to the heart of the ABM Treaty. During the ABM Treaty negotiations large phased-array radars like that under construction at Krasnoyarsk were recognized as the critical, long lead-time element of a nation-wide ABM defense, which the Treaty was designed to prohibit. (For a more detailed discussion of these and other Soviet violations of existing arms agreements, see the Arms Control and Disarmament Agency's pamphlet *Soviet Noncompliance,* March, 1986)

SOVIET PROPAGANDA THEME:

SDI undermines the basis for arms control efforts, including reductions in strategic offensive systems.

> I think it will absolutely derail the whole process of arms control. It will become simply impossible.
>
> —Dr. Georgi Arbatov, Member of Supreme Soviet, and Director of the Institute of the United States and Canada, interview on Radio Moscow, April 13, 1983.

> Announcing its programs of the space weapons build-up, Washington is actually undermining the whole process of the limitation and reduction of armaments. . . .
>
> —Vladimir Bogachev, TASS political commentator, April 28, 1984.

> The United States . . . continues to push its 'Star Wars' program . . . If the United States continues in the same dangerous direction there is no hope for real progress in arms control.
>
> —Radio Moscow, world service in English, commentary by Aleksandr Druzhinin, January 6, 1986.

1. As is the case with a number of other Soviet propaganda themes, the reverse is the truth. The historical record demonstrates that the Soviets have agreed to real arms control only when it was clear the West had the political will to preserve the military balance, usually by initiating new programs. For example, in the case of SALT I, only after the Johnson administration in early 1968 requested Congressional approval of funding for production and deployment for the ABM system did the Soviets agree to U.S. proposals to begin arms control negotiations on strategic nuclear forces. (The first session of SALT I began in Helsinki in November 1969, having been postponed after the Soviets invaded Czechoslovakia in August, 1968.)

In other words, contrary to the point usually made by Soviet propagandists, the prospects for arms control were actually enhanced by the U.S. having in 1969-1972 a vigorous ABM program. The Soviet decision to return in early 1985 to arms control negotiations with the U.S. – unilaterally suspended by the Soviets in late 1983 – apparently was largely in response to announcement of the U.S. Strategic Defense Initiative and our determination to implement programs to restore a balance in strategic and intermediate range forces.

2. The threat that arms talks would prove impossible if the U.S. were to continue with programs under contemplation has proved empty in the past. In the case of INF negotiations, prior to NATO's December 1979 INF decision, the Soviet Union was unwilling to consider arms limits relating specifically to their SS-20 missiles and said they would not negotiate on longer range INF missiles. It was only after that decision, and after the Soviets became convinced that NATO was fully committed to implementing it, that the Soviets finally agreed in mid-1980 to negotiations without the unacceptable precondition that NATO first abandon its planned deployment. Yet before NATO made its decision, the Soviets argued that the NATO decision would make talks impossible – and later, after that threat failed to be borne out, that actual deployment would make talks impossible. These threats came in such statements as those by then Foreign Minister Gromyko, and President Brezhnev.

> Question: Do you consider that talks will be possible in the event that a decision on supplementing arms is adopted at the forthcoming NATO session? Answer: The present position of the NATO countries, including the FRG, as it now appears, destroys the basis for talks. We have also told the government of the FRG about this.
>
> —Foreign Minister Gromyko, press conference, Bonn, November 23, 1979.

> The present position of NATO countries makes talks on this problem impossible. We formally told the U.S. government about all this a number of days ago.
>
> —President Brezhnev, interview in *Pravda,* January 13, 1980.

As NATO neared initial longer-range INF missile deployment in late 1983, the Soviets used arguments such as this as a pretext for walking out of INF talks in Geneva in November 1983, insisting – as they did throughout 1984 – that the new U.S. missiles must be withdrawn as a precondition for renewing arms control talks. This precondition – as part of the general propaganda theme that US programs destroy the basis for arms control talks – was dropped in January 1985, when the Soviets agreed in Geneva to renew arms control negotiations that include INF systems.

3. Real reductions in offensive nuclear weapons should be easier to achieve in the presence of strategic defense systems than they are at present. The Soviets claim that U.S. abandonment of SDI will open the door to deep reductions. But the U.S. has been seeking such reductions in the offensive arsenals of both sides since 1972, and particularly during the last four years, with no effect. Far from standing in the way of offensive reductions, SDI is very likely to provide a positive incentive for both sides to reduce their strategic nuclear arsenals, for three reasons.

First, if SDI technologies can produce a defense that is cost-effective at the margin, which is more than a purely economic consideration, it would provide an incentive not to "react" to defensive deployments with more offensive deployments. The SDI research program is in part designed to determine if such cost effectiveness can be achieved. The United States will not develop or deploy defenses against ballistic missiles unless they meet this criterion.

Second, by having the capability to disrupt the execution of a nuclear attack, defenses against ballistic missiles would confront the potential attacker with great uncertainty as to the potential success of the attack. Continued investment in nuclear ballistic missiles would become considerably less attractive from a military perspective because an attacker would not be able to count on achieving specific military objectives by using offensive nuclear ballistic missiles.

Finally, SDI could mitigate the inherent risks of reducing nuclear arsenals to low levels. Under present conditions, very deep reductions, while attractive, would entail the risk that one side or the other might deploy a clandestine nuclear force that would give it tremendous advantages if used or even simply revealed during a crisis. This risk is much greater for the United States than for the Soviet Union, because of the closed nature of Soviet society and the fact that the Soviets have a record of violating many of the arms control agreements which they have signed. Effective defenses provide a hedge against a clandestinely deployed force and thus more confidence in the wisdom of drastically reducing or even eventually eliminating nuclear forces.

In short, SDI provides both a prudent hedge against existing and future unilateral Soviet force improvements and presents an opportunity to the Soviets to move jointly to a more stable world with progressively lower levels of nuclear weapons.

4. Even as Soviet spokesmen claim that U.S. SDI research undermines arms control efforts, the Soviet Union continues to press forward, clandestinely, with the same kind of research. Given that Soviet violation of their obligations under many existing arms control treaties undermines the entire arms control process, the claim is as hypocritical as it is false.

SOVIET PROPAGANDA THEME:

SDI undermines stability and increases the likelihood of nuclear conflict.

> I concretely refer to Washington's announced plans of developing a large-scale and highly effective anti-ballistic missile defense . . . the new American military concept . . . is only capable of bringing the world closer to the nuclear precipice.
>
> —General Secretary Yuri Andropov, interview on April 19, 1983 with West German magazine *Der Spiegel*

> But realization of SDI would overturn all existing ideas on the balance of forces and even on the possibilities of reducing nuclear arms. The strategic balance would truly become strategic chaos. . . . Realization of the 'star wars' program engenders and would engender in the future destabilization at every stage of its implementation.
>
> —L. Semeyko, "A Course Aimed at Destabilization," *Izvestia*, January 30, 1986

1. By the Soviet definition of "stability," virtually every U.S. program is "destabilizing," whatever its characteristics. It is important to recognize that the Soviet interpretation of "stability" differs markedly from that which prevails in American discussions of these problems. The United States views stability as a mutual condition; that is, stability exists when neither nation can gain an advantage by initiating a large-scale nuclear conflict. The Soviets most commonly define stability as a condition of unilateral advantage for Soviet forces. The concept of mutuality which pervades American thinking about the strategic

balance is largely absent from the Soviet outlook. Within the Soviet understanding, U.S. programs are "destabilizing" regardless of their specific characteristics – essentially by definition. Similarly, in the world depicted by Soviet propaganda, U.S. programs, essentially by definition, always make nuclear war more likely.

2. Measured against the proper technical criteria of stability, defensive systems would actually have a strong stabilizing effect, by making a successful first strike more difficult. The logical flaw with the Soviet argument is that it assumes a world with both vulnerable defenses and highly vulnerable offenses, despite the fact that survivability is one of our key criteria for deciding the feasibility of strategic defensive systems, and that the mere presence of defenses of some level of effectiveness would substantially reduce retaliatory force vulnerability.

The purpose of the SDI program is to find a means to destroy attacking ballistic missiles before they could reach any of their potential targets. The SDI therefore places its emphasis on options which provide the basis for eliminating the general threat posed to the United States and our allies by ballistic missiles. If a future President elects to move toward a general defense against ballistic missiles, such a system would certainly also increase the survivability of our retaliatory forces. The goal of our research, is not, and cannot be, simply to protect our retaliatory forces from attack.

Perhaps because their own strategic doctrine has so long emphasized the advantages of defenses, the Soviets have a difficult time making a logical case that defenses are harmful. In the end their arguments tend to collapse before a simple observation: an effective defense would discourage attack. The uncertainties and obstacles facing a potential attacker increase in the presence of an opposing defense. Without effective defenses, it is much easier for an attacker to plan a first strike.

3. Concern about stability has played an integral role in U.S. thinking about SDI from the outset. From the beginning, the U.S. has recognized the importance of maintaining stability during a transition to a more defense-reliant balance, and has emphasized that defensive systems will not be deployed unless they are survivable. Requiring that defenses meet the criterion of survivability would greatly reduce the incentive for an adversary to strike first. Moreover, should defensive technologies prove feasible, the U.S. has stated that it would hope to bring about a "jointly managed approach designed to maintain, at all times, control over the mix of offensive and defensive systems of both sides and thereby increase the confidence of all nations in the effectiveness and stability of the evolving strategic balance."*

SOVIET PROPAGANDA THEME:

SDI would increase the chances of "instantaneous" war.

> Space strike weapons based on new physical principles (laser and particle beam weapons) will be ready for use at short notice and will be almost instantly activated. In fact, they are designed for automatic triggering without human involvement. That is what makes them especially dangerous. While at present, with the existing weapon systems, there may still be some time available to evaluate the situation and avert the irreparable, a war with the use of space strike weapons may erupt instantaneously.
>
> – Soviet pamphlet, *Star Wars: Delusions and Dangers* (Military Publishing House, Moscow, July, 1985), p. 9.

1. In fact, strategic defenses would tend to have the opposite effect — increasing the available decision time in the event of an accidental launch of offensive weapons. In this way SDI could actually alleviate the "first-strike" risk caused by the existence of Soviet heavy missiles. It is ironic that the Soviets cry foul over a system designed precisely to avoid a catastrophe and to do so by countering the greatest potential sources of instability – fast-flying, "heavy" Soviet MIRVed ICBMs. As Secretary Shultz has stated.**

> Weapons like large, fixed, land-based ICBMs with multiple warheads, capable of destroying missile silos . . . are the most powerful strategic weapons, the most rapid, the most provocative, the most capable of carrying out a preemptive strike, the most likely to tempt a hair-trigger response in a crisis.

The fact is that the Soviets have sought and obtained an overwhelming advantage in precisely those weapons. The U.S. has long held, and its arms control positions have long reflected, that such Soviet ICBMs pose a profound threat to crisis stability. SDI is in part an attempt to search for a counter to that threat.

---

* "The Strategic Defense Initiative," (Department of State, June 1985), Special Report No. 129.

**Address to the North Atlantic Assembly, meeting in San Francisco, California, October 14, 1985.

2. Numerous precautions are available to ensure that defensive and offensive systems alike remain under human control. Moreover, there are techniques that could be employed to ensure against the dangers of faulty human decision.

3. In contrast to the consequences of an accident under the present offense-offense balance, any accidental triggering of defensive systems would be a harmless event. SDI-type systems would be designed for the interception of weapons, not for mass destruction. Were a defensive action prompted by warning of a mass attack that proved to be spurious, little would occur beyond the wasting of photon energy in space and perhaps the harmless hurling through space of projectiles that would burn up upon entering the atmosphere. Little or no damage would result from an unnecessary defensive action.

4. Throughout the nuclear period, the United States has unquestionably been the chief innovator and initiator of new technological and political measures designed to ensure full human control over arsenals and to prevent accidents. Most of the important precautionary measures against accidental war now in place on both sides began as U.S. initiatives. One suspects that it is precisely because the problem of accidents has always loomed so large in American thinking about the nuclear problem that Soviet propagandists invoke this theme, however illogically or implausibly, in their attacks on SDI. The U.S. has long been intent on reducing to the minimum level possible the chances of a nuclear accident. In April 1983, the Defense Department sent to Congress a report, with President Reagan's strong endorsement, recommending additional steps to strengthen stability and reduce the risk of accident or miscalculation. The proposals included the addition to the U.S.-USSR hotline of a high-speed facsimile transmission capability (on which agreement was reached in July 1984), the establishment of a Joint Military Communications Link to supplement the hotline and existing diplomatic channels, and the establishment by the U.S. and Soviet governments of improved communications with their embassies in each other's capitals.

The United States, in short, has always placed great importance upon ensuring political control over the use of weapon systems. Nothing in the SDI program changes that fundamental emphasis. More than anything, SDI might lead to defenses that would reduce the possibility of an accidental nuclear catastrophe spurred by the presence of offensive nuclear weapons.

SOVIET PROPAGANDA THEME:

The Soviet Union will take countermeasures to SDI defenses which could defeat them with relative ease and low cost.

> As a matter of principle, there does not and cannot exist any absolute weapon. The 'absolutely reliable antimissile defense' is just a mirage. The makers of the American 'wonder weapon' are wrong when they assume that the 'Russians cannot match the United States in the standard of technical development.'. . . The efforts of one side to form an 'absolute shield' force the other side to reinforce devices for overcoming it, all the more so as the antimissile defense will naturally have its weak, vulnerable spots – in the control, command and targeting system, in the work of the computers and so forth.
>
> – Col. General Nikolay Chervov, "Defense on Attack," interview in *Bratislava Pravda,* April 29, 1983.

> If the United States were to begin militarizing outer space, upsetting the existing military strategic equilibrium, the Soviet Union would have no choice but to take countermeasures and restore the strategic parity. These measures might concern both defensive and offensive arms.
>
> – Soviet pamphlet, *Star Wars: Delusions and Dangers,* (Military Publishing House, Moscow, July 1985), p. 54.

> The Pentagon's calculations to achieve U.S. military superiority by deploying strike weapons in outer space are built on sand. The Soviet Union will find effective means to counteract the weapon systems, and the reply move will be rapid enough and less costly than the U.S. 'Star Wars' programme.
>
> – Vladimir Bogachev, Military News Analyst, TASS in English, January 6, 1986.

1. The countermeasures discussed by Soviet propagandists are being taken into account in SDI. Obviously one of the major questions at issue in any assessment of prospective strategic defense technologies will be the availability of realistic countermeasures. From its inception, SDI has been based on the assumption that a determined attacker would do whatever is realistically possible to overcome defenses. The 1983 "Fletcher Study," which produced the technology study plan for SDI, was carried out by six study teams – one of which focused solely on an attacker's prospective countermeasures and tactics. The Fletcher study's attention to likely countermeasures carried over to the actual SDI technology program, which posits a "re-

sponsive" Soviet threat.

That is, the Strategic Defense Initiative program is examining defenses which would be effective if the USSR responded to strategic defenses with a combination of various attack schemes, encompassing passive and active, lethal and nonlethal defense suppression techniques many of which currently exist or would be natural outgrowths of Soviet trends.

However, it should be recognized that there is a considerable difference between being able to imagine plausible-sounding countermeasures and being able actually to produce them. Many of the ideas suggested by Soviet propagandists, however ingenious they may sound, are from a serious technical viewpoint rather far-fetched. Fred S. Hoffman, chairman of the SDI "Future Security Strategy Study," pointed out in his March 1985 testimony before the Senate Armed Services Committee:

> Critics can produce countermeasures on paper far more easily than the Soviets could produce them in the field. In fact the critics seldom specify such "Soviet" countermeasures in ways that seriously consider their costs to the Soviet Union in resources, in the sacrifice of other military potential, or the time that it would take for the Soviets to develop them and incorporate them into their forces. The countermeasures suggested frequently are mutually incompatible.

An example of this principle at work is the report of the so-called "Working Group of the Committee of Soviet Scientists" published in April 1984. The countermeasures listed in the "Working Group" paper are copied from Western sources. None of them takes into account the complexity of defeating a multi-layer, multi-technology defense in depth. Since any given offensive countermeasure would affect chiefly one layer, attacks that could defeat one layer of defense would be ineffective against another layer. Moreover, a number of the suggested countermeasures would be mutually incompatible. It is difficult to imagine that the Soviet "Working Group" report has been accorded any serious attention whatever within the Soviet Union, except as a propaganda tool.

2. The intensity of the present Soviet strategic defense research program belies the professed Soviet faith in the efficacy of offensive countermeasures to defeat a layered, high-technology defensive system. Except in one notable implicit acknowledgement, Soviet spokesmen have been careful to deny that they are pursuing directed energy technologies for strategic defense purposes. The exception was a remark in 1984 by the Nobel laureate laser physicist, N. G. Basov. Basov declared that Moscow would have "no technological difficulty" in duplicating the U.S. SDI program. Indeed, Soviet research in high-technology defensive systems was far advanced years before SDI was announced.

Nor have Soviet propagandists been able to reconcile their argument that SDI-type defenses are infeasible/ineffective with their stress on the dire consequences of SDI – i.e., it is destabilizing, alters the strategic balance, is part of a "first-strike" capability, etc. A political cartoon in the U.S. neatly captured the Soviet contradiction. A woman watching a TV news report critical of "Star Wars" turns to her husband and asks if it won't work, why are the Russians so worried about it?

3. The real issue is whether defensive systems will be able to maintain their capability more easily than countermeasures can be created to defeat them. If the offense-defense balance can be shifted in this fashion, SDI holds out the promise of a more stable and less dangerous deterrent regime, based primarily on mutual defensive systems rather than on mutual offensive threats.

Definitive judgments of the ultimate technological feasibility of strategic defenses which meet our criteria are, at any rate, premature. It was precisely to raise and answer this question that the President launched SDI.

SOVIET PROPAGANDA THEME:

SDI will undermine the security of U.S. Allies.

> In actual fact, Washington is not very much concerned with the fate of Europeans. The advantages of deploying American space weapons are frankly argued in the United States since this would make it possible to conduct a nuclear conflict over Europe and not over the United States.
>
> – Editorial, *Izvestiya,* 25 January 1985

> [US] goals will remain the same, namely, to harness them [US allies] to the adventurist enterprise [SDI] and place the partners' scientific, intellectual, and, of course, financial resources at 'big brother's' service . . . In other words, it is a question of . . . the transformation of the allies and partners into appendages of the US military-industrial complex . . .
>
> – V. Gan, "At Other Peoples' Expense," *Pravda,* 1 May 1985

SDI could make a number of significant contributions to our Allies' security, both direct – by illuminating technologies that hold out the potential of enhanced Allied defenses – and indirect – by strengthening our sense of common security. It is partly for this reason that Soviet propaganda has been directed so heavily at Western European and Japanese audiences.

1. SDI includes exploration of defenses against shorter-range ballistic missiles, research which could aid directly in defending our Allies against nuclear, chemical, or conventional attack. In many cases, the same technologies can be applied to short and intermediate range ballistic missiles, as well as strategic missiles which pose a direct threat to our Allies and the U.S.

Effective ballistic missile defenses would have value against both the Soviet SS-20 and conventional or nuclear-armed shorter-range ballistic missiles. Effective defensive systems would thus enhance deterrence not only at the nuclear, but also at the conventional level. In addition, technologies being examined under the SDI hold promise for application to other conventional force improvements.

2. Reduced vulnerability for the United States would not weaken but strengthen in Soviet eyes the U.S. commitment to defend our Allies. A key to the security of U.S. Allies is the Soviet belief that U.S. and Allied security remain inseparable. The more capable the U.S. is of defending against a Soviet nuclear attack, the less basis there could be for a misguided Soviet calculation that the U.S. would hesitate to come to the defense of its Allies. The presence of U.S. defenses would make even clearer to the Soviets that U.S. and Allied security is indivisible.

3. U.S. and Allied governments have a common understanding of the need to preserve and strengthen NATO and our other Alliances. U.S. Allies have supported SDI because they understand the military context in which SDI was established. That common understanding was reflected in the statement issued following President Reagan's meeting with Prime Minister Thatcher in December 1984, to the effect that:

> First, the U.S. and Western aim was not to achieve superiority but to maintain the balance, taking account of Soviet developments;
>
> Second, that SDI-related deployment would, in view of treaty obligations, have to be a matter for negotiations;
>
> Third, the overall aim is to enhance, and not to undermine, deterrence; and,
>
> Fourth, East-West negotiations should aim to achieve security with reduced levels of offensive systems on both sides.

This common understanding is expressed as well in the principles suggested in January 1985 by Chancellor Kohl of the Federal Republic of Germany that:

- The existing NATO strategy of flexible response must remain fully valid for the Alliance as long as there is no more effective alternative for preventing war; and,
- The Alliance's political and strategic unity must be safeguarded. There must be no zones of different degrees of security in the alliance, and Europe's security must not be decoupled from that of North America.

Since the President's March 1983 speech the U.S. has held extensive discussions with its Allies on SDI. We have invited them to take part in SDI research, and some have already signed agreements to do so. Finally, the United States has pledged that in the event of a future decision to develop and deploy defensive systems – a decision in which consultation with our Allies would play an integral part – both Allied and U.S. security would be enhanced.

4. Many of the Soviet arguments regarding SDI and our Allies amount to little more than transparent efforts at intimidation. The Soviets invoked essentially the same (as it proved, entirely empty) threats and warnings in their campaign against NATO's INF deployment during the years 1979-83. The irony, of course, is that it is not SDI or NATO's INF missiles that threaten our Allies, but rather Soviet weapons aimed at them. But by the peculiar logic of Soviet propaganda, the West is always supposed to be threatened by nothing so much as its own efforts to secure its defense.

Propaganda Versus Substance in the East-West Dialogue

None of this is to say that Soviet attempts to manipulate automatically translate into success. On the contrary, during the controversy over intermediate-range nuclear forces in Europe, not only did the Soviets fail to block the scheduled NATO response to their SS-20 missiles, but their disingenuous tactics proved in the end, even from their own point of view, to be counterproductive. Likewise today, the self-serving aims of Soviet statements and arguments against SDI are widely recognized.

The arms-control bargaining table, and not the headlines of Western newspapers, remains the appropriate forum for discussing genuine East-West differences regarding the strategic balance. It must be actions, not words, by which the world will judge the seriousness of each side's concern about stability.

Nonetheless, the Soviet Union can be expected to continue disseminating propaganda against SDI. From time to time the West will witness, as it has in the past, transitory changes in the style of Soviet pronouncements. Yet thus far little in the underlying substance or goals of Soviet foreign policy seems to have changed. It is on substance that we must focus.

The basic objectives of Soviet foreign policy, formed in the wake of the Second World War, to weaken and divide the West, remain by all appearances essentially unaltered. If the past is any guide, the Soviet Union will modify its conduct only when it believes Western strength and unity to be unshakeable. Only then will the Soviets shift their attention from the propaganda forum outside the negotiating room to the real negotiations occurring within.

Related Publications

Peace and National Security: Address by President to the Nation, reprinted as Current Policy No. 472, March 23, 1983.

The President's Strategic Defense Initiative, Government Printing Office, January 1985.

Strategic Defense Initiative: Address by Robert C. McFarlane, Assistant to the President for National Security Affairs, before the Overseas Writers Association, reprinted as Current Policy No. 670, March 7, 1985.

SDI: Setting the Record Straight: Address by Kenneth L. Adelman, Director of the U.S. Arms Control and Disarmament Agency, before the Baltimore Council on Foreign Affairs, August 7, 1985.

Soviet Strategic Defense Programs, Department of Defense and Department of State, October 1985, Second Printing.

Soviet Noncompliance, ACDA Publication 120, March 1986, Second Printing.

Negotiations on Nuclear and Space Arms: Address by Ambassador Paul H. Nitze, Special Adviser to the President and the Secretary of State on Arms Control Matters, before the Foreign Service Institute Symposium, reprinted as Current Policy No. 807, March 13, 1986.

The Impact of SDI on U.S.-Soviet Relations: Address by Ambassador Paul H. Nitze, Special Adviser to the President and the Secretary of State on Arms Control Matters, before the American Enterprise Institute–National Defense University Symposium, reprinted as Current Policy No. 830, April 29, 1986.

SDI: Progress and Promise: Remarks by President Reagan at a briefing on the Strategic Defense Initiative (SDI), August 6, 1986.

THE SOVIET DEFENSIVE PROGRAMS

Executive Summary

This chapter provides an overview of ongoing efforts by the Soviet Union in the area of strategic defense. Specifically, it reviews current Soviet deployment of certain defensive systems as well as ongoing Soviet research programs into new areas of technology.

It must be noted that the Soviets have, for many years, had an active and aggressive research and deployment program in the area of missile defense. They currently deploy the world's only operational anti-ballistic missile (ABM) system around Moscow, and are building a second "early warning" system in Siberia (a system which violates the 1972 ABM Treaty). They have extensive research and development programs in many areas that are applicable to strategic defense, including: high-energy lasers, particle beam weapons, radio frequency weapons, kinetic energy weapons, and heavy-lift space boosters.

The Soviet program is ongoing, active and expanding. Even Congressional critics of SDI, some of whom have suggested reduced funding, have called for a continuation of the SDI research and development program to "prevent a Soviet breakout" in this area. As arms control specialist Paul Nitze noted in a recent speech (copy attached):

> "Over the last two decades, the Soviet Union has spent roughly as much on strategic defense as it has on its massive offensive nuclear forces."

THE SOVIET DEFENSIVE PROGRAMS

"Over the last 25 years, the Soviets have increased their active and passive defenses in a clear and determined attempt to blunt the effect of any attack on the Soviet Union."

-- Soviet Military Power, 1986

Critics and proponents of the Strategic Defense Initiative have generally agreed on one major point: the Soviet Union, for many years, has continued to aggressively expand its own offensive and defensive forces and capabilities. There is little doubt that the Soviets have already put into place their own "strategic defense" research program, including many of the technologies that the United States has just begun to explore.

For many, therefore, the issue at hand concerning SDI is whether or not the United States chooses to respond to the ongoing Soviet research into strategic defense, to the Soviet violations of the 1972 ABM Treaty, and to Soviet advances in space-based technologies. The United States is not, contrary to the assertion of some SDI critics, "unilaterally" initiating its SDI program. America, in fact, is launching a program in an area where the Soviets have already been active for years.

The Soviet "strategic defense" program consists of a number of elements, including some systems that are already deployed as well as research directed towards a more sophisticated defense to be deployed in the future.

Specifically, some of these programs and plans include:

* Moscow anti-ballistic missile (ABM) system - While the United States does not deploy the one ABM system permitted under the 1972 ABM Treaty (the U.S. briefly deployed its "Safeguard" ABM system in the early 1970s, but shut it down in the middle of the decade for a number of reasons), the Soviets do deploy such a system. Since 1978, the Soviets have continued to upgrade and expand the world's only operational ABM system around the city of Moscow. Specifically, this Moscow ABM system includes: launchers at four sites; nuclear-armed long-range interceptor missiles; and sophisticated tracking radar.

* Krasnoyarsk Radar - The Soviets have been constructing a network of large, phased-array radars that will provide an arc of coverage for the northern and western portions of the Soviet Union. This "early warning system," which the Soviets claim is for tracking space vehicles (but which few experts believe is its true purpose) is a direct violation of the 1972 ABM Treaty. Of equal importance, the Krasnoyarsk radar, when linked with other Soviet radar installations, gives the USSR the capability of moving very quickly towards establishment of a nationwide strategic defense system.

* Research into advanced ABM technology - The Soviets have their own strategic defense research program in place at the present time. Elements of this program include research into:

1. Laser weapons - The Department of Defense has estimated that 10,000 Soviet scientists and engineers -- and more than a half dozen major research facilities within the Soviet Union -- are involved in laser research. The program, according to DoD, is funded at the equivalent of a $1 billion program in U.S. dollars.
2. Particle Beam Weapons - Soviet research into particle beam weapons began in the late 1960s and could, by the 1990s, disrupt the electronics of satellites. The DoD estimates that, perhaps by the end of the century, the Soviets could produce a particle beam weapon capable of destroying missile boosters or warheads.
3. Radio Frequency Weapons - The Soviets also have researched weapons that would use strong radio frequency signals to destroy critical components of ballistic missiles. These weapons could be ready for testing within a decade, according to the most recent DoD estimate.
4. Kinetic Energy Weapons - The Soviets have had, for a long time, extensive research underway into kinetic energy weapons of different types, including an effort similar to the "rail gun" experiments recently conducted by the U.S. SDI program.

* Soviet Space Capability - Strategic defense will most likely involve extensive capability and experience in space, and the Soviet Union's space capabilities are improving. The USSR has two new space launch vehicles under development that could be used to launch (within the next few years) a new Soviet "space plane" that is under development as well as a space shuttle similar to the U.S. shuttle. When operational, these new launch vehicles would give the Soviets ten types of launchers, providing significantly greater flexibility and dramatically increased options for Soviet military planners. In addition, the advances made by the Soviet Union with their space station effort could also ultimately prove helpful to the development of a Soviet SDI program. Statistics mirror the Soviet drive in space: while the number of U.S. space launches in 1985 totaled fewer than 20, the number of Soviet launches approached 100.

As the Defense Intelligence Agency notes in its 1984 report called "Soviet Military Space Doctrine:"

> It is important to note that the Soviet Union has a dynamic, expanding and prodigious military space program. This determination is necessary because Soviet propaganda would have the world believe that the Soviet space program is wholly peaceful in nature, dedicated only to scientific and economic pursuits. In point of fact, however, the exact opposite is true: the Soviet space program is not only overwhelmingly military in nature, but the civilian scientific and economic aspects of the program are entirely subordinate to the military functions.

SUMMARY

All of the available evidence indicates that the Soviets have undertaken an extensive program aimed toward ballistic missile defense that began long before President Reagan outlined the Strategic Defense program. Indeed, because Soviet planning is so heavily oriented towards defending and surviving a nuclear war, the development of a strategic defense program is a very logical step.

Indeed, while the United States has implemented a number of defensive research programs prior to President Reagan's formal implementation of the Strategic Defense Initiative, the Soviet Union's efforts in almost every area pre-date the American programs. It is important to emphasize that the Soviets have had -- for a long time -- research programs into lasers, kinetic energy, particle beam weapons, etc. Only by viewing the Strategic Defense in this perspective can a true comparison be made between the efforts of the two superpowers.

SOVIET STRATEGIC DEFENSE PROGRAM

The Soviets have condemned the United States's Strategic Defense Initiative (SDI) as a dangerous new development.

Public awareness of the Soviet's own strategic defensive programs is minimal. The facts are:

- Soviet military doctrine calls for development of offensive and defensive forces which could give the USSR an effective first strike capability

- For the past two decades, the Soviets have spent about as much on their defensive forces as on their massive offensive systems

- The Soviet's heavy emphasis on strategic defense is evidenced by many programs which go well beyond research. The Soviets:

  -- Have the worlds only operational antiballistic missile (ABM) system deployed around Moscow -- and they are upgrading it

  -- Have an in-depth national air defense system with a continual upgrade program in being

  -- Have an extensive political leadership survival program

  -- Have employed a nationwide civil defense force program

- In addition, the Soviets also have been conducting numerous activities that are inconsistent with the ABM treaty. An example of the inconsistency is the construction of the large based-array ballistic missile detection and tracking radar located in central Siberia

Soviet version of a SDI has been overlooked during public discussion on the U.S.'s SDI program

- Soviet technical progress in advanced defense technologies include involvement in:

  -- High-Energy Laser Research

    --- Program began in mid-1960s

    --- Much larger than U.S. effort to date in terms of plant, capital, and manpower

--- Have more than a half-dozen major research facilities for high-energy laser work

--- Have over 10,000 scientists and engineers associated with such research and development

--- Could test a space-based prototype weapon against ballistic missiles in early 2000

-- Particle-Beam Weapons

--- Have been working on technology since the late 1960s

--- Could test a prototype anti-satellite weapon in the 1990s

-- Radio Frequency (RF) Weapons

--- Have worked on high frequency signals for decades

--- Could test a ground-based RF system to damage satellites by 1990s

-- Kinetic Energy Weapons

--- In 1966, Soviets had an experimental gun which could shoot streams of particles of a heavy metal at over 60 kilometers per second

--- Long range space-based systems of ultrahigh velocities could be developed as early as mid-1990s

-- Military Space Program

--- Have the world's most active military space program. 80% of the 100 launches in 1984 were purely military -- and the other 20 served both civilian and military. U.S. space launches in 1984 were about 20 with less than half being military

--- Developing two new heavy-lift space booste

--- Moving toward large space complexes for permanent manned presence in space

The United States is not expanding military competition into new areas. The Soviets have been doing work in the same technology arena for two decades.

The United States is not initiating a "militarization of space." Space has been militarized for many years -- primarily by Soviet systems and programs.

Since the Nuclear and Space Talks began in Geneva in March 1985, the United States has been attempting to engage the Soviets in a discussion of the offense-defense relationship; and, of a possible future transition to a more defense-reliant balance.

We also want to stem the erosion of the ABM Treaty caused by Soviet actions. Soviet acknowledgment of its extensive activities in strategtic defense could be the initiating step in joining the United States in serious, productive discussions of the offensive-defensive issues.

If our research leads to a decision to develop and deploy advanced defense against ballistic missiles, we would consult and negotiate as appropriate with the Soviet Union, as provided in the ABM Treaty. While we could not allow a Soviet veto over a decision which would have such a major impact on U.S. and allied security, it is our intention and hope that--if new defensive defensive technologies prove feasible--we and the Soviets would both be able to move to a more defense-reliant balance.

Soviet Star Wars Work Raises Questions

By Tim Carrington
Staff Reporter of The Wall Street Journal

WASHINGTON—While President Reagan's Strategic Defense Initiative encounters debate and delay in the U.S., the Soviet Union is quietly moving ahead with its own space-defense plans.

Government officials agree that Moscow is pouring money into missile defenses, but they differ on just what type of Star Wars system the Soviet Union might be able to deploy in the next decade.

Pentagon officials often warn that Russia will win the Star Wars arms race if the U.S. cuts spending on its program or accepts limits on defensive systems under an arms agreement. But many analysts doubt that the Soviets could ever construct a shield to protect their land mass from nuclear attack. President Reagan has set a similar goal for the U.S. program. Moreover, some officials doubt that the Soviet anti-missile systems would significantly undercut the threat of a U.S. retaliatory nuclear attack.

Proposal Weighed

All this is becoming more important as the administration weighs a new Soviet arms proposal that would tie reduction in offensive nuclear weapons to some curbs on the deployment of SDI weaponry. One factor that could influence the U.S. decision on Moscow's proposal is Washington's assessment of how mutual deployment curbs would hurt the Soviet Star Wars program.

Defense Secretary Caspar Weinberger insists that any agreement mustn't "interfere with our pursuing the Strategic Defense Initiative." Other administration officials are willing to consider time limits on when either side could deploy anti-missile systems.

Differing views of Soviet plans may make the choices more difficult. Mr. Weinberger recently said, "They're working on a strategic defense of the type that the president is," a multilayered galaxy of weapons on earth and in space that would provide comprehensive protection. However, Air Force Lt. Gen. James Abrahamson, who heads the U.S. SDI program, says that the Soviets are working on a less ambitious "ground-based, nuclear-tipped, terminal kind of system," which would intercept missiles once they closed in on their targets.

This is the type of system that U.S. strategists consider the easiest to overwhelm or defeat. For instance, the Air Force ballistics office is currently working on "penetration aids" that would help missiles elude such systems. A proliferation of warheads could also overpower these ground-based defenses, officials say.

France Concerned, Too

The U.S. isn't the only country brooding about Soviet anti-missile systems. France, which has it own nuclear arsenal to deter Soviet aggression, could see that force rendered meaningless if the Soviet Union were to construct a fool-proof system to intercept and destroy nuclear warheads in flight. But a study of space weapons recently prepared for the French Defense Ministry concludes that the Soviet defenses wouldn't undercut the French nuclear deterrent, which is a fraction the size of the U.S. arsenal. The Soviet anti-missile program "doesn't basically challenge them, because the extreme case of a virtually impervious shield, which would practically prevent our anti-city strategy, seems to have to be excluded," the report states.

Similarly, William Martel, a national security analyst and author of the recently published "Strategic Nuclear War," doesn't think the Soviet defensive systems would significantly change the strategic balance. "I don't believe that these thin Soviet defenses would negate the U.S. ability to inflict unacceptable damage on the Soviet Union," he argues.

Others differ, however. The Pentagon's latest report on Soviet missile defenses describes the Russian version of Star Wars as "an extensive, multifaceted operational strategic defense network which dwarfs that of the United States."

Indeed, the Soviets are modernizing an anti-ballistic missile system that currently surrounds Moscow. By 1987, there will be 100 launchers that would fire rockets at incoming missiles. Soviet satellites, bolstered by big radars that can detect missiles beyond the horizon, detect launches and track intercontinental ballistic missiles. Eleven so-called Hen House radars to be stationed at six sites on the Russian periphery improve these detection capabilities.

Limited Protection

Keith Payne, executive vice president of the National Institute for Public Policy, says the Soviets could deploy "a few thousand" missile interceptors in the next five years for a cost of about $60 billion. Although these systems would fall short of a perfect defense, they might protect Soviet command centers and missile silos. "If they believe they can defend the assets they value the highest, they're going to have much more confidence in crisis situations—that's the danger," he says.

Mr. Payne isn't certain the U.S. will build the costly penetration aids and multiple warheads necessary to foil the Soviet defenses. He warns that this could leave the U.S. and its allies open to intimidation by the Soviet Union.

The study for the French Defense Ministry also suggests that strategic defenses can play a part in psychological power plays. While disparaging Soviet prospects for building a comprehensive missile defense, the study speculates that the Soviets might stage a "clever political coup" by demonstrating a weapons-grade laser in space in the next several years. Such a move might lead Western nations to question the credibility of their own nuclear deterrent systems.

While analysts differ on the military significance of Soviet strategic defenses, most agree that the two superpowers are taking different approaches. Spurred by President Reagan's vision of a comprehensive "security shield," the U.S. is focusing on complex technologies, some of which can't be deployed for decades.

The Soviet version of Star Wars, in contrast, relies on generally available technologies, current production lines, and systems that lend themselves to earlier deployment. Though these less-than-perfect defenses fall short of the president's vision of a peace shield, they might nonetheless prove to be an effective psychological weapon in times of crisis.

Soviet Anti-Ballistic Missile and Space Defense Systems

Deployed

- Satellites and radars to detect missile launches
- Anti-ballistic missile launchers surrounding Moscow
- Two types of anti-satellite weapons

In research and development

- New types of anti-ballistic missile systems
- Anti-satellite lasers
- Space-based lasers and particle beam weapons
- Ground-based anti-missile lasers

Source: The Defense Department

Reproduced by the Library of Congress, Congressional Research Service.

DEPARTMENT OF STATE BULLETIN
SEPTEMBER, 1985

SDI: The Soviet Program

by Paul H. Nitze

Address before the Chautauqua Conference on Soviet-American Relations in Chautauqua, New York, on June 28, 1985. Ambassador Nitze is special adviser to the President and to the Secretary of State on arms control matters.

Soviet commentary on the U.S. Strategic Defense Initiative (SDI) research program has been strongly negative. The Soviets have accused us of expanding the arms race into a new area by initiating "the militarization of space." In Geneva, they have demanded a ban on research, development, testing, and deployment of what they call "space-strike arms" and have conditioned progress in the negotiations on offensive nuclear force reductions on prior U.S. acceptance of this ban.

One might conclude from this Soviet commentary that the Soviet Union has no program comparable to our SDI. Such a conclusion would be far from correct.

Soviet Strategic Defense Efforts

Soviet military doctrine stresses that offensive and defensive forces must interact closely to achieve Soviet aims in any conflict. Accordingly, the Soviets are heavily involved in strategic defense, with programs that go far beyond research. In fact, over the last two decades, the Soviet Union has spent roughly as much on strategic defense as it has on its massive offensive nuclear forces. As part of this huge effort, the Soviets have deployed around Moscow the world's only operational antiballistic missile (ABM) system, a system they are currently upgrading with a projected completion date of about 1987. They also have an indepth national air defense force, a vast political leadership survival program, and nationwide civil defense forces and programs.

Further, they have been conducting a number of activities that are inconsistent with and tend to undermine the ABM Treaty. For example, their deployment of a large phased-array ballistic missile tracking radar near Krasnoyarsk in Siberia constitutes a violation of the treaty. We are concerned that, in the aggregate, Soviet ABM-related activities could provide them the basis for deployment of an ABM defense of their national territory, which would also violate the treaty.

Soviet strategic defense programs are not restricted to the more traditional approaches. The Soviets have also been pursuing, since the 1960s, research into advanced technologies for strategic defense. These technologies include high-energy lasers, particle-beam weapons, radio frequency weapons, and kinetic energy weapons. These are the same types of technologies being researched in the U.S. SDI program. Moreover, during this same period, the Soviets have had an active and expanding military space program.

The Soviet version of SDI has been overlooked in the recent public debate. Indeed, taking advantage of the closed nature of Soviet society, Soviet strategic defense efforts have proceeded completely free from debates of the sort that are occurring now in the West over the utility and implications of our program.

Let me address the Soviet version of SDI in some detail. While some of the material I will cover is quite technical, I hope it will give you a better appreciation of the extensive efforts the Soviets have been conducting for years.

Soviet Progress in Advanced Defense Technologies

High-Energy Laser Research. The Soviet Union's high-energy laser program began in the mid-1960s and has been much larger than the U.S. effort. The Soviets have built over a half-dozen major research and development facilities and test ranges, including some at the Sary Shagan missile test center where they also do traditional antiballistic missile work. They have over 10,000 scientists and engineers associated with the development of lasers for weapons.

The Soviets have conducted research on the three types of gas lasers that the United States considers promising for weapons applications: the gas-dynamic laser, the electric discharge laser, and the chemical laser. They have also been working on other types of lasers that the United States had not seriously considered for weapons applications until very recently. These include excimer and free-electron lasers.

The Soviets are also pursuing related laser weapon technologies, such as efficient electrical power sources and high-quality optical components. U.S. experts believe the Soviets are generally capable of supplying the necessary prime power, energy storage, and auxiliary components for most laser and other directed energy weapons. As evidence of this capability, the Soviets have developed a very powerful rocket-driven generator, which has no counterpart in the West. The Soviets may have also achieved the capability to develop the necessary optical systems for laser weapons.

The Soviet program has now progressed beyond technology research, in some cases to the development of prototype laser weapons. For the antisatellite—or ASAT—mission, the Soviets already have ground-based lasers at the

Sary Shagan test site that could be used to interfere with U.S. satellites at low altitudes. Soviet programs have reached the point where they could begin construction of ground-based laser ASAT facilities at operational sites. These facilities could be available by the end of the 1980s and would greatly increase Soviet ASAT capabilities. Moreover, they could test prototype space-based laser ASAT weapons by the early 1990s, and, if their technology developments prove successful, they could deploy operational space-based lasers for ASAT purposes in the mid-1990s.

For the ballistic missile defense—or BMD—mission, the Soviets could have prototypes for ground-based lasers by the late 1980s. Testing of the components for a large-scale operational system could begin in the early 1990s. With high priority and some significant technological risk, the Soviets could skip some testing steps and be ready to deploy a ground-based laser BMD system by the early to mid-1990s. The many difficulties associated with fielding an operational system would normally require much development time, however, and initial operational deployment is not likely in this century. The Soviets can be expected to pursue development of a space-based laser BMD system for possible deployment after the year 2000.

The Soviets have also begun to develop several high-energy laser weapons for air defense. These include lasers intended for air defense of high-value strategic targets in the Soviet Union, for point defense of ships at sea, and for air defense of theater forces. Following past practice, they are likely to deploy air defense lasers to complement, rather than replace, interceptors and surface-to-air missiles, or SAMs. The strategic air defense laser is probably at least in the prototype stage of development and could be operational by the late 1980s. It most likely will be deployed in conjunction with SAMs in a point defense role. The shipborne laser will probably not be operational until the early 1990s. The theater air defense laser may be operational sometime sooner and is likely to be capable of structurally damaging aircraft at close ranges and producing electro-optical and eye damage at greater distances.

Finally, the Soviets are developing an airborne laser. Such a laser could have several missions, including ASAT operations, protection of high-value aircraft, and protection against cruise missiles. Assuming a successful development effort, limited initial deployment could begin in the early 1990s.

Particle-Beam Weapons. Since the early 1970s, the Soviets have had a research program designed to explore the technical feasibility of a particle-beam weapon in space. For the ASAT mission, they may be able to test a prototype space-based particle-beam weapon intended to disrupt satellite electronic equipment in the mid- to late 1990s. One designed to destroy satellites could be tested by the year 2000. Early in the next century, the Soviets could have a prototype space-based BMD system ready for testing.

Radio Frequency Weapons. The Soviets have conducted research for decades on sources of high-power radio frequency—or RF—signals and the antennas that would be required to direct and focus the signals on distant targets. These signals have the potential to interfere with or destroy components of missiles, satellites, and reentry vehicles. In the 1990s, the Soviets could test a ground-based RF weapon capable of damaging satellites. A space-based RF antisatellite weapon will probably not be tested until after the year 2000.

Kinetic Energy Weapons. In the area of kinetic energy weapons, the Soviets have a variety of longstanding research programs underway. These weapons use the high-speed collision of a small mass with the target as the kill mechanism. As early as 1966, the Soviets had an experimental gun that could shoot streams of particles of a heavy metal, such as tungsten, at velocities of over 60 kilometers per second in a vacuum. Current Soviet efforts include research and development of electromagnetic railguns to accelerate projectiles to ultrahigh velocities, as well as other advanced systems. These programs could result in the near term in a short-range space-based system useful for satellite or space station defense or for close-in attack by a maneuvering satellite. Longer range space-based systems could be developed as early as the mid-1990s.

The Soviet Military Space Program

In addition to their huge and comprehensive program of research into advanced strategic defense technologies, the Soviets have the world's most active military space program. This program dominates the Soviet Union's overall space effort. For example, in 1984 the Soviets conducted about 100 space launches. Of these, some 80% were purely military in nature, with much of the remainder serving both military and civil functions. By way of comparison, the total number of U.S. space launches in 1984 was about 20.

The Soviets believe in the combined arms concept of warfare in which all types of forces are integrated into military operations to achieve the desired goals. Space systems play a major role in this equation. Soviet space systems dedicated to military missions include satellites that perform reconnaissance, missile launch detection and attack warning, command and control, and ASAT functions. Dual-purpose satellites that perform some civilian functions are used for communications, navigational support, and weather prediction and monitoring.

In the reconnaissance area, the United States has no counterpart to the Soviet ocean reconnaissance satellites, the EORSAT [electronic intelligence ocean reconnaissance satellite] and the nuclear-powered RORSAT [radar ocean reconnaissance satellite]. These Soviet satellites have the mission of locating and identifying U.S. and allied naval forces in open ocean areas and targeting them for destruction by Soviet antiship weapons. Four such satellites were launched in 1984.

In the ASAT area, the Soviets have had the capability since 1971 to attack satellites in near-earth orbit with a ground-based orbital interceptor. Again, the United States has no comparable operational capability. Using a radar sensor and a pellet-type warhead, the interceptor can attack a target in orbit at various altitudes during the interceptor's first two revolutions. An intercept during the first orbit would minimize the time available for a target satellite to take evasive action.

The interceptor can reach targets orbiting at altitudes of more than 5,000 kilometers, but it is probably intended for high-priority satellites at lower altitudes. It is launched from the Tyuratam space complex, where launch pads and storage space for interceptors and launch vehicles are available. Several interceptors could be launched each day. In addition to the orbital interceptors, the Soviets could also use their operational ABM interceptors in a direct-ascent attack against low-orbiting satellites.

Should the Soviets decide to deploy in space extremely large payloads, including components of a space-based ballistic missile defense, they would require space boosters capable of placing in orbit thousands of tons per year. The two new boosters they are developing—a medium-lift vehicle comparable to our

Titan and a heavy-lift vehicle comparable to our Saturn V—will meet this requirement. These boosters should be available as early as the late 1980s.

Finally, the Soviets have ambitious plans for their manned space programs. They plan to replace their current Salyut space stations with large space complexes, which could support 20 or more cosmonauts on a permanent basis. Such a complex would enhance their space-based military support and warfighting capabilities. Missions could include military research and development, reconnaissance, imagery interpretation, ASAT support operations, and BMD support operations. To ferry cosmonauts to this complex, as well as to place large payloads in orbit, the Soviets are developing their own version of the U.S. shuttle orbiter. They are also experimenting with a test vehicle that is apparently a scale model of a large, manned space plane. This plane's possible missions include reconnaissance, crew transport, and ASAT operations. It also could be used as a manned space station defender.

Soviet Disingenuousness

Considering all of the foregoing, it becomes apparent just how preposterous Soviet criticisms of the U.S. SDI program are. The United States is not expanding the military competition into new areas; the Soviets have been researching the same technologies for two decades. Likewise, the United States is not initiating "the militarization of space"; space has been militarized for many years, primarily by Soviet systems and programs.

This Soviet disingenuousness becomes even more evident when one considers those who are taking advantage of our open society by leading the attack in the Western public arena on the U.S. SDI program. Within a month of President Reagan's 1983 speech that initiated SDI, a letter signed by a large group of Soviet scientists was published in *The New York Times* denouncing the program. A number of the signatories of this letter have, in fact, been instrumental in Soviet programs researching both conventional and advanced ballistic missile defense technologies. Among these are Mr. Y. P. Velikhov, the Deputy Director of the Kurchatov Atomic Energy Institute, who is a central figure in Soviet laser and particle-beam weapon efforts; Mr. N. G. Basov and Mr. A. M. Prokhorov, who are both scientific advisers to laser weapon programs; and Mr. Avduyevskiy, who is responsible for a number of projects researching the military use of space, including a space-based laser weapon. Other signatories have spent their careers developing strategic offensive weapons and other military systems.

Soviet Motives

Why are the Soviets conducting this propaganda campaign? Clearly, they see the potential applications for advanced defensive technologies; otherwise they would not be investing so much effort and so many resources in this area. It is not unreasonable to conclude that they would like to continue to be the only ones pressing forward in this field. At a minimum, they want to keep the United States from outstripping them in such technologies.

In this vein, the Soviet propaganda line against SDI is as predictable as it is hypocritical. The Soviets hope to foster a situation in which we would unilaterally restrain our research effort, even though it is fully consistent with existing treaties. This would leave them with a virtual monopoly in advanced strategic defense research; they see this as the most desirable outcome.

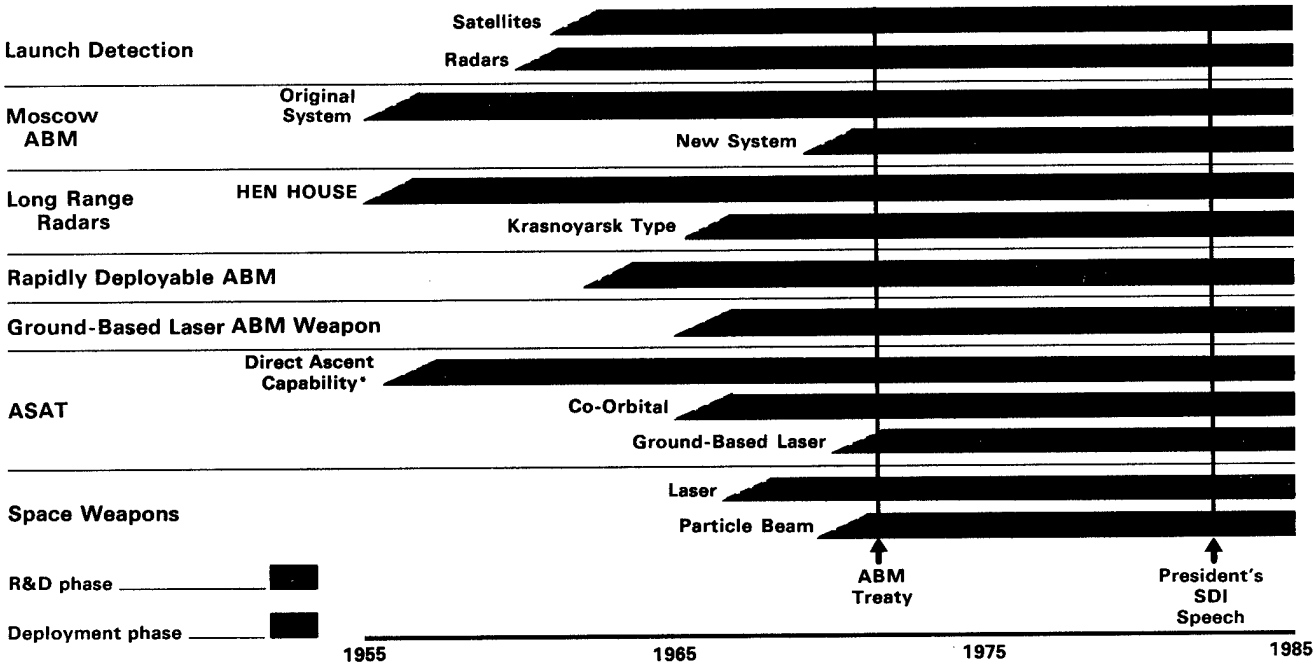
Such a virtual monopoly could be most dangerous for the West. Both sides have recognized for many years that offense and defense are vitally related to each other, that it is the balance between the offense-defense mixes of the sides that is essential to keeping the peace. Unilateral restraint by the United States in the defense area would jeopardize this balance and could, therefore, potentially undermine our deterrent ability.

If the United States proves unwilling to restrain itself unilaterally, the Soviets are prepared to impose an agreed ban on research "designed to create space-strike arms." At worst, a mutually observed ban would leave them where they are today, unthreatened by potential U.S. technological advances and maintaining the only operational ABM and ASAT systems. The Soviets are already positioning themselves, however, to avoid having such a ban apply equally to the research of both sides. They currently deny that any of their efforts fall within their definition of research "designed to create space-strike arms," while asserting that all of the U.S. SDI program fits within that definition. Moreover, even were a research ban to be applied equally to the sides, given its inherent unverifiability and the closed nature of the Soviet Union—and particularly its scientific community compared to ours—the Soviets very well might be able unilaterally to continue their research on a clandestine basis.

Conclusion

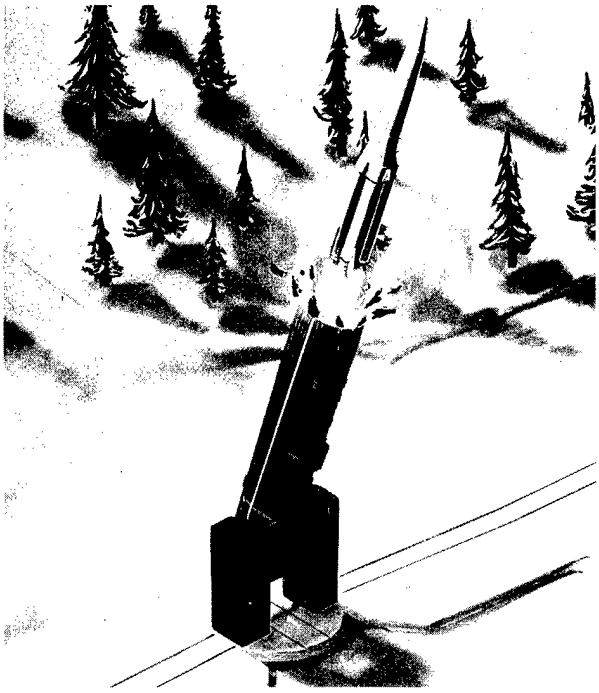
We can expect the Soviets to continue to protest strongly and publicly about SDI and alleged U.S. designs to "militarize space," all the while denying that they are conducting similar programs. We must recognize this propaganda for what it is—the key element of an overall strategy to divide the United States from its allies and elicit from us unilateral concessions. By making clear to the Soviets that we have the political will to maintain the necessary military capabilities effectively to deter them—that is, that their propaganda campaign will not succeed in causing us to exercise unilateral restraint—we can establish the necessary conditions for the Soviets to consider a more forthcoming approach to the negotiations in Geneva. In that event, the United States will be prepared, as it is now, for a serious discussion of how—should new defensive technologies prove feasible—our two sides could move jointly to a more stable strategic relationship, building upon the research efforts of both. ■

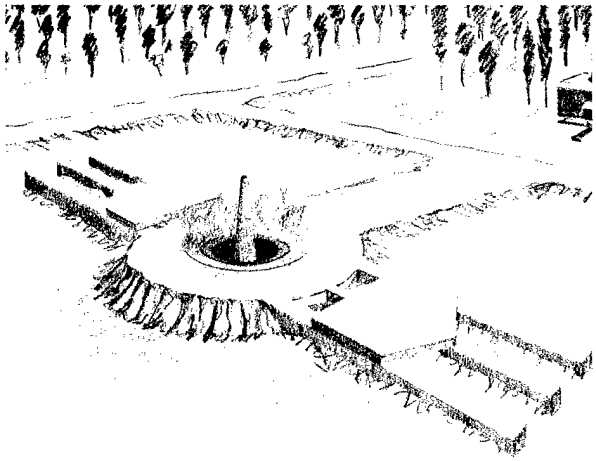
Soviet ABM/Space Defense Programs

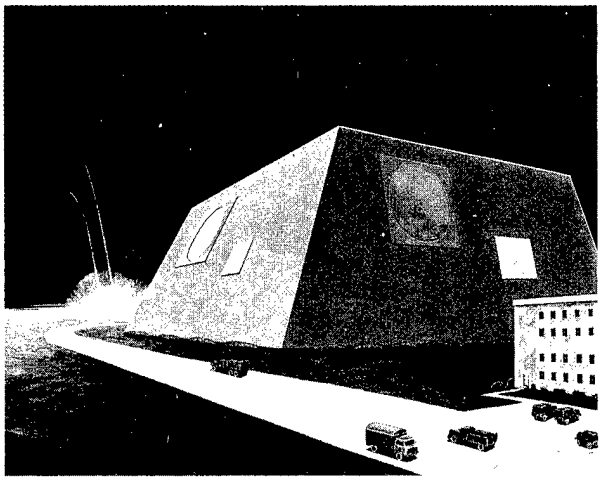


Soviet programs for ABM and Space Defense, which include advanced technologies and space based weapons, were in place prior to the 1972 ABM Treaty and have continued to expand in scope and size. During the same time period, U.S. ABM/Space Defense research has been limited in scope as well as the level of effort in terms of resources invested.

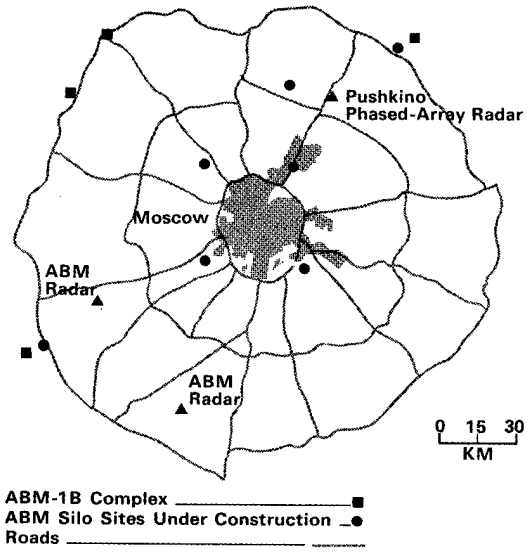
*Potential capability of the Moscow ABM system.



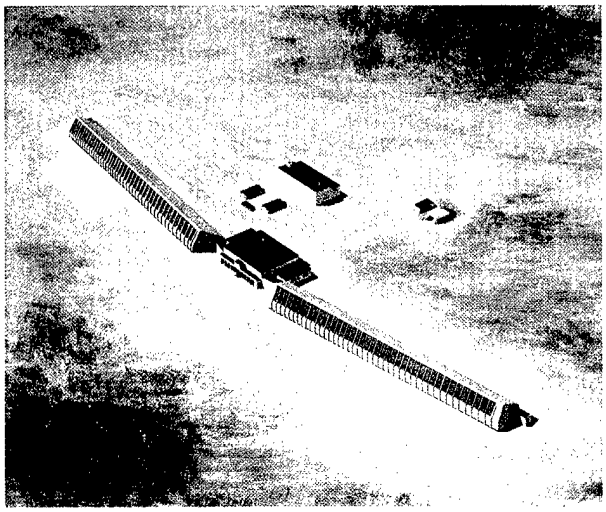


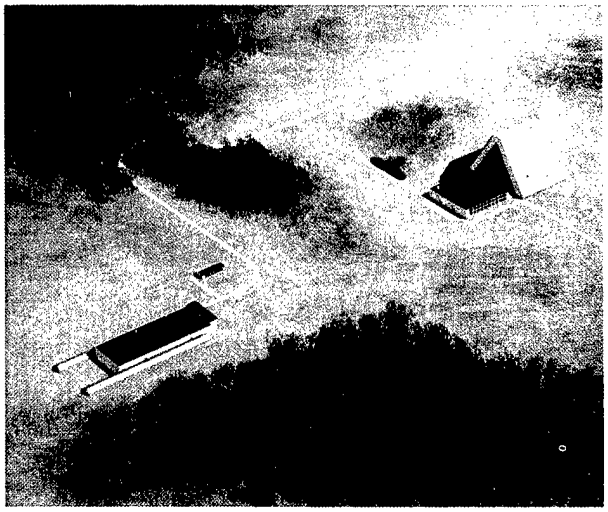


Moscow Ballistic Missile Defense



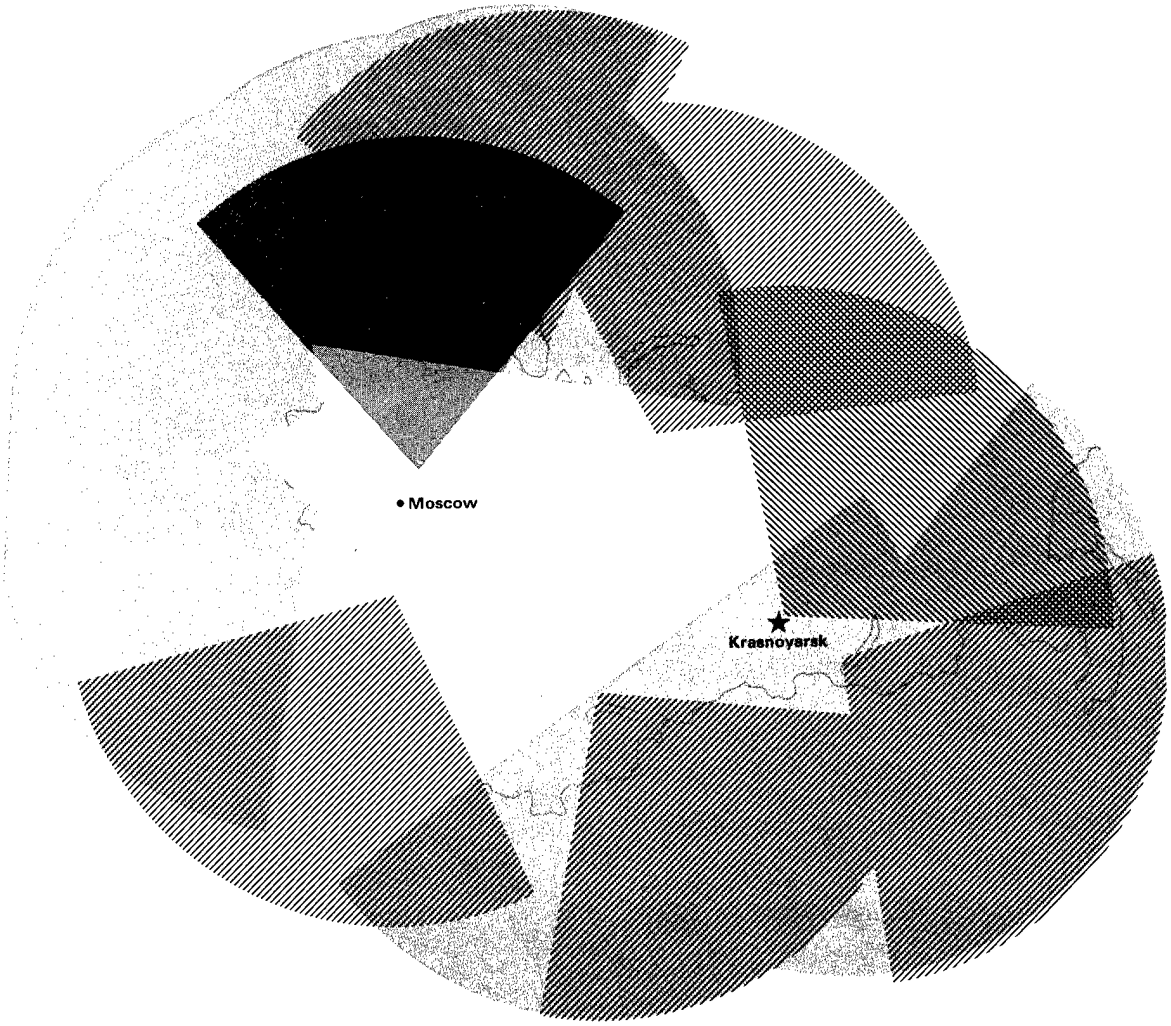
The Moscow ballistic missile defenses identified in map at right include the Pushkino ABM radar, above, GALOSH anti-ballistic missile interceptors, top left, and new silo-based high-acceleration interceptors, top right.





The 11 large HEN HOUSE ballistic missile early warning radars, at left, at six locations on the periphery of the USSR provide warning and target-tracking data in support of the Soviet ABM system. The DOG HOUSE radar, at right, provides battle management for the anti-ballistic missile interceptors around Moscow.

Ballistic Missile Early Warning, Target-Tracking, and Battle Management

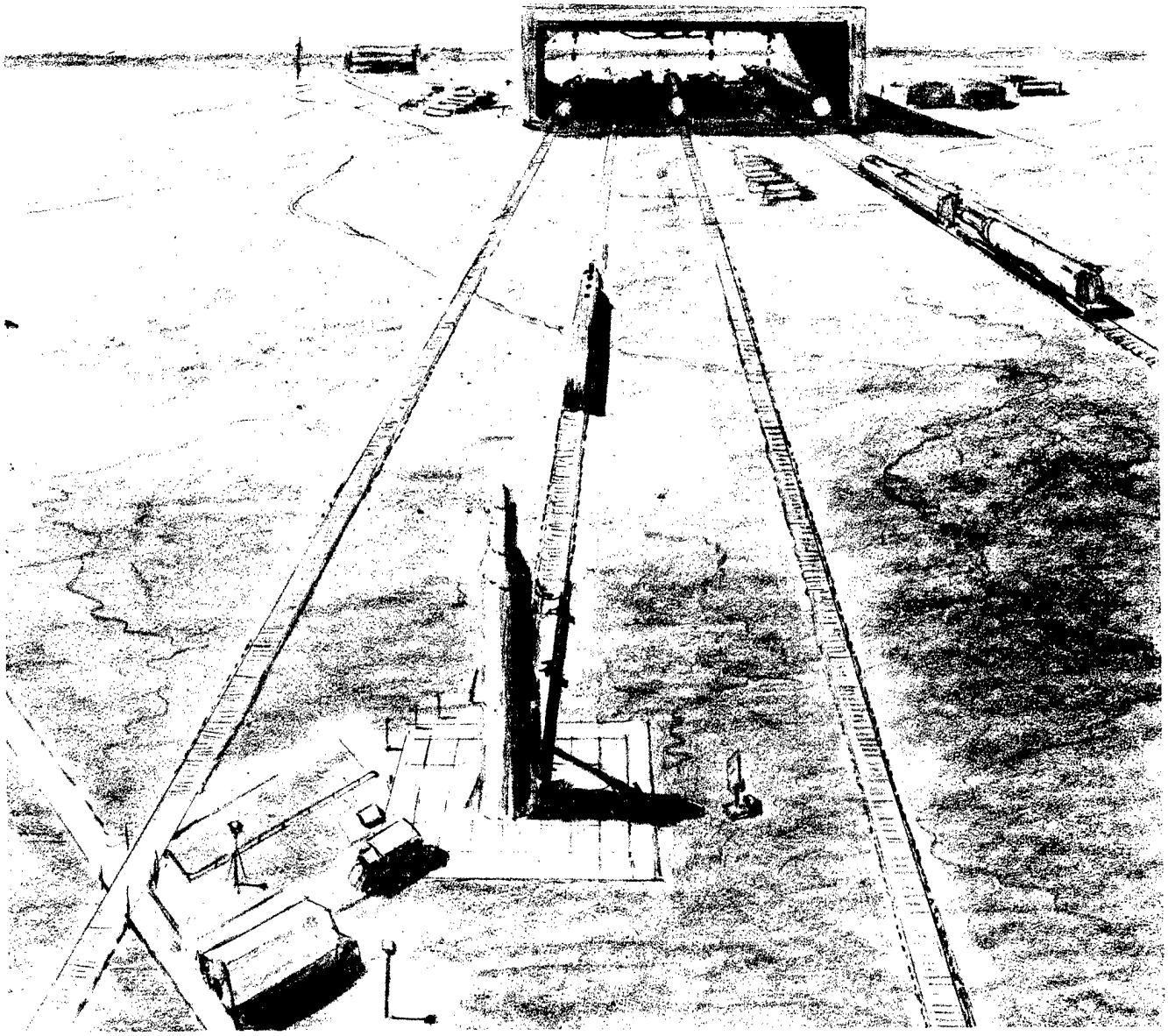


HEN HOUSE radars

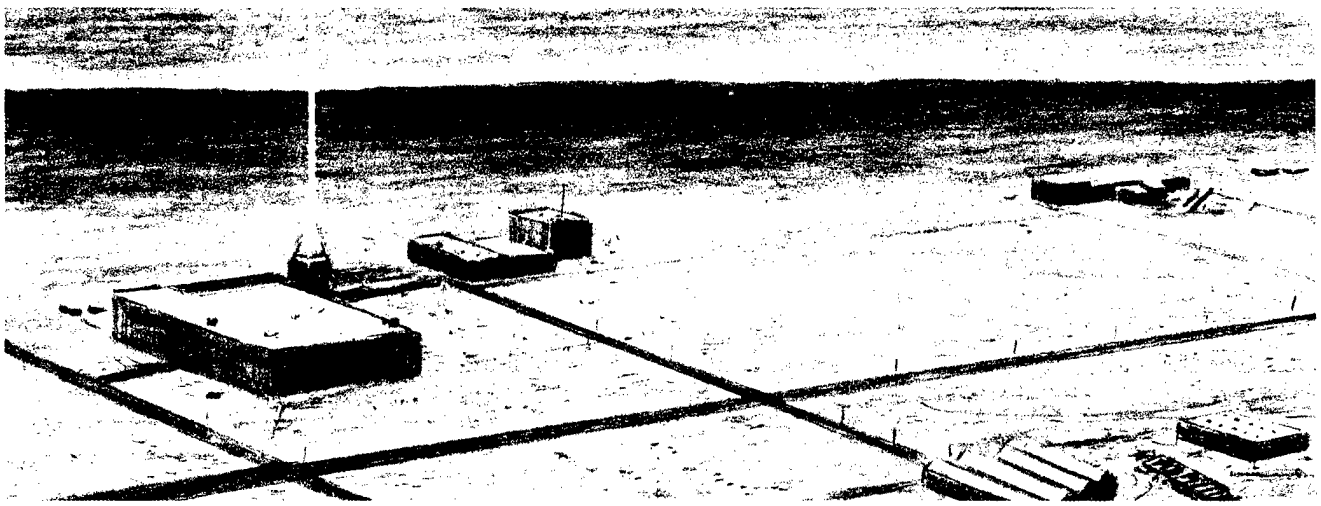
DOG HOUSE/CAT HOUSE radars

New radars

Krasnoyarsk radar

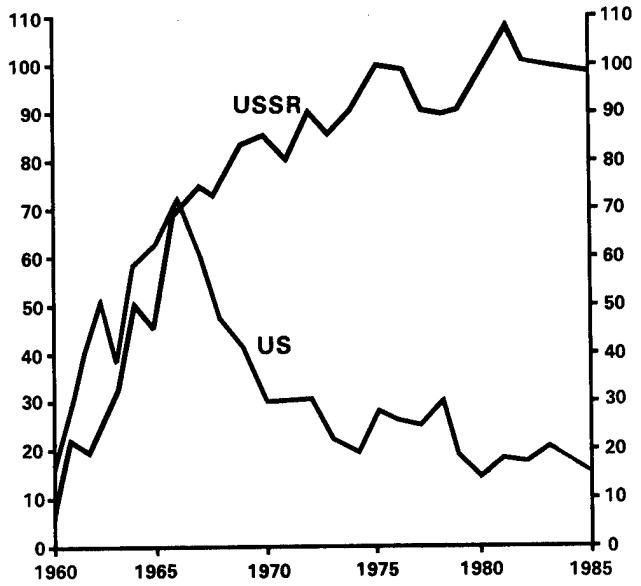


The USSR's operational antisatellite interceptor is launched from the Tyuratam Space Complex, where two launch pads and storage for additional interceptors and launch vehicles are available.

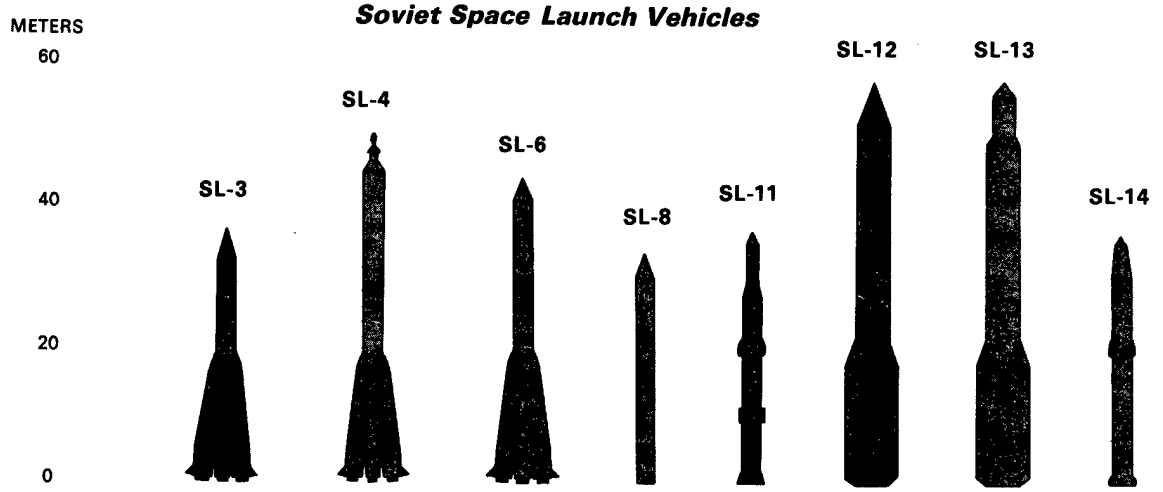


The directed-energy R&D site at Sary Shagan proving ground includes ground-based lasers that could be used in an antisatellite role today and possibly a ballistic missile defense role in the future.

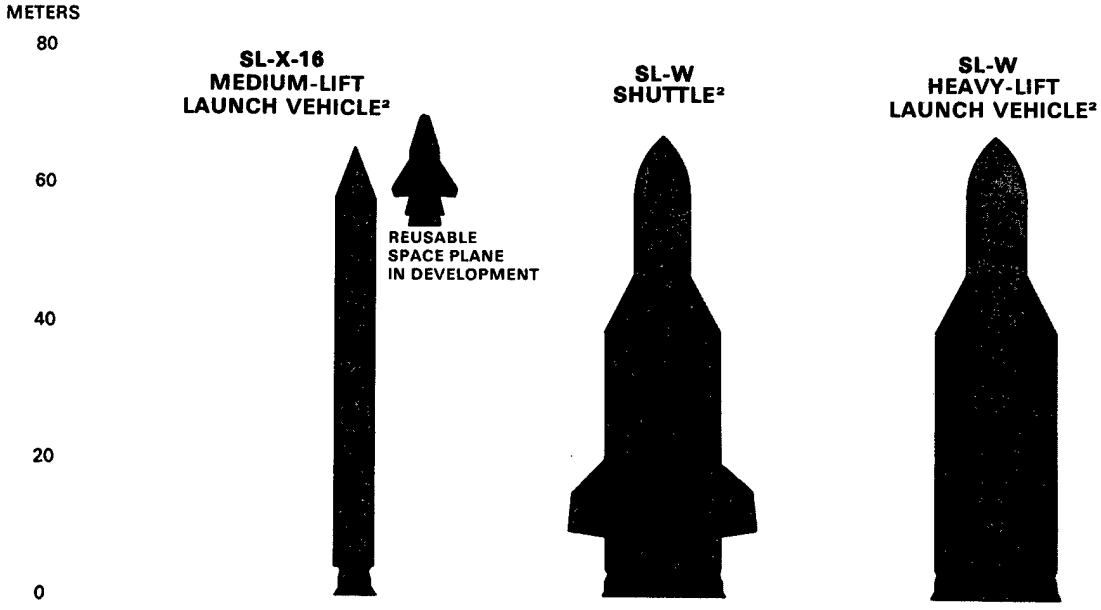
US and Soviet Space Launches



Soviet Space Launch Vehicles



	SL-3	SL-4	SL-6	SL-8	SL-11	SL-12	SL-13	SL-14
LIFT-OFF WEIGHT (KG)[1]	290,000	310,000	310,000	120,000	180,000	680,000	670,000	190,000
LIFT-OFF THRUST (KG)[1]	410,000	420,000	420,000	160,000	280,000	900,000	900,000	280,000
PAYLOAD TO 180 KM (KG)[1]	6,300	7,500	2,100	1,700	4,000	—	19,500	5,500



	SL-X-16	SL-W SHUTTLE[2]	SL-W HEAVY-LIFT
LIFT-OFF WEIGHT (KG)[1]	400,000	2,000,000	2,000,000
LIFT-OFF THRUST (KG)[1]	600,000	3,000,000	3,000,000
PAYLOAD TO 180 KM (KG)[1]	15,000+	30,000	100,000

[1] Approximate.
[2] In final stages of development.

CONGRESSIONAL STATUS OF SDI

Executive Summary

This chapter in intended to provide a brief summary of recent Congressional votes on SDI and related issues (as of early September, 1986). An explanation of the major votes and the current status of SDI funding for Fiscal Year 1987 is attached.

Both the House and the Senate have passed defense authorization bills for FY 1987, but they differ markedly in several different areas, including SDI. The House bill provides only $3.1 billion in SDI funding for FY 1987 (the President requested $5.3 billion) while the Senate bill provides $3.95 billion.

The bill now goes before a House-Senate Conference Committee, which has been meeting regularly since Congress returned in September and is expected to report a final bill prior to the Congressional recess.

This chapter also includes a summary of the consequences of the major reductions voted by Congress on the SDI program. A background paper (attached) prepared by the Strategic Defense Initiative Organization (SDIO) notes that a funding level of $3.4 billion, for example, would cause stretch-out of some experiments, termination of others, and less reliability in others.

CONGRESSIONAL STATUS OF SDI

September 1, 1986

SENATE

The Republican-controlled Senate has moved recently to cut SDI program funding for Fiscal Year 1987, although not as much as the House. The full Senate adopted the Armed Services Committee decision to cut approximately $1.4 billion from the President's $5.3 billion request. At the initiative of Senators Sam Nunn (D-Ga.) and William Cohen (R-Maine), the panel had cut the $5.3 billion request for SDI research and development to $3.95 billion.

In addition, the Senate committee's report recommended a "balanced technology initiative" that would emphasize options for a near-term deployment of "silo" or "point" defense -- making defense of our retaliatory forces a top priority. The committee said that research into long-range "population" defense should continue, but that it should not be the top priority (a "point" defense means that SDI would be deployed in the near future to act as a deterrent against a Soviet first-strike by protecting our missile silos -- and thus our ability to retaliate; a "population" defense means that SDI would eventually be deployed to protect the entire U.S. population against a Soviet missile strike). The Committee also stated that the U.S. should be prepared to use the SDI program as a bargaining chip -- calling for a possible trade-off of SDI pace or scope in return for offensive weapons

reductions. This initiative, while not directly affecting the funding issues, has been one of the major focal points of this year's SDI debate.

The Committee's major recommendations were adopted by a sharply-divided 10-9 vote, with all Republicans except one opposing the balanced technology initiative. The Republican Chairman, Senator Barry Goldwater, opposed it and wrote strong "minority views."

The Administration, as well as most of the Committee's Republicans, disagreed with some of the Committee's conclusions. President Reagan rejected the idea of SDI being a bargaining chip in a July 12th radio address to the American people. In addition, the Reagan Administration has strongly rejected the proposal to make SDI's primary purpose "point" defense instead of "population" defense. Said Secretary Caspar Weinberger on July 2, 1986: "It is not our missiles we seek to protect but our people, and we must never lose sight of that goal."

Sustaining the Armed Services Committee budget recommendation, the Senate narrowly rejected two amendments to cut SDI further. First, by a 50-49 vote, the Senate tabled an amendment by Senator J. Bennett Johnston (D-La.), that would have further cut Reagan's request to $3.24 billion. Next, by a 49-50 vote, the Senate defeated an amendment by U.S. Senator J. James Exon (D-Neb.), cutting Reagan's request to $3.56 billion.

During Congressional debate on the defense authorization bill, proponents of the SDI program argued strongly that the funding cuts in both the House and Senate are far too deep. Typical of the arguments was a statement by Senator Howell Heflin (D-AL) of the Senate Armed Services Commiteee during debate on the Johnston amendment, who said during Senate debate on August 5, 1986:

> "Those of us that support the strategic defense initiative also demand the cost of the program be kept reasonable. However, the funding reduction proposed in this amendment would absolutely cripple the SDI program. To merely sustain the contracts already begun will cost $4.1 billion. Further, the current funding proposed for the program by the Armed Services Committee is below that recommended by the Fletcher study and must be maintained if we are to meet the goals and timeliness established for the SDI by that study and the President. Anything less will mean delays in meeting the objectives of the program and arriving at the ability to produce a basis for informed decisions regarding strategic defense."

Another Senator, Dan Quayle (R-IN) also argued against the drastic cuts.

Said Quayle:

> "Some have said there is a disproportionate amount spent on SDI research. But I point out to my colleagues that we are spending well over twice as much on nonstrategic R&D than on strategic R&D. That makes the case.
>
> "What I know for sure is that the Soviet Union does not like it. They want to constrain us. I am convinced beyond any reasonable doubt that the strategic defense initiative offers great hope for deterrence, for promoting stability throughout the entire world. I believe this amendment would cripple that effect. I believe you will see a chipping away of SDI, and it will wither away if this kind of step is taken."

Finally, by a vote of 86-3, the Senate approved the 1987 Defense Authorization Bill which "sealed" SDI funding at a total of $3.95 billion. The

full Senate also called for voluntary compliance with the unratified 1979 SALT II arms treaty and approved a nonbinding resolution calling for comprehensive test-ban negotiations with the Soviet Union. The Senate also approved an amendment on August 9 introduced by John Glenn (D-Ohio) that would bar the Pentagon from awarding SDI research contracts to foreign governments or firms if U.S. firms could "reasonably" carry out the contracts.

HOUSE

The House voted on August 12, 1986, 239 to 176, to approve a major cut from the President's request for SDI funding. The President had requested $5.3 billion and the House voted for $3.1 billion. This action occurred shortly before final passage of the FY 1987 defense authorization bill by the House-Senate Conference Committee.

The SDI amendment ultimately approved was offered by U.S. Representative Charles Bennett (D-Fl.). Mr. Bennett argued that $3.1 billion would provide adequate SDI research and would allow more money in the overall defense to be spent on conventional military weapons. The Administration and SDI proponents strongly disagreed.

The House also voted to force the Reagan Administration to abide by the limits set in the unratified SALT II treaty. The measure, sponsored by U.S. Representative Norman Dicks (D-Wash.), would prohibit any spending for

deployment of nuclear weapons that would exceed the limits set in that unratified arms accord. It marked an unprecedented attempt to force compliance with any treaty through Congress' power to authorize spending. Nineteen Republicans voted against the President on this measure as the House voted, 225 to 186, to adopt the restriction.

By a vote of 324 to 94, the House defeated an attempt by U.S. Representative Robert Dornan (R-Calf.), to increase SDI funding to $5.1 billion (slightly less than Reagan's original request). The House also rejected, 293 to 124, an amendment offered by U.S. Representative Jim Courter (R-NJ) that would have required the Secretary of Defense to reorient the SDI program in order to develop a missile defense system that could be deployed quickly (in the near-term) and that would be consistent with the 1972 ABM Treaty limiting anti-missile defenses.

On August 15, the House overwhelmingly approved the FY 1987 defense authorization bill, including the above-listed provisions on SDI.

CONSEQUENCES OF HOUSE AND SENATE VOTES

The proposed dramatic reduction in SDI funding levels represents a major impediment to the program's research goals and its timetables. As President Reagan argued in a letter to House Armed Services Committee Chairman Les Aspin, "Cuts made in SDI funding requests last year have already slowed progress in several key areas and narrowed the range of technologies we can

explore. Further cuts would seriously increase our risk in two ways: first, we would not have sufficient funds to explore thoroughly some important technologies; second, the risk to our national security would also be increased by setting back SDI's potential to answer the relentless growth of Soviet programs in both strategic defense and offense."

Said SDIO director Lt. Gen. James Abrahamson in recent Congressional testimony: "There's something else that's important to recognize. We have teams that have been laid out there. They have a schedule layed out and that schedule is important ... What happens is some of the best people get discouraged and there is a secondary effect that is a very profound one, and that is that you begin to lose some of the very good people ..."

As of this writing, the differing versions of the House- and Senate-passed 1987 Defense Authorization Bill is before a House-Senate Conference Committee. The Committee has been meeting regularly in September, and a final package -- and a final note -- will most likely be placed before Congress prior to the next recess.

ATTACHED IS A POINT PAPER PREPARED BY THE STRATEGIC DEFENSE INITIATIVE ORGANIZATION (SDIO) FURTHER OUTLINING, IN DETAIL, THE IMPACT OF BUDGET CUTS TO A LEVEL OF $3.4 BILLION (WHICH IS EVEN HIGHER THAN THE HOUSE PROPOSED CEILING OF $3.1 BILLION).

SDI BACKROUND PAPER--IMPACT OF $3.4B MARK ON FY87 REQUEST

SDIO NUMBERS SO FAR:

	President's Budget	Marks
FY87	$4.8B	$3.6B (SASC)
FY86	$3.7B ($2.7B appropriated)	$3.4B (R&DSC,HASC)

MINIMUM NEEDED: $3.9B to $4.1B <u>just to continue</u> current programs (approved in FY86) with designed scope changes; no new initiatives, research or opportunities.

IMPACT OF CUT: $3.4B level will force us to shelve promising areas, cause contract termination and waste, and of course further stretch out the national decision and risk.

- $3.4B would force substantial slowdown in critical research efforts (space-based sensors, kinetic energy weapons, power options). : Examples of cutbacks that might occur with such budget reductions:

-- Boost Surveillance Tracking System (BSTS) major experiment will be delayed. (This is follow-on to current system.)

-- Long Wave Infrared (LWIR) probe delayed. (This is key item in early deployment architecture.)

-- Terminal Imaging Radar (TIR) severely cut back or terminated.

-- Space based radar technology terminated.

-- Laser radar reduced to single concept.

-- Free Electron Laser boost-phase intercept capability would be slowed down and would delay construction at White Sands, NM for one-two years.

-- Neutral particle beam experiment for interactive discrimination delayed by more than a year.

-- Acquisition tracking and pointing experiments reduced to concept definition.

-- Space based kinetic kill vehicle laboratory experiments severely cut back and delayed.

-- Flight tests of miniature kill vehicles will be delayed.

-- Kinetic energy technology base efforts reduced substantially.

-- Supporting battle management/c^3 technology base efforts would slip by at least one year.

-- Systems analysis reduced introducing significant risk in definition of technical requirements.

-- Baseload power not available to support space experiments; SP-100 availability slipped to late 1990's.

-- Advanced technology to support low cost space transportation efforts significantly reduced.

-- Particle beam and repetitively pulsed laser lethality assessments will be delayed.

- Further analyses are required to determine optimal mix of program changes to satisfy budget cuts.

- $3.4B provides insufficient funding to maintain required technology base to meet evolving threat.

- $3.4B level indicates commitment to approximately $3B annual ceiling. This is totally insufficient to fund the integrated technology validation experiments necessary to support the decision to proceed to full scale development; result will be a delay of at least two years in the decision.

-- Analogous to building all the parts of a car then leaving them on garage floor without even assembling the car to see if it works.

-- Will leave large unknowns about total system questions in such critical areas as lethality and survivability.

-- Force delay of large experiments that must be conducted in an integrated fashion (such as the National Test Bed; milestones will slip significantly).

-- Would stretch out the full research program significantly beyond the 1990's ... " research forever."

POINT PAPER
ON
MINIMUM REQUIRED TO SUSTAIN CURRENT SDI PROGRAM

- The minimum funding necessary to continue only those efforts previously started is $4.1 billion

- SDI is a dynamic program that includes:

  - The planned continuation of efforts started in FY 86, 85, and earlier (approx $4.1B)

  - New contracts to be initiated in FY 87; these are new efforts building on earlier results, or capitalizing on emerging technologies, or to make up for cuts from previous years

- The planned continuation totalling $4.1B includes:

  - Large experiments that must be conducted in an integrated fashion such as the National Test Bed addressing critical issues of command, control, and communications

  - Similar efforts which are vital technologies such as gallium arsenide, materials, or software research

- The continuation includes the value of existing contracts funded to negotiated value; no contracts legally obligate the federal government in advance of FY 87 appropriations

- Some margin should further be included for:

  - Shortfalls of elements of ongoing programs delayed due to lack of funds such as laser radar technology, space power, and power conditioning

  - Exploitation of emerging technologies

  - To build on earlier successes

- FY 86 program execution supports estimate

  - FY 86 obligations are $1590M (57%) of $2759M program as of 31 March 1986

  - Over 590 contractual actions have been reported to date incorporating FY 86 funds

- Reduction below $4.8B request will require modification to existing contracts forcing hard choices with inadequate research performed

- Significant reductions will require program restructure increasing overall program costs with inadequate results

SDI TECHNOLOGY

Executive Summary

SDI supporters often note that the technology for the program is far more feasible than critics have contended, and that much of the required technology is available or developing rapidly.

This section reviews the strategy and technology behind the "layered defense" approach that a strategic defense would require. There are four phases in the flight of an intercontinental ballistic missile (ICBM): boost, post-boost, midcourse, and terminal. A missile defense system would seek to knock out as many incoming missiles as possible during the early, highly-visible portions of the flight, so that fewer and fewer missiles would have the potential to reach the final phases of flight.

The United States is currently researching a variety of defensive weapons to be used in each of these phases. Such weapons include a number of different kinds of lasers, neutral particle beams, electro-magnetic railguns, interactive sensors, and highspeed interceptor rockets. These technologies (and their current status) are described in this chapter. The U.S. program is also looking at various communications and computer software strategies that would obviously be required for any strategic defense.

Recent U.S. tests, such as the successful tracking of a Delta rocket from space, have offered strong evidence that SDI technology is feasible.

However, it must be emphasized that the future of the SDI program should not rise or fall on the achievements or problems with any particular technology; rather, basic research is needed in a variety of areas to see which systems work best and are most reliable and cost-effective.

SDI TECHNOLOGY

The SDI research program is "high tech" in every sense of the phrase, yet many people are surprised to learn that elements of the technology already have been in existence or have been studied for many years. Indeed, the idea of a defense against nuclear weapons has been considered since the advent of the nuclear age, but it is only recently that technology has made the existence of a large-scale "strategic defense" against nuclear weapons feasible.

The purpose of this section is to provide a brief outline of the "layered" approach to strategic defense and to provide some definitions and explanation of the various technologies for defense that are currently under review by the United States and its allies.

THE MULTI-LAYERED DEFENSE STRATEGY

An incoming missile has four distinct phases of delivery. These are the boost, post-boost, midcourse and terminal phases. The Strategic Defense Initiative may be seen as a multi-layered "architecture" of weapons that could blunt a Soviet attack during each of these four phases. The concept behind current SDI research is to construct a system that stops incoming missiles at each phase, thus providing "back-up" phases against any missiles that escape an earlier phase. Of course, the various layers of any defense must "interact" and mutually support one another to be most effective.

PHASE ONE: THE BOOST PHASE

"Boost" phase begins as the missile is launched and rises through the atmosphere. The missile itself remains wholly intact -- all warheads and any possible decoys are still aboard the missile. Its thrusters emit a bright, hot tail of fire which makes the missile easier to identify. The boost phase lasts from launch to the burn-out of the ICBM booster's final stage, approximately 3 to 5 minutes. This is the stage in which a missile is most "vulnerable."

Thus, the boost phase is of critical importance. The ultimate goal of the SDI is to find the most feasible and cost-effective way to knock-out an incoming ICBM in its boost phase -- where a single shot can eliminate all its warheads. "It's like tackling the quarterback before he can throw the ball," is the way proponents have described it.

Boost Phase Technology

Potential defenses include chemical lasers, free electron lasers, excimer lasers, pop-up X-ray lasers, as well as neutral particle beams. The following is a brief summary of the technologies.

NEUTRAL PARTICLE BEAM: A stream of fast-moving hydrogen atoms traveling at about half the speed of light. The beam penetrates the metal skin of the missile and disrupts it. The beam creates an electronic "storm" in the computer circuits -- in essence, scrambling them -- and may prevent the missile from releasing its warheads. It also

could damage the electronic circuits in the warheads itself so that when they reach their targets, they fail to explode. Finally, it may cause the missile to veer off course so that it begins to tumble and destroys itself.

This weapon is a satellite-based, boost-phase weapon that is unaffected by the magnetic fields created by the Earth (hence "neutral"). It will travel in a straight line to its target.

X-RAY LASER: The X-ray laser can be space- or ground-based. It is a third generation weapon -- one that uses a nuclear explosion to produce its energy. Following the explosion, each of the surrounding rods emits a powerful blast of X-rays that can burn a hole in a missile, destroying the missile on contact.

The X-ray laser is considered a "one-shot" defensive system since it emits the X-rays milliseconds before it destroys itself. The technology for X-ray lasers does exist and successful tests have already been conducted.

CHEMICAL LASER: The chemical laser uses the energy from a chemical reaction between two fuels to produce laser beams. The most advanced chemical laser technology combines hydrogen and fluorine to form hydrogen fluoride (HF). These types of lasers may be lifted into space, depending on their ultimate size. If ground-based, the chemical laser beam can be projected into space and bounced off a series of mirrors in order to reach its target.

EXCIMER LASER: This laser is an "excited dimer," or a two atom molecule. These two atoms interact and move between an excited state and grounded state. The result is a series of laser radiations or beams.

This laser is extremely large and uses an extensive power source, limitations that necessitate it be a ground-based weapon whose beam may be bounced off a series of mirrors deployed in space in order to reach its target. Its power source also would be ground-based.

FREE-ELECTRON LASER: These lasers are currently the most promising. They involve a beam of electrons that is passed through a field of "wiggler" magnets. The fast-moving electrons are agitated violently and eventually coaxed into giving off light.

This laser beam would most likely be ground-based and, as with the Excimer Laser, it could reach targets over the horizon through use of space-based mirrors.

Boost Phase Strategy

Infrared sensors can detect the missiles by their emission. Upon receiving the information from the sensors, computers would then direct space-based and ground-based lasers to "zero" in on their targets. Problems and complications do exist however. Infrared sensors cannot "see" around the curve of the earth. Therefore, they must be in an orbit high enough to spy directly on the Soviet territory -- making them more vulnerable.

PHASE TWO: THE POST-BOOST PHASE

The "bus" is the portion of a missile that holds the nuclear warheads, the decoys, the missile guidance system and the warhead arming devices. After the Boost Phase, the "bus" separates from the booster. The missile has now entered what is called the "Post-Boost Phase."

During the 3- to 5-minute "Post-Boost Phase," a missile defense system will have its last opportunity to knock out more than one warhead with "one shot." This is because all the warheads are still contained in the "bus" even though it has now separated from the other stages.

Later in the "Post-Boost Phase," the nose cone is jettisoned and the bus begins dispensing its warheads, decoys and other penetration aids ("penaids").

Post-Boost Phase Technology

All of the lasers described in the "Boost Phase" section of this chapter also can be used during the "Post-Boost Phase." Other weapons that can be used include the space-based, electro-magnetic railgun equipped with "smart rocks," which are small kinetic energy projectiles.

ELECTRO-MAGNETIC RAILGUN: This weapon is capable of rapidly firing small projectiles about the size of small rocks. It has been likened to a giant machine gun or launcher. Its precisely-targeted "bullets" can deliver more punch than several times its weight in TNT. For firing, the "bullet" is loaded between the gun's parallel rails -- part of an

electric circuit. When a large current flows, it sets up a powerful magnetic field that sends the projectile lurching forward. The "bullets" are sometimes referred to as "smart rocks" since they have their own computerized guidance systems which enable them to "sense" their target and provide them with some steering capability to home in on the missile. The American SDI program already has successfully tested some elements of this technology.

Post-Boost Phase Strategy

The "Post-Boost Phase" represents the last opportunity to destroy a missile while its warheads and decoys are still "intact." While the research continues to explore the relative effectiveness of lasers versus railguns for this phase, it is important to note that the overall goal of post-boost phase SDI technology is to react to ballistic missiles before they separate their warheads and decoys.

PHASE THREE: THE MIDCOURSE

The "Midcourse Phase," which lasts approximately 20 minutes, is defined as the intercontinental space flight that occurs after the nuclear warheads and decoys have been released from a missile. Each multiple, independently-targeted re-entry vehicle (MIRV) or single-warhead weapon, after release from the bus, can head toward a different target. These warheads can be surrounded by thousands of decoys and reflective metal scrap. The mass of objects form a large churning "threat cloud" as they hurtle through space.

The biggest challenge presented to SDI technology in this area is called "discrimination:" ensuring that sensors are able to tell the difference between decoys and the "real," lethal warheads and that they then are able to rapidly transmit that information to the defensive interceptors.

Midcourse Technology

The laser technologies outlined in the "Boost Phase" section of this chapter can also be used during Midcourse Phase. Railguns are also viable during this phase. One additional technology also is being researched for this phase: the "interactive sensor."

INTERACTIVE SENSOR: Recent research has concentrated on an interactive sensor to discern the difference between the re-entry vehicles and the decoys. This sensor would penetrate the object and "see" what is inside. When the sensor hits a massive object like a warhead, gamma rays are emitted. Decoys, on the other hand, have very little mass, and emit virtually nothing. Once the real warheads are differentiated from the decoys, lasers and railguns can be directed to knock out the lethal missiles.

However, a major complication exists at the present time. The equipment needed to produce the sensor beams is very large and difficult to put in orbit as a working mechanism. This sensing technology is one of the greatest and most important challenges to the SDI research program.

Midcourse Strategy

Time is of critical importance in the Mid-Phase. The discrimination process must work rapidly and effectively. With a potential "cloud" of thousands of objects hurtling towards the U.S., the defense would have a very difficult task. Again, it should be emphasized that, along with technologies designed to knock out ICBMs at the midcourse phase, it is intended that many missiles would be knocked out first in the boost or post-boost phase.

PHASE FOUR: THE TERMINAL PHASE

The "Terminal Phase" lasts approximately two minutes. This final phase consists of the last 125 miles or so of a missile's trajectory. At this point, warheads -- or, most often referred to as re-entry vehicles -- re-enter the earth's atmosphere. At 75 miles high, the lighter decoys begin to burn. At 20 miles, re-entry destroys the heavier decoys. At this point, the warheads are less than a minute from exploding.

Terminal Phase Technology

Electro-magnetic railguns and ground-based lasers can effectively be used to destroy missiles in their terminal phase. Another potentially effective defensive weapon is the high-speed ground launched missile.

HIGH-SPEED GROUND LAUNCHED INTERCEPTOR ROCKETS: This technology already exists. The computer-guided rockets, launched from the ground, intercept their targets through sophisticated tracking. They are non-nuclear, defensive weapons. One type of this technology is called FLAGE, which stands for "flexible lightweight agile guided experiment."

As noted elsewhere, the Soviet Union currently has its own type of ground-based anti-ballistic missile system in place around the city of Moscow.

Terminal Phase Strategy

Time is the biggest problem faced by any technology that seeks to intercept warheads during the terminal phase. There are, at best, two minutes to do so. However, the technology to intercept incoming warheads does exist. In addition, it is again assumed that many -- if not most -- of the incoming warheads must be knocked out during the first three phases if a terminal phase strategy is to be feasible.

Certainly, potential countermeasures to a terminal defense are possible. The Soviets could "blind" U.S. radar through nuclear "bursts" in the sky, or they might give their re-entry vehicles additional maneuverability. The challenge of the research in this phase -- as in every phase -- is to anticipate potential countermeasures and seek to ensure that any possible SDI system is, accordingly, capable of overcoming them and remaining effective overall.

THE PROGRAM

Computers and Software in Battle Management

The development of computer hardware powerful enough to run a space defense now seems feasible. New semiconductor-chip designs and new ways of linking computers together can provide the necessary raw processing power. However, the current challenge is to write the programs (software) needed to make the

hardware run. It is estimated that a ballistic missile defense system would need from 10 million to 100 million lines of software code.

A promising technology for effective ballistic missile defense is Artificial Intelligence (AI). The basic idea behind AI is to simulate the human thought and logic process to allow the computer to make assumptions and calculate from two pieces of information to arrive at a third piece of information that was not previously present. Although this is a relatively new field of research and there is much debate over whether AI is possible at all. Proponents contend -- with great conviction -- that it is only a matter of time before true AI computers are developed.

Space Transport

SDI faces many obstacles. However, even if the research does demonstrate technical feasibility, the defensive system will still need a great deal of space transportation.

The weights in a potential SDI system at present would strain the lifting potential of any launchers the U.S. now has. Hence, the U.S. would have to design and build far more powerful launching vehicles. Lt. General Abrahamson of the SDIO office has said that lift costs must be cut for SDI to succeed. It should be emphasized, however, that SDI components will eventually become smaller and American rocket technology also will further improve. It is against this record of American technological success that the challenge of resolving technical or cost obstacles associated with any future SDI system should be viewed.

STAR WARS: SCENARIO FOR SPACE DEFENSE

STAR WARS

President Reagan's Strategic Defense Initiative has been described as an "astrodome defense," but it would actually consist of a vast network of hundreds -- perhaps thousands -- of machines in space, in the air and on the ground. All must work together with unprecedented precision.

Where the anti-ballistic missile systems of the 1960s dealt only with the "terminal phase" of a ballistic missile's flight, SDI plans call for additional layers of defense directed at one or more of the earlier phases of an ICBM attack. Warheads that escaped one layer would be attacked by the next.

This diagram shows a tiny, simplified composite of events and objects that might be involved. SDI researchers are studying various weapons, only some of which are indicated here. The exact combination, should planners and policy-makers choose to develop the entire system, will not be selected for years.

STAGE I: BOOST PHASE

When Soviet ICBMs blast off, exhaust heat is sensed by surveillance satellite. Computers assign targets to nearest space-based battle stations or to X-ray laser "popped up" from sub or to ground-based beam weapon. Boost phase weapons are the most important because each "kill" eliminates need to deal with many warheads and decoys later.

T+3 min.

STAGE II: BUS DEPLOYMENT PHASE

After rocket engines burn out, ICBM's nose cone disgorges "bus" that coasts onward and "MIRV's," releasing 10 real warheads and 100 decoys. Space-based sensors must discriminate between the two so battle stations don't waste fuel and time on harmless decoys.

T+11 min.

STAGE III: MIDCOURSE PHASE

Once the re-entry vehicles (RVs) containing warheads are released, they coast in ballistic trajectory to the United States. Beam weapons may still shoot but, if 10 percent of RVs get this far, weapons may have to cope with a "threat cloud" of 1,000 bombs and 10,000 decoys. If discrimination fails, weapons must destroy 12 targets every second to protect the U.S. Still, sensors must distinguish live RVs from destroyed RVs and debris.

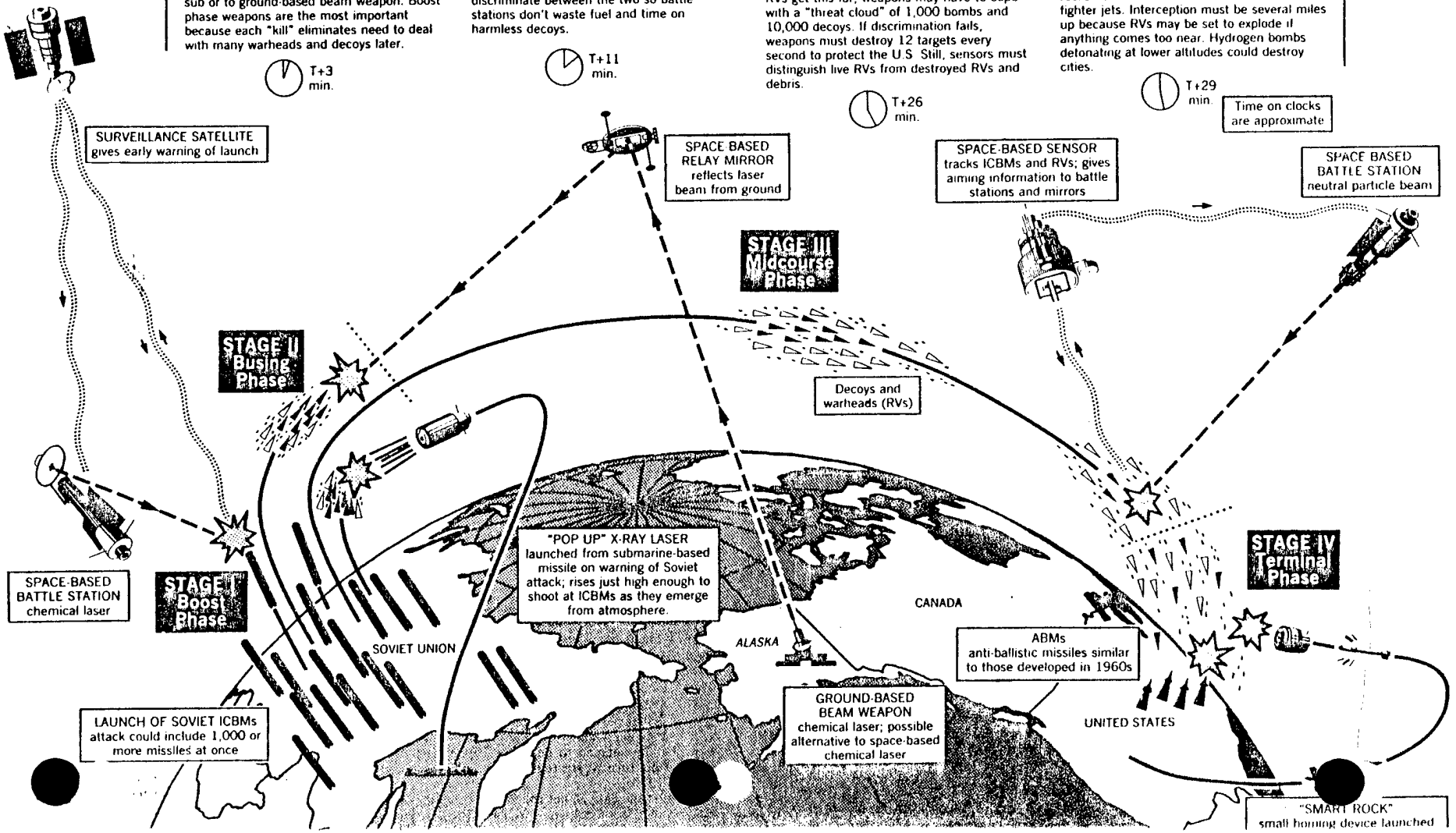
T+26 min.

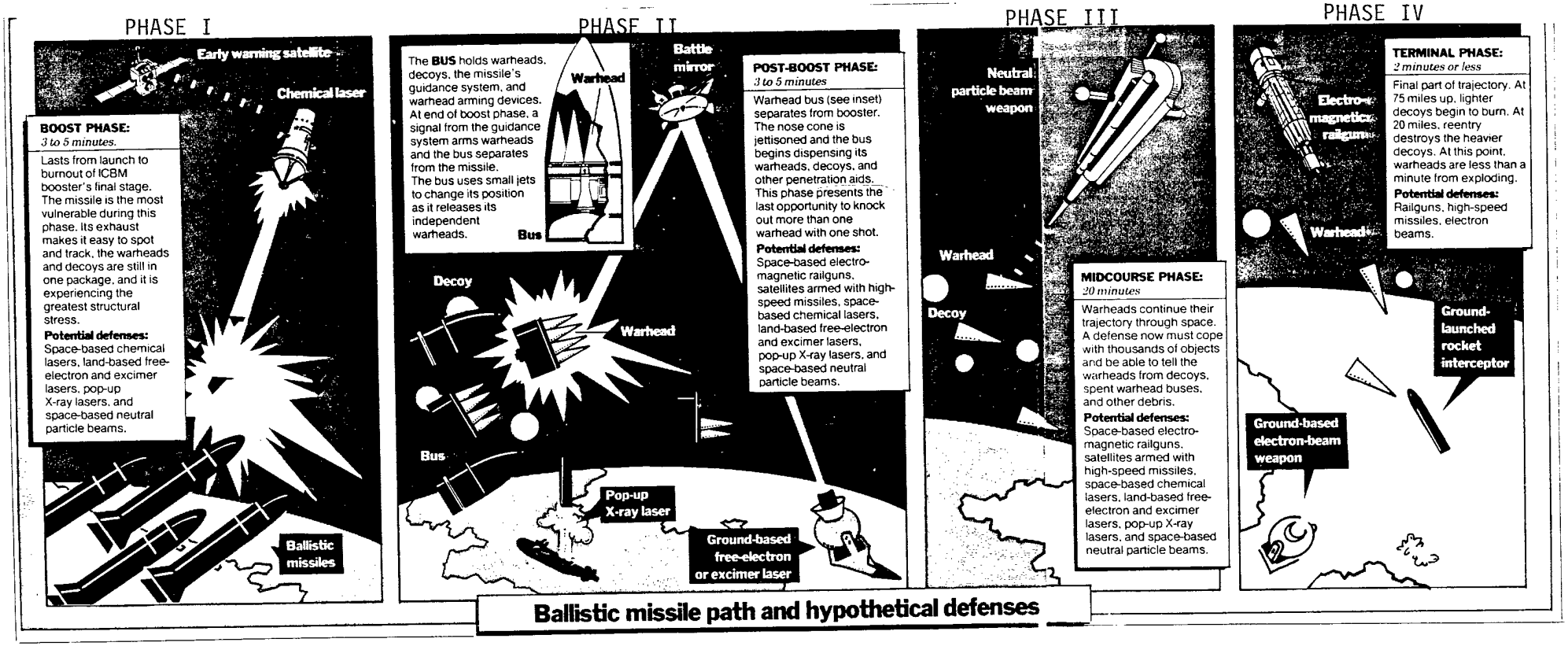
STAGE IV: TERMINAL PHASE

As threat cloud reenters atmosphere, friction slows light decoys, leaving RVs easy to spot. Radars take over tracking and give guidance to surface-to air ABMs or to "smart rocks" launched from rockets carried aloft on fighter jets. Interception must be several miles up because RVs may be set to explode if anything comes too near. Hydrogen bombs detonating at lower altitudes could destroy cities.

T+29 min.

Time on clocks are approximate





Ballistic missile path and hypothetical defenses

THE CHRISTIAN SCIENCE MONITOR

TECHNICAL SUCCESSES

General James Abrahamson, who heads the Strategic Defense Initiative Organization (SDIO), has said frequently that the technology for a strategic defense is within our grasp and can be achieved.

Since the SDI program began several years ago, there have been a number of technological breakthroughs and successful tests of potential SDI components. While it is impossible to summarize all the progress that has been made in a few short years, there have been a number of "major milestones" that have been reached since 1984.

A summary of some of these major milestones, as covered in the media, is attached. As one example, the recent "Delta" experiment helped test technology that could one day track and intercept Soviet missiles in their early phases. Earlier this year, the FLAGE (flexible lightweight agile guided experiment) test showed our initial capability to destroy a moving missile target. And in 1984, the Homing Overlay Experiment provided a vivid demonstration of the first direct interception of an incoming dummy missile warhead.

A summary of these major experiments is attached.

WASHINGTON TIMES
September 12, 1986

Delta tests hailed as boost for SDI

By Walter Andrews
THE WASHINGTON TIMES

9-12-86

A highly successful experiment in space last week was described by Pentagon officials yesterday as a major step toward developing an effective ground- and space-based defense against Soviet nuclear missiles.

Specifically, the Pentagon was testing technology that could one day guide U.S. weapons to destroy Soviet missiles in their early, so-called "boost phase."

The technology is considered vital to President Reagan's proposed Strategic Defense Initiative because each Soviet missile, if not destroyed early, would release dozens of independently targeted nuclear bombs and decoys that could overwhelm other — yet to be developed — U.S. defenses.

"We were looking for valid technical information, and we got it," Lt. Gen. James Abrahamson, said at a news conference.

Gen. Abrahamson, who heads the Pentagon's SDI office, said information obtained in the experiment was needed to develop small guided rockets that would be launched from platforms in space to shoot down enemy missiles.

In last Friday's $150 million experiment, the United States sent the second and third stages of a Delta rocket, launched at Cape Canaveral, Fla., into a 2-hour-45-minute orbit

see **DELTA**, *page 10A*

DELTA

From page 1A

about 138 miles above the Earth's service.

The two satellites successfully monitored each other as well as a separate rocket launched at White Sands Missile Range in New Mexico.

In the process, the orbiting rocket stages, one of which contained the world's first spaced-based laser radar, collected data on what rocket plumes look like against the backdrop of Earth and space.

Gen. Abrahamson said the data was crucial because U.S. interceptor rockets would have to score direct hits on Soviet missiles and not be confused by the missiles' widely dispersed plumes.

The technical problem is that as a missile ascends into less dense atmosphere the initially well-defined rocket plume begins to expand and envelop the entire rocket.

"We knew it was a tough scientific problem right from the beginning," the general said.

Gen. Abrahamson said the experiment was the most complex command and control communications exercise ever performed in space.

Lt. Col. Michael Rendine, the Air Force officer who served as the project manager, said the exercise involved six aircraft, 38 radars and 31 communications satellite circuits.

The experiment came to a spectacular end over the Pacific Ocean when the two orbiting Delta rocket stages, traveling 6,500 miles an hour, were guided into a deliberate collision.

To conduct the experiment, 1 million new lines of computer code were written in a five-to-six month period, Gen. Abrahamson said.

The general called the exercise a flawless performance that puts "one more chink in the armor " of those scientists who contend an SDI missile defense is impossible because computer programs of such complexity cannot be designed to perform without error the first time used.

"I personally believe, from the data I've seen, that our job's going to be a lot easier than we thought," Col. Rendine said.

The entire experiment was put together in 14 months, almost matching a 1-year goal set by Gen. Abrahamson.

Gen. James Abrahamson describes last week's successful mission for development of "star wars" at a news conference in the Pentagon. UPI

In addition to rocket interceptors, the SDI program is also looking at the use of lasers to zap enemy nuclear missiles in the early boost phase, the general said.

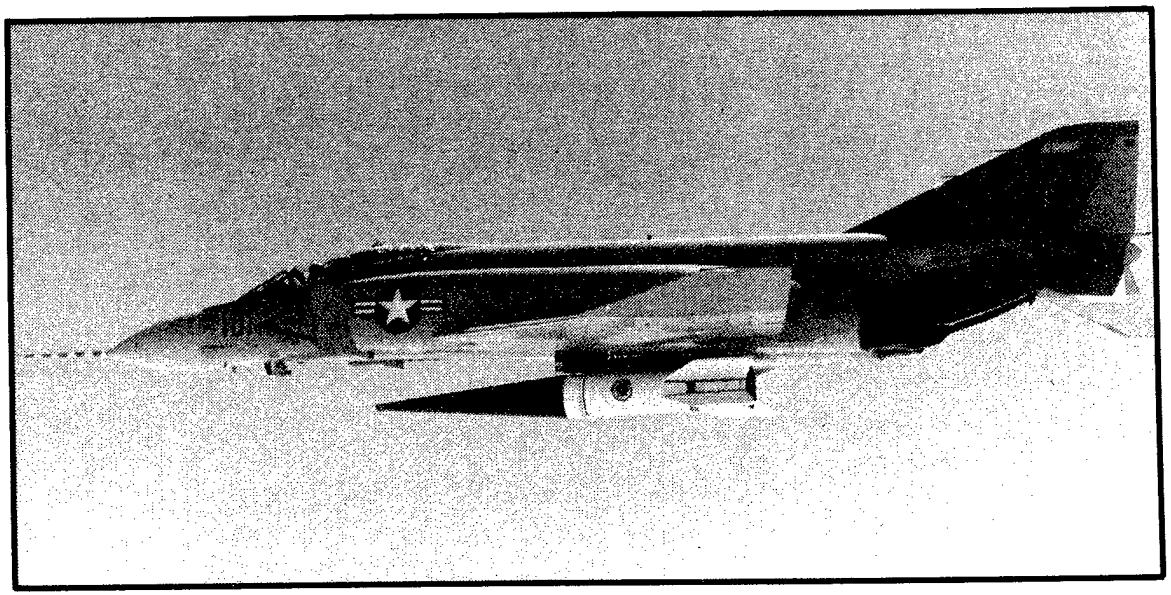
In recent months, Defense Secretary Caspar Weinberger has been saying that the first component deployed of a so-called "star wars" missile defense would be a space-based, boost phase interceptor system.

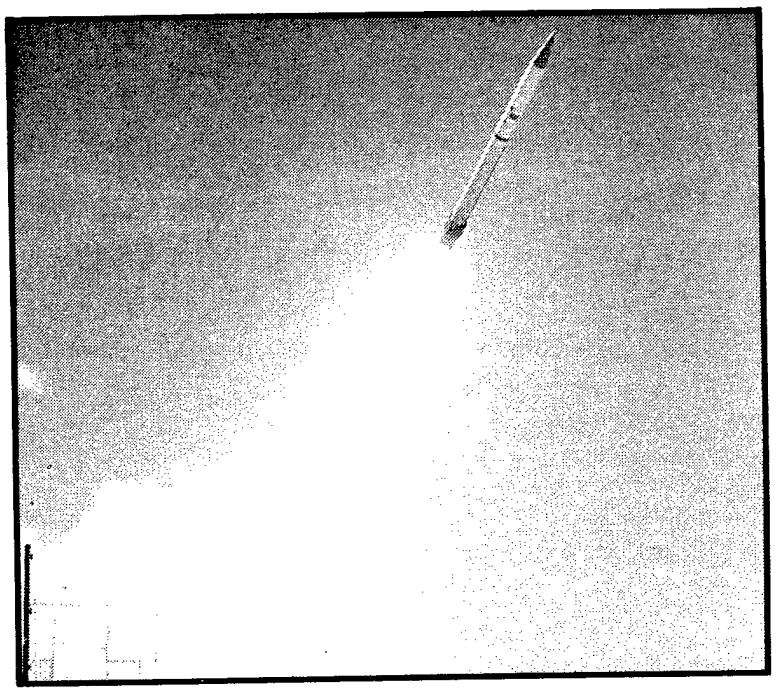
Currently, the United States has no defense against Soviet nuclear missiles other than the threat of a massive retaliatory strike by American-launched offensive weapons.

Separately, the Pentagon announced that a Patriot surface-to-air missile successfully intercepted and destroyed a Lance battlefield missile for the first time yesterday in a test to develop a defense against similar Soviet non-nuclear tactical weapons.

The tests are intended to find a defense against Soviet missiles armed with conventional warheads and targeted against NATO forces in Europe.

FLAGE Project Homes in on Success, Destroys Moving Target During Test Flight





U.S. ARMY PHOTOS

A U.S. Navy F-4 (top) *carries the target vehicle for the sixth flight of the FLAGE experiment project. The FLAGE vehicle is launched (left) from White Sands Missile Range, N.M. The photo on the right shows the results of the impact between the FLAGE vehicle and a moving target.*

By TRISH GILMARTIN
Defense News Staff Writer

WASHINGTON — An experimental missile built by LTV Aerospace & Defense for the Strategic Defense Initiative (SDI) program destroyed a moving target during a test conducted by the Army at White Sands Missile Range, N.M., on June 27.

It was the sixth in a series of nine planned flights of the so-called flexible lightweight agile guided experiment (FLAGE) vehicle and the first flight to measure homing guidance accuracy against a moving target. Earlier tests, including one on April 20, involved stationary targets.

The FLAGE project is designed to test some of the Army's innovations in missile guidance and control. The last stages of a multi-tiered defense system like SDI probably would use missiles with similar guidance and atmospheric control concepts. SDI is the Reagan administration's effort to develop a defense against enemy ballistic missiles.

During the latest test, the 12-foot missile destroyed a target moving at three times the speed of sound. The target was a metal cone launched from an F-4 aircraft at 44,000 feet. It was powered by a rocket motor after being released from the aircraft.

The FLAGE vehicle, launched about 22 seconds after the release of the target, reached hypersonic velocity and located the target with its miniature on-board radar. The target's velocity of 2,160 miles per hour was slightly greater than the FLAGE vehicle's velocity of 1,920 miles per hour, a Defense Department spokesman said. Destruction of the target occurred at 12,000 feet.

As was the case in two previous flights against stationary targets, the homing radar was coupled with the missile's guidance control system. The onboard computer used data from the built-in radar to steer the FLAGE vehicle by firing some of the 216 shotgun shell-sized motors that act as thrusters placed around the forward part of the missile.

Total cost of the FLAGE project is approximately $100 million. The next three flights are to involve the use of air-launched targets.

Defense Secretary Caspar Weinberger told reporters at a press briefing here last Tuesday that the FLAGE test "carries us much farther toward our goal of a defense against missiles of all ranges, using a variety of technologies."

Weinberger blasted the Senate Armed Services Committee for making deep cuts in the Reagan administration's 1987 funding request of $5.3 billion for the SDI program. The committee, on June 20, voted to cut the administration's SDI request by $1.45 billion. SDI would receive $3.59 billion from DoD accounts and $356 million from Energy Department accounts.

The commitee also approved on a 10-9 vote an amendment offered by Sens. Sam Nunn (D-Ga.) and William Cohen (R-Maine) that would establish a $300 million fund for research into conventional defenses and authorize $153 million to expand the defense technology base.

Weinberger assailed the "unwisdom" of congressional attempts to slash the SDI budget and to "hamper" the goals of the program. In cutting the SDI request and suggesting that "we no longer concern ourselves with population defense," the majority of the committee "would destroy the principal goal of the president's program."

Said Weinberger: "It's not our missiles that we see protect, but our people. And we must never lose sight of that goal."

ARMY TEST MISSILE IS SAID TO DESTROY A DUMMY WARHEAD

Success of Interceptor Device Likely to Bolster Support for a Reagan Proposal

By CHARLES MOHR
Special to The New York Times

WASHINGTON, June 11 — An experimental antiballistic missile has accomplished the first direct interception and destruction of an incoming dummy missile warhead, Army officers reported today.

On Sunday, the non-nuclear missile was lofted into space where it unfolded an umbrella-like device 15-feet across that collided with the test warhead, the Army officers said.

The interceptor, fired from Meck Island in the Kwajalein Islands, met hundreds of miles away over the South Pacific with the dummy warhead fired from a Minuteman 1 intercontinental missile launched from Vandenburg Air Force Base in Southern California.

Encouragement for Space Plan

Army generals made no sweeping claim, emphasizing that the experimental missile did not yet constitute a working weapon system. But the success of the interception over the Pacific Ocean Sunday seemed sure to encourage advocates of President Reagan's proposal to seek a defense against ballistic missile attack.

The experiment was described as the first successful interception by a non-nuclear ballistic missile.

A direct hit described by officials as accidental occurred in test of the Safeguard nuclear antimissile system, which was abandoned in the mid-1970's, officials said today. The nuclear system was designed to destroy without actually hitting its target.

No Violation, Officers Say

Maj. Gen. Elvin R. Heiberg, manager of the Army Ballistic Missile Defense Program, and Brig. Gen. Eugene Fox, manager of the Homing Overlay Experiment, said at a news conference today that Sunday's test did not violate the terms of a 1972 treaty in which the Soviet Union and the United States agreed to limits on developing or deploying improved antimissile devices.

The experiment was described as "test-bed technology," which is permitted by the treaty. The treaty provides that neither side can develop or deploy such weapons but does not prohibit testing.

The test Sunday, which followed three other tests in which a re-entry vehicle could not be intercepted, took

Continued on Page A18, Column 3

Missile Intercepted and Destroyed Warhead in Test, Army Reports

Continued From Page A1

place in mid-course of a ballistic missile flight.

A ballistic missile is a long-range weapon guided by preset mechanisms in the first part of its flight, but is a free-falling object as it approaches its target.

Blocking Soviet Rockets

President Reagan's technological advisers have placed the highest priority on developing the ability to intercept missile rockets as they rise from silos in the Soviet Union and before the rockets drop their multiple re-entry vehicles.

The solution that has usually received the second most favorable consideration would pick up and destroy missiles after they had re-entered the atmosphere.

Mid-course interception has been described by some scientists as the most difficult because nose cones could be filled not only with warheads but decoys, penetration aids and chaff meant to confuse electronic and heat-seeking sensors.

General Heiberg declined, at the Pentagon news conference, to speculate whether the use of decoys by the Soviet Union could limit the significance of Sunday's test. "You will always have a decoy problem," he said, adding that any enemy would try hard to "sp of or fool" any antimissile defense.

But he said he believed the test showed a clear technological advantage by the United States in such vital missile defense fields as high-speed data processing by a computer carried on the defensive rocket and in the ability to maneuver a vehicle in space to hit an *incoming* missile.

To achieve what Mr. Reagan has called an "effective" antimissile defense a three-layer system that would include mid-course interception is thought desirable, officials have said.

In the test Sunday the interceptor was fired about 10 minutes before the incoming warhead, which contained no explosive, would have hit the sea.

General Fox said interception took place at an altitude of "more than 100 miles" but said the precise height was secret.

The closing speed, or combined velocity of the target and the interceptor, was described as 20,000 feet per second. This is almost 10 times the speed of a high-powered rifle bullet.

The experimental program will continue, General Fox said, but as part of the overall Strategic Defense Initiative program recently established in the Pentagon to pursue the feasibility of President Reagan's proposal.

General Fox said he had no knowledge of whether the Soviet Union had successfully conducted such an experiment. However, he said that the Soviet planners were apparently not under instructions to seek a non-nuclear missile strategy. The Soviet antiballistic missile system near Moscow, permitted by the 1972 treaty, uses nuclear warheads.

General Fox said the radioed flight test data from the experiment had been coded so that a Soviet trawler loitering in the Pacific presumably could not have picked up the data. The second treaty on Strategic Arms Limitation, unratified but observed by the two superpowers, prohibits this for offensive missile tests. General Fox said this did not apply to an experiment such as that conducted Sunday.

The Washington Times

FRIDAY, AUGUST 8, 1986

ROBERT JASTROW

SDI results:

a defense in five years

Some senior government officials have suggested that nothing practical — that is, nothing deployable — can come out of the Strategic Defense Initiative for 15 or 20 years.

It appears that important SDI programs aimed at deployment of a nationwide defense in five years have not been brought to their attention. These possibilities for early deployment of a robust near-term defense against ballistic missiles have come out of the first two years of research on the problem by SDI and its contractors.

The business end of the near-term defense being developed by SDI is the "smart bullet," a slug of metal with a computer brain and a device sensitive to heat. The smart bullet tracks the enemy warhead by the delicate heat it emits, like a snake tracking a small mammal. The smart bullet collides with the enemy warhead at the end of the chase and destroys it by the force of the collision. It is highly effective.

The "smart bullet" projects in SDI haven't received as much attention as the laser and the particle beam, but they have the advantage of using a tried-and-tested technology that could be in place and protecting America in five years.

Smart bullets resemble the heat-seeking missiles used routinely in air defense, except that they are mounted on rockets that can carry them to heights of several hundred miles. An experimental smart bullet developed by Lockheed was tested against a U.S. Minuteman warhead in 1984. The test was completely successful. The smart bullet zeroed in on the oncoming warhead at a height of 100 miles and scored a bull's-eye collision. The speed of the impact gave the smart bullet the explosive power of more than 10 times its weight in TNT. The collision broke the warhead into an estimated 1 million fragments.

Another smart bullet developed by LTV that weighed less than 50 pounds was tested at a height of hundreds of miles against a target in space last year with complete success — another bull's-eye.

The most effective defense using the smart bullets will deploy them on satellites orbiting the Earth. This satellite-based defense can be available by 1995 and possibly somewhat earlier. In an even nearer-term defense planned by SDI, the smart bullets will be carried on small rockets launched from the ground.

That makes it sound as if this defense only protects a small area, like a missile silo. However, while the smart bullets are launched from the ground, they intercept the enemy warheads high up in space, at an altitude of as much as 500 miles. This is a key factor in the usefulness of the defense. As a consequence of the high-altitude interception, the "footprint" of the defense, as the region it protects is called, is a continental-sized area including all of the United States and Canada. This is not a defense of missile silos, but a true area defense of the North American continent.

But smart bullets are not the whole story of the near-term defense. The trouble with the smart bullet is that it is not all that smart. Smart bullets have a deadly accuracy once they get within 20 miles or so of the warhead, but first they have to be told approximately where the warhead is: they aren't clever enough to find it just anywhere in the void of the heavens.

That requires the capability of the Airborne Operational Adjunct, or AOA, one of the most important projects in SDI, perhaps *the* most important for the near-term defense.

The AOA is a Boeing 767 airliner that has been stripped and re-equipped with special intruments for detecting warheads coming at the United States. The AOA has "eyes" that can see the warhead anywhere in space and find out which way it is headed. Another instrument — a laser beam used as a radar — tells the AOA how far away the warhead is. The AOA turns this information over to the launcher sitting on the ground with a smart bullet on its nose, and the launcher then sends the smart bullet in the right direction.

The AOA and its infrared "eyes" and laser radar are as essential to the SDI near-term defense as the smart bullet itself.

Lockheed is working on a plan for the near-term defense of America, based on an experimental system called ERIS, that uses smart bullets and intercepts the warheads at high altitudes, so that the "footprint" covers all of North America. It looks very promising. But the system based on ERIS has two problems. First, it uses radars on the ground to pick up and track the warheads, instead of the airborne "eyes" on the AOA. Radars have the advantage that we can deploy the smart bullet ERIS defense more quickly because the United States already has these radars in place. They have the disadvantage that a radar is a large, fragile, and *immobile* object, which can

Robert Jastrow is a physicist and a member of the faculty at Dartmouth College. He was the founder of NASA's Goddard Institute for Space Studies and its director for 20 years, and first chairman of the NASA lunar exploration committee. He has written extensively on the technical issues in SDI.

be blown up by the enemy at the beginning of the attack. The AOA, flying in an irregular flight pattern, cannot be targeted and is relatively invulnerable. ERIS plus AOA is the winning combination.

The second problem is the fact that a high-altitude smart bullet only works well above the atmosphere; it can't catch a ballistic missile when it is lower down and inside the atmosphere. Another program being managed by SDI provides that capability. It also catches the leakers through the high-altitude layer of defense. The low-altitude smart bullet is called HEDI and is being developed by McDonnell Douglas.

How effective will the defense based on ERIS-HEDI-AOA be?

Once the smart bullet gets off the ground and the AOA points it in the direction of the warhead, the probability of its hitting the warhead is close to 100 percent. The main problem is launching the rocket that gets the smart bullet off the ground. With regular ground crews, the chance of a good launch is 75 to 80 percent. With more expensive and more highly trained crews, the success rate goes up to better than 90 percent; the success rate with the Thor-Delta rocket averages 96 percent.

That's for one layer of defense. We would probably want to take two shots at each warhead — one far out and high up, based on ERIS, and the second close in and lower down, based on HEDI, to catch the low-altitude missiles and the leakers through the first layer. If each layer is 75 percent effective, the two layers together have an effectiveness of 93 percent. With a high-quality launch operation, the combined effectiveness can go up to 99 percent.

We're heading toward the question of costs. Before we get there, we have to answer the question: how many warheads can the enemy throw at the United States? That determines how many smart bullets we need. At present, the Soviets have about 6,000 accurate first-strike warheads. Adding the Soviet submarine-based missiles, their new fifth-generation missiles, and some they are rumored to have squirreled away, we arrive at about 10,000 warheads as the threat probably facing the United States in the 1990s. That means a requirement for 10,000 smart bullets.

But the adversary can also deploy decoys — flimsy, lightweight objects that look like warheads but aren't — to confuse our defense. The smart bullets planned for our near-term defense can't tell a decoy from a warhead. The infrared "eyes" on the AOA probably won't be able to tell them apart, either. That means we will have to shoot at everything in sight, which means that we need more interceptors.

How many decoys will the adversary put up? A credibly disguised decoy weighs about a tenth as much as a genuine warhead. If the Soviets take a couple of warheads off every missile and replace them with decoys, they can throw 20,000 decoys at our defense, in addition to the 10,000 warheads. Shooting at everything in sight, we need 30,000 smart bullets. The second layer of the defense based on HEDI would require another 10,000 smart bullets. That's 40,000 smart bullets in all.

(Forty thousand smart bullets seems an impractically large number. For perspective on the matter, however, the Soviets have more than 13,000 surface-to-air missiles, similar to our smart bullets but somewhat less capable, already deployed for air defense.)

Getting back to costs: each smart bullet with its rocket will cost about $1 million. For comparison, the Maverick air-to-air missile with a similar degree of sophistication but a smaller rocket, costs $60,000 in large quantities. At $1 million each, the necessary 40,000 smart bullets will cost $40 billion.

The AOA aircraft are expensive and have to be added in. They will cost between $300 million and $400 million each, and a fleet of 15 to 20 will be needed to to keep three or four in the air at all times. The bill for the AOA fleet may run to $10 billion dollars in round numbers. The cost of the two-layer defense is $50 billion, spread over several years.

The U.S. currently spends between $40 billion and $50 billion *each year* on modernizing our offensive nuclear forces — nuclear weapons, missiles, bombers, submarines, and so on. Between now and the late 1990s we will probably spend $500 billion on these forces, designed to deter a potential adversary's attacks by the threat of mass destruction of his territory.

Viewed against the background of these vast expenditures, the near-term defenses being worked on by the SDI seem to me to be a way of saving the taxpayer's money, as well as his life.

SDI: THE COST

THE PRESIDENT'S 5-YEAR PROPOSAL

President Reagan and his Administration have proposed a 5-year research and development effort for the Strategic Defense Initiative. As proposed, it would cost around $26 billion for the fiscal years 1985 to 1990. This proposal is substantially smaller than costs associated with some major U.S. offensive weapons programs.

The SDI budget already has been cut by the Congress (see section on Congress). The Fiscal Year 1985 request of $1.78 billion by the Reagan Administration was reduced to $1.40 billion by Congress that year.

In the program's second year, Fiscal Year 1986, Congress dramatically scaled back the Administration's request. While the President had requested $3.72 billion, the Congress actually appropriated only $2.76 billion.

For Fiscal Year 1987, the debate is not over. The President's request was for $5.3 billion. However, the Senate approved an authorization of $3.9 billion (as of August, 1986) and the House cut the program even further to $3.1 billion. As this is written, a Conference Committee is at work to resolve the differences. It is clear, however, that for Fiscal Year 1987, there will be another major reduction in the President's SDI request -- a reduction that will probably be between $1.5 and $2 billion.

For America to succeed in achieving SDI's goal of providing adequate research on whether the United States could successfully deploy such a defensive system, adequate funding is obviously essential. Continued Congressional cutbacks in the program will inevitably lead to delays, cancellation of important experiments, and, hence, increased costs associated with the "stretchout" of any such program. As General James Abrahamson, head of the Strategic Defense Initiative Organization (SDIO), recently noted in a Defense News interview:

> "This is a critical year. We have already made cutbacks. Major cuts would mean a whittling down of the parallel choices in technologies that we can make; we did that last year. If we are not able to maintain the momentum, the best people will move out to other technical challenges. Thus, we would not only have a slowdown of the program but we would lose key people."

And as President Reagan added during a recent radio speech on SDI:

> "Nothing of great value, of course, comes cheap. But a defensive system which can protect us and our allies against all ballistic missiles, nuclear or conventional, is a prudent investment ... In the weeks ahead, it would be a tragedy to permit the budget pressures of today to destroy this vital research program and undercut our chances for a safer and more secure tomorrow."

LONG-TERM COSTS OF DEPLOYING SDI

Of all the issues associated with SDI, perhaps none has been more controversial than the question of the long-term cost of actually deploying such a system. Opponents have labeled SDI "Star Wars" and called it "a trillion-dollar" system. Yet, the fact is that no one knows with any certainty how much SDI would cost if deployed -- because no one knows at this point what such a system would require.

While SDI deployment would be expensive, it is unlikely that it would approach the expensive price tags its critics cite in opposing SDI. For example, Dr. Robert Jastrow, the founder of NASA's Goddard Institute for Space Studies and respected author on SDI issues, said recently:

> "For the basic two-layer defense using 'smart bullets,' the cost is $60 billion spread over about five years, or $12 billion a year. This defense could be available in the early 1990s. For the advanced three- or four-layer defense that might become available in the late 1990s, the cost is roughly $200 billion spread over 10 years, or $20 billion a year. The figures of $1 trillion or more tossed around by Soviet spokesmen and domestic opponents of SDI are off the wall. For comparison, note that we are spending more than $40 billion a year on nuclear weapons of destruction designed to keep the Soviets out of our backyard by the threat of retaliation."

Additionally, an article in the New York Times Magazine written by Zbigniew Brzezinski (President Carter's former National Security Advisor), Max Kampelman (a former advisor to Vice President Hubert Humphrey and the current head of the U.S. delegation to the Geneva arms talks) and Jastrow comes to similar cost conclusions. The authors state:

> "With development and some additional research, we can now construct and deploy a two-layer or double-screen defense, which can be in place by the early 1990s at a cost we estimate to be somewhere in the neighborhood of $60 billion ... The combined effectiveness of the two layers would be over 90 percent: less than one Soviet warhead in 10 would reach its target -- more than sufficient to discourage Soviet leaders from any thought of achieving a successful first strike."

Any fair consideration of the costs associated with SDI must include an evaluation of one of the most important goals for the SDI program: to reduce or eliminate our reliance on offensive nuclear weapons. This obviously has

important implications for the budget. If, for example, SDI deployment costs reached even $40 billion a year, we would also expect to see a gradual decline in our expenditures for offensive nuclear weapons as the United States and the Soviets shift to defensive systems.

SDI FY 86 BUDGET

PROGRAM ELEMENT	($M)	FY 86 REQUEST	FY 86 ADJUSTMENT	FY 86 REQUEST
SENSORS		1386.4	−529.4	857.0
DEW		965.4	−121.0	844.4
KEW		859.7	−263.9	595.8
SYSTEMS & BM/C^3		243.3	−16.0	227.3
SURV/LETH		258.2	−36.6	221.6
MGT HQ		9.2	+3.9	13.1
TOTAL		3722.2	−963.0	2759.2

VG 86-U-216/1
28 FEB 86

MAJOR FY86 REDUCTIONS

($M)	REQUEST	REDUCTION	BUDGET	IMPACT
SENSORS				
BSTS	131	−32	99	CANCELS SUPPORT TECHNOLOGY DEMO
SSTS	129	−53	76	CANCELS COMPREHENSIVE FLIGHT EXPERIMENT
AOA/AOS	191	−68	123	DELAYS AOS 1 YEAR
TIR	75	−45	30	DELAYS PROGRAM 1 YEAR
OPTICAL MEASUREMENTS	199	−77	122	DELAYS PROJECTS 1 YEAR
IR TECHNOLOGY	151	−71	80	ELIMINATES PARALLEL TECHNOLOGY
SIGNAL PROCESSING	192	−86	106	ELIMINATES PARALLEL TECHNOLOGY
DEW				
LASER TECHNOLOGY	195	−82	113	SEVERE CUTS IN EXCIMERS, CHEMICAL LASERS & RF LINAC
BEAM CONTROL TECHNOLOGY	201	−85	116	MAJOR CUTS IN ATMOS COMPENSATION, OPTICAL COMPONENTS
ATP	114	−63	51	GBL MIRROR CUTBACK

VG 86-U-217/2
1 MAR 86

MAJOR FY86 REDUCTIONS

	($M) REQUEST	REDUCTION	BUDGET	IMPACT
KEW				
ERIS	159	-73	86	VALIDATION TESTS OF CRITICAL COMPONENTS ONLY
HEDI	299	-183	116	SLIP OF 9-12 MONTHS
RAILGUNS	157	-77	80	MAJOR CUT OF TECHNOLOGY
SYSTEMS & BM/C^3				
SYSTEMS	98	-18	80	REDUCED LEVEL OF ARCHITECTURE ANALYSIS
BM/C^3 TECHNOLOGY	108	-27	81	TECHNOLOGY DEVELOPMENTS DELAYED
SURV/LETH				
SURVIVABILITY	72	-9	63	1 YEAR DELAY IN KEW SHIELD
LETHALITY	104	-12	92	HYPER VELOCITY TEST FACILITY CANCELLED
SPACE POWER	64	-6	58	DOWNSCOPES MULTIME GAWAIT
SPACE LOGISTICS	19	-8	11	REDUCES INVESTMENT IN LOW COST TRANSPORTATION

VG 86-U-218/2
1 MAR 86

MAJOR FY86 ADJUSTMENTS

($M)	REQUEST	ADJUSTMENT	BUDGET	NEW EMPHASIS
DEW				
GBL	27	+40	67	ACCELERATES FEL
NPB DISCRIMINATION	0	+73	73	INITIATES MID-COURSE DISCRIMINATION EXPERIMENT
X-RAY	10	+95	105	ACCELERATES X-RAY LASER RESEARCH
KEW				
SBKKV	200	+20	220	INITIATES EARLY EXPERIMENT
SYSTEMS/BM&C^3				
BM/C^3 EXPERIMENTAL SYSTEMS	9	+11	20	ACCELERATES BM/C^3 EXPERIMENTS

VG 86-U-219
23 JAN 86

PROPOSED FY 87 REQUEST

PROGRAM ELEMENT	($M)	FY 85 BUDGET	FY 86 BUDGET	FY 87 REQUEST
SENSORS		546	857	1263
DEW		376	844	1615
KEW		256	596	991
SYSTEMS & BM/C^3		99	227	462
SURV/LETH		112	222	454
MGT HQ		8	13	17
		1397	2759	4802

VG 86-U-221/1
28 FEB 86

SDI AND OUR ALLIES

Although some of America's allies initially expressed reservations that SDI might adversely affect Western deterrent strategy or arms negotiations, consensus has developed among our allies that it may be in their best interest to develop a joint European-American approach to SDI research. Support for SDI among our allies has increased substantially since the President first announced the program in 1983.

West German Chancellor Helmut Kohl summarized one view behind this concensus among allies when he stated that active involvement in SDI research will be a guarantee of greater European participation in any future decision on possible deployment.

In addition, European expertise in certain technologies, such as advanced optic laser and space sensor research, could greatly assist U.S. efforts. It is in the best interest of the U.S. program -- and its chances for long-term success -- to utilize and share scientific expertise among our allies.

The initial cautious response of some of our allies probably reflected their uncertainty about how a U.S. defensive strategy would affect the European policy of "flexible response," which refers to allied reliance on U.S. offensive nuclear forces as an effective deterrent to Soviet aggression. In

response to this concern, President Reagan has continued to reassure America's allies that a strategy of ballistic missile defense is intended to add to European security.

> "Their (Europe's) vital interests and ours are inextricably linked -- their safety and ours are one. No change in technology can or will alter that reality. We must and shall continue to honor our commitments."
>
> -- Ronald Reagan (3/23/86)

> "There's not the slightest possibility that America would be decoupled from Europe by the pursuit of this vital initiative."
>
> -- Caspar Weinberger
> Secretary of Defense (12/84)

Of course, a major component of Soviet foreign policy strategy has been to take every opportunity to drive a wedge between America and its allies on the Strategic Defense Initiative -- and other strategic issues such as arms negotiations and deployments of new weapons in Europe. This Soviet strategy on SDI has not been successful. In fact, by any measurement, allied support for and participation in the SDI program has grown every year since the President's original proposal was announced in 1983.

The following quotes summarize major allied response to the U.S. Strategic Defense Initiative:

> "I firmly support President Reagan's decision to pursue research into defense against ballistic nuclear missiles -- the SDI. I hope that our own scientists will share in their research. The U.S. must not fall behind the work being done by the Soviet Union."
>
> -- British Prime Minister Margaret Thatcher
> (2/20/85)

"We will continue to advocate that the Europeans develop a joint approach to SDI."

-- West German Chancellor Helmut Kohl (3/20/85)

"Kohl is persuaded that Geneva arms talks will secure deep cuts in the superpowers' nuclear weapons only if Moscow is prodded toward an agreement by the risk that SDI will yield enormous technological advantages for the West."

-- The Washington Post (3/21/85)

"SDI is a non-nuclear and defensive system which would kill the force of nuclear missiles. Its goal is to wipe away nuclear weapons from the face of the earth."

-- Japanese Prime Minister Yasuhiro Nakasone

France is more divided on the question of supporting SDI. French President Francois Mitterand has verbally opposed official French government participation in SDI, but he has not officially blocked French companies from bidding on SDI contracts. In fact, at least one company has recently become a major participant in SDI research. On the other side, French Prime Minister Jacques Chirac, leader of the conservative coalition, strongly and vocally supports a joint American-European SDI effort (France is a member of NATO but not part of the Alliance's integrated military commend).

"It would be irresponsible to sit on the roadside. France cannot not join such a large scale research effort and I will not leave it out."

-- French Prime Minister Jacques Chirac

Other nations that have expressed support for -- and interest in -- SDI include Israel and Italy.

'Star Wars' Research Supported

NATO Ministers Call Plan 'Prudent'

THE WASHINGTON POST
March 28, 1985

By Michael Weisskopf
Washington Post Staff Writer

LUXEMBOURG, March 27—NATO defense ministers today unanimously urged research into President Reagan's space-based missile defense system, calling the project "prudent" in light of Soviet efforts in strategic defense.

Despite the first NATO nuclear planning group endorsement of Reagan's plan, however, European ministers at a two-day meeting here questioned the future impact of a U.S. space-based strategic defense should the project ever move beyond the study phase.

The NATO secretary general, Lord Carrington, said at a news conference that European participants shelved their future concerns and embraced Reagan's proposed $26 billion research effort partly because of "what we know of Soviet capabilities and interest in the field."

"It is well known that certain other questions arise in the future, and nobody suggests they do not," the ministers said. "But this is not the moment to try to settle them because we don't know what the research will bring."

British and West German leaders previously have distinguished between support for U.S. research work and possible deployment, warning that movement toward antimissile defenses could undercut western deterrent strategy.

France, a NATO member but not part of the alliance's integrated military command, has expressed similar worries, and Defense Secretary Caspar W. Weinberger will visit France for three days this week.

Weinberger told reporters that European officials voiced "some reservations" about the research program, chiefly fears that their nations would be left to fend for themselves if the United States successfully deploys an antimissile shield over its own territory.

Weinberger termed the concerns "misunderstandings which I seemed to be able to clear up."

If a space-based defense proves feasible, Weinberger said, experts believe that it would be easier to intercept and destroy Soviet intermediate-range ballistic missiles aimed at Europe than to counter longer range weapons directed at America.

Weinberger had come to Luxembourg hoping for an endorsement of "Star Wars" to bolster both U.S. arms control negotiators in Geneva and administration lobbyists in Congress who are seeking $4.6 billion in research funds for the project in fiscal 1986.

"We were completely satisfied with the results because the things we are doing were supported unanimously," he said.

A senior U.S. defense official traveling with the secretary added that the NATO group's blessing will help dash Soviet hopes of heading off "Star Wars" research by splitting the alliance.

In their communique, the ministers said they support research into the system Reagan calls the Strategic Defense Initiative so long as it is "conducted within the terms" of the 1972 U.S.-Soviet treaty limiting development and deployment of antiballistic missile defenses.

The research, according to the communique, "is in NATO's security interest and should continue."

It noted, "with concern," the Kremlin's "extensive and longstanding efforts" in strategic defense, including an antiballistic missile system deployed around Moscow, and concluded that the American program "is prudent in light of these Soviet activities."

The ministers said they welcome the U.S. offer to include European firms in the SDI research work—an invitation formally delivered by Weinberger yesterday in a move to solidify allied support.

[However, Australia, one of 17 nations invited to take part in the Star Wars program, will not do so, Australia's Defense Ministry said Wednesday, Reuter reported from Sydney.]

The NATO ministers' communique said they "strongly support" the U.S. position in arms control talks with the Soviet Union in Geneva and urge Moscow to "participate constructively."

It said that NATO is determined to continue deployment of ground-launched cruise and Pershing II missiles but is willing to "reverse, halt or modify" its plan if the Soviets agree in Geneva to dismantle some of their 414 SS20 intermediate-range nuclear missiles aimed at Europe. Carrington said more than 130 of the 572 NATO missiles are already in place.

[In Geneva, the Soviet Union made clear Wednesday that it will discuss with the United States only methods of keeping space free of all weapons—not the Star Wars project or any other space-based system, The Associated Press reported. The Soviet delegation issued a formal denial of a newspaper article that quoted a U.S. spokesman as saying Tuesday's first subgroup meeting "discussed possible anti-missile systems in space."]

CHRISTIAN SCIENCE MONITOR

February 21, 1985

Mrs. Thatcher praises US

Tells Congress she backs SDI research

By Charlotte Saikowski
Staff writer of The Christian Science Monitor

Washington

Winston Churchill last did it in 1952.

Margaret Thatcher yesterday became the first British head of government since then to address a joint session of the United States Congress.

Prime Minister Thatcher's appearance in the House chamber was a moment of heartfelt history. Recalling America's dominant role in shaping a peace in Europe that has lasted 40 years, she said: "The debt the free peoples of Europe owe to a nation generous with its bounty, willing to share its strength, seeking to protect the weak, is uncalculable," she told the lawmakers. "We thank and salute you."

Then, as had Sir Winston in his speech on Jan. 17, 1952, Mrs. Thatcher dealt largely with two concerns — nuclear weapons and the economy. These were also subjects of discussion with President Reagan, Cabinet officials, and congressional leaders later in the day.

Among other things, the prime minister:

- Pledged support for research on the President's Strategic Defense Initiative (SDI), stating the US must not fall behind Soviet research in defense against ballistic nuclear missiles. It is only the West's strength that has brought the Russians back to the negotiating table, she said.
- Made clear that, if research on SDI leads to possible deployment of new defensive systems, this will have to be negotiated under the ABM (antiballistic missile) Treaty.
- Warned that the current strength of the dollar is causing pressures for new trade barriers and hurting countries in the third world as well as the general world economy. US efforts to reduce the budget deficit are therefore strongly supported, the prime minister said.
- Appealed for a halt to American aid to the provisional Irish Republican Army through fund-raising groups based in the US. Such aid feeds terrorism in Northern Ireland, she said, and is used to "buy the deaths of Irishmen."
- Stressed that Europe today is making a substantial contribution to allied

Please see THATCHER back page

AP

President Reagan and Prime Minister Thatcher in Oval Office: talk of defense and dollars

THATCHER from front page

defense and moving toward the goal of being able "to share the load" alongside the US.

The last statement was pointedly addressed to lawmakers and others who have raised doubts about the extent of Europe's commitment to its own defense and about a continued US troop presence in Europe. "The frontier of freedom cuts across our continent," Prime Minister Thatcher said. "Members of Congress, the defense of that frontier is as vital to you as it is to us."

Publicly, Britain is giving strong support to Mr. Reagan's long-term SDI research program, aimed at a space-based "superdome" defense against offensive nuclear missiles. Mrs. Thatcher in fact put in a bid on behalf of British companies to get in on any commercial business that might flow from the program, now budgeted at $26 billion. "I hope that our own scientists will share in this research," she told Congress.

At the same time, Britain shares the concern of West Europeans about potential US deployment of new defensive systems in the short term and an escalation of the arms race. Hence, the emphasis placed by Mrs. Thatcher on negotiating any deployment under the ABM pact and on the US-Soviet arms negotiations scheduled to resume in Geneva on March 12.

On ABC's "Good Morning America," the prime minister said she was "cautiously hopeful' that the arms talks will result in "something very important for the world." But she warned in her address to Congress that Moscow will seek to sow differences among the allies and to impair the West's resolve.

"We shall have to resist the muddled arguments of those who have been induced to believe that Russia's intentions are benign and that ours are suspect, or who would have us simply give up our defenses in the hope that where we led others would follow," she declared.

The US budget deficit and overvalued dollar were also high on the prime minister's agenda as she met with the President, Cabinet officials, and congressional leaders later in the day.

Her visit comes at a time when the British pound is floundering at record lows. The large US budget deficit is blamed for the drop.

The American deficit, Mrs. Thatcher indicated, affects interest rates, the amount of capital available for investment worldwide, the stability of the international financial framework, and the ability of developing countries to service their loans. "No other country in the world can be immune from its effects," she said.

For the US to give in to protectionist pressures because of the difficulties caused by the high dollar, she said, "would betray the millions in the developing world, to say nothing of the strains on your other trading partners. The developing countries need our markets, as we need theirs. We cannot preach economic adjustment to them and refuse to practice it at home."

Of special concern to Mrs. Thatcher, who is seeking a peaceful settlement of the Northern Ireland problem, are the financial contributions Americans make to such groups as Noraid (the Irish Northern Aid Committee). She applauded the efforts of the administration and members of Congress "to bring home this message to American citizens who may be misled into making contributions to seemingly innocuous groups.

"Be under no illusions about the provisional IRA," she told the legislators. "They are the enemies of democracy, and of freedom, too."

Even as the prime minister spoke, hundreds of Irish-Americans and other IRA supporters held a peaceful demonstration against her visit near the Capitol. IRA sympathizers organized the protest after the State Department refused a visa for Gerry Adams, president of the political arm of the IRA and a member of the British Parliament.

Interrupted many times during her speech by applause and cheers, Mrs. Thatcher recalled that the US and Britain have stood together in two world wars and other conflicts and that the two countries have a common heritage.

"Members of Congress," she concluded, "may our two kindred nations go forward together, firm of purpose, clear of vision, and warm of heart, as we approach the third millennium of the Christian era."

She received a standing ovation.

'Britain Meets Her Responsibilities for the Defense of Freedom'

Associated Press

Excerpts from the speech yesterday by British Prime Minister Margaret Thatcher to a joint session of Congress:

. . . Bear with me if I dwell for a moment on the Europe to which we now belong. It is not the Europe of Rome, of Charlemagne, of Bismarck . . . .

For five centuries that small continent had extended its authority over islands and continents the world over; for the first 40 years of this century there were seven great powers: the United States, Great Britain, Germany, France, Russia, Japan and Italy.

Of those seven, two now tower over the rest: the United States and the Soviet Union.

To that swift and historic change, Europe—a Europe of many histories, many nations—has had to find a response. It has not been an easy passage, to blend this conflux of nationalism, patriotism, sovereignty into a European community . . . .

But don't underestimate what we already do.

Today, out of the forces of the alliance in Europe, 95 percent of the divisions, 85 percent of the tanks, 80 percent of the combat aircraft and 70 percent of the fighting ships are provided, manned and paid for by the European allies. Europe has more than 3 million men under arms and more still in reserve. We have to.

We are right in the front line.

. . . Mr. Speaker, wars are not caused by the buildup of weapons.

They are caused when an aggressor believes he can achieve his objectives at an acceptable price.

The war of 1939 was not caused by an arms race. It sprang from a tyrant's belief that other countries lacked the means and the will to resist him . . . .

Our task is to see that potential aggressors . . . understand plainly that the capacity and the resolve of the West would deny them victory in war, and that the price they would pay would be intolerable.

That is the basis of deterrence. It is the same whatever the nature of the weapons. Let us never forget the horrors of conventional wars and the hideous sacrifice of those who have suffered in them. Our task is not only to prevent nuclear war, but conventional war as well.

No one understood the importance of deterrence more clearly than Winston Churchill when in his last speech to you he said:

"Be careful above all things not to let go of the atomic weapon until you are sure, and more than sure, that other means of preserving peace are in your hands."

Thirty-three years on, those weapons are still keeping the peace.

But since then the technology has moved on, and if we are to maintain deterrence, as we must, it is essential that our research and capacity do not fall behind.

That is why I firmly support President Reagan's decision to pursue research into defense against ballistic nuclear missiles—the Strategic Defense Initiative.

Indeed, I hope that our own scientists will share in this research. The United States must not fall behind the work being done by the Soviet Union.

Both countries are signatories to the 1972 Anti-Ballistic Missile Treaty, a treaty without any terminal date. Nothing in that treaty precludes research, but should that research on either side lead to the possible deployment of new ballistic missile-defense systems, that would of course be a matter for negotiation under the treaty.

But, despite our differences with the Soviet Union, we have to talk with them. For we have one overriding interest in common: that never again should there be a conflict between our peoples. We hope, too, that we can achieve security with far fewer weapons than we have today and at lower cost.

Thanks to the skillful diplomacy of Secretary [of State George P.] Shultz, negotiations on arms control open in Geneva on 12 March. They will be of immense importance to millions. They will be intricate, complex and demanding. We should not expect too much too soon.

We must recognize that we shall face a Soviet political offensive designed to sow differences among us, calculated to create infirmity of purpose, to impair resolve—and even to arouse fear in . . . our people.

Hope is such a precious commodity in the world today that some are tempted to buy it at too high a price. We shall have to resist the muddled arguments of those who have been induced to believe that Russia's intentions are benign and that ours are suspect, or who would have us simply give up our defenses in the hope that where we led, others would follow.

As we learned cruelly in the 1930s, from good intentions can come tragic results.

Let us be under no illusions: It is our strength, not their good will, that has brought the Soviet Union to the negotiating table in Geneva.

Mr. Speaker, we know that our alliance, if it holds firm, cannot be defeated. But it could be outflanked. It is among the unfree and the underfed that subversion takes root.

As Ethiopia demonstrated, those people get precious little help from the Soviet Union and its allies. The weapons which they pour in bring neither help nor hope to the hungry.

It is the West which heard their cries. It is the West which responded massively to the heart-rending starvation in Africa. It is the West which has made a unique contribution to the uplifting of hundreds of millions of people from poverty, illiteracy and disease.

The problems of the Third World are not only those of famine. They face also a mounting burden of debt, falling prices for primary products, protectionism by the industrialized countries.

Some of the remedies are in the hands of the developing countries themselves. They can open their markets to productive investment. They can pursue responsible policies of economic adjustment—we should respect the courage and resolve with which so many of them have tackled their special problems. But we also have a duty to help.

How? First, and most important, by keeping our markets open to them. Protectionism is a danger to all our trading partnerships. For so many countries, trade is even more important than aid . . . .

The current strength of the dollar . . . creates obvious pressures for "special cases," for new trade barriers to a free market. I am certain that your administration is right to resist such pressures.

To give in to them would betray the millions in the developing world, to say nothing of the strains on your other trading partners. The developing countries need our markets, as we need theirs.

We cannot preach economic adjustment to them and refuse to practice it at home.

Second, the way in which we in the developed countries manage our economies:

- Determines whether the world's financial framework is stable;
- Determines the level of interest rates;
- Determines the amount of capital available for sound investment the world over;
- Determines whether or not the poor countries can service their past loans, let alone compete for new ones . . . .

We in Europe have watched with admiration the burgeoning of this mighty American economy. There is a new mood in the United States . . . . The resurgence of your self-confidence and your national pride is almost tangible. Now the sun is rising in the West . . . .

So the British economy has an underlying strength. And, like you, we use our strength and resolve to carry out our duties to our allies to the wider world.

We were the first country to station cruise missiles on our territory. Britain led the rest.

In proportion to our population, we station the same number of troops as you in Germany.

In Central America we keep troops stationed in Belize at that government's request. That is our contribution to sustaining democracy in a part of the world so vital to the United States.

We have troops in Cyprus and in the South Atlantic and a small force in the Sinai at your request. British servicemen are now on secondment to some 30 foreign countries. We were alongside you in Beirut. We work with you in the Atlantic and in the Indian oceans. Our navy is on duty across the world.

Britain meets her responsibilities for the defense of freedom throughout the world. She will go on doing so . . . .

Nor will the problems of Northern Ireland be solved by the assassin's gun or bomb.

[Irish Prime Minister] Garret FitzGerald and I and our respective governments are united in condemning terrorism.

We recognize the differing traditions and identities of the two parts of the community in Northern Ireland, the nationalist and the unionist. We seek a political way forward acceptable to them both and which respects them both.

So long as a majority of the people of Northern Ireland wish to remain part of the United Kingdom, their wishes will be respected. If ever there were to be a majority in favor of change, then I believe that our Parliament would respond accordingly.

For that is the principle of consent, enshrined in your Constitution and an essential part of ours.

There is no disagreement on this principle between the United Kingdom government and the government of the Republic of Ireland.

Indeed, the four constitutional nationalist parties of Ireland, North and South, who came together to issue the New Ireland Forum Report made clear that any new arrangements could only come about by consent. I welcome, too, their outright condemnation and total rejection of terrorism . . . .

Be under no illusions about the Provisional IRA [Irish Republican Army]. They terrorize their own communities. They are the enemies of democracy, and of freedom, too.

Do not just take my word for it: Ask the people of the Irish Republic—where it is an offense even to belong to that organization—or their elected government in Dublin.

I recognize and appreciate the efforts which have been made by administration and Congress alike to bring home this message to American citizens who may be misled into making contributions to seemingly innocuous groups. The fact is, that money is used to buy the deaths of Irishmen, north and south of the border—and 70 percent of those killed by the IRA are Irishmen—and even the killing . . . of American citizens visiting our country.

Garret FitzGerald—and I salute him for the very brave thing he did yesterday in passing a special law to see that money did not get to the IRA—Garret FitzGerald and I will continue to consult together in the quest for stability and peace in Northern Ireland.

We hope we will have your continued support for our joint efforts to find a way forward . . . .

Japanese Agree to 'Star Wars' Research

Special to The New York Times

TOKYO, Sept. 9 — Japan gave its long-awaited approval today to the Reagan Administration's space-based antimissile program, paving the way for possible involvement by Japanese industry and Government research agencies.

But the Government stopped short of guaranteeing Japanese participation, and said that important details, including the commercial benefits Japan could expect, still had to be negotiated with Washington.

Even if a broad agreement is reached, a senior Foreign Ministry official said, individual companies and research institutions will decide whether to join the American effort, the Strategic Defense Initiative, which is informally called 'Star Wars.'

The announcement was welcomed by Japanese high-technology companies, but denounced by the political opposition and antinuclear groups. The leading opposition force, the Socialist Party, accused the Government of joining "a strategy that expects to make the globe and space a battlefield."

But the Foreign Ministry official said, "We think that strategically, politically and technologically, S.D.I. is a sound program." He insisted, however, that the Government would "neither encourage nor discourage" corporate participation.

What the decision today did, he said, was to "eliminate some fears that might have existed among these corporate executives that they might be joining an unpopular project." Private companies never needed Government approval to negotiate with the Americans, he said, but "my common sense tells me not many" would get involved without "our blessing."

The Government's decision came in a statement read by the Chief Cabinet Secretary, Masaharu Gotoda. The statement called the American plan a "nonnuclear defensive system" that "would possibly contribute to the deterrence of not only the United States but the West as a whole, including Japan." Taking part in it would enhance "mutual cooperations between our two countries," Mr. Gotoda said, adding that "it may have substantial effects on the progress of related technologies in our country."

That last point touched on the critical issue for Japanese business leaders.

They are concerned that if they do not join the project they will miss out on new technologies that may emerge. But they also worry about "one-sided contracts" that would effectively leave patents in American hands, depriving them of a chance to make commercial use of new technology.

The Foreign Ministry official said that while engineers and technicians seemed enthusiastic about the project, company executives were inclined to forego participation "if the research results cannot be applied to their civil product marketing."

The goal of future talks with the United States, he said, will be to win "as much flexibility as possible" for these Japanese companies.

No timetable for negotiations has been set, he added.

All along, Prime Minister Yashuhiro Naksasone has been an ardent supporter of the project, although publicly he confined himself to deliberately vague statements. Others in his Government do not share his enthusiasm, including the Defense Agency, which sees few tangible gains for itself.

An important obstacle for Mr. Nakasone was a 1969 parliamentary resolution requiring that Japanese space projects be "limited to peaceful objectives." To many Japanese, that means strictly nonmilitary purposes.

In his statement, Mr. Gotoda insisted that the Reagan Administration program was "not inconsistent" with the 1969 resolution. He did not elaborate, but the Foreign Ministry official said the Government position was that the resolution covered Japanese programs and not projects "initiated by somebody else."

The United States has not said specifically what kind of technological help it wants from Japan. According to Government officials, Japan would probably be limited to weapons components, with exchanges carried out under a 1983 agreement authorizing the transfer of Japanese technology for American military purposes.

Given how sensitive many Japanese are about the arms race and nuclear weapons, no attempt would be made to enact a new secrecy law to cover research, officials said.

The conditional agreement today to join the American program, came after 18 months of Government statements and actions to prepare the Japanese public for the decision. Six sub-Cabinet meetings were held on the matter and three study teams of Government officials and industry executives were sent to the United States.

The last mission reported back that participation in 'Star Wars' would produce "significant technological spinoffs" for Japanese industry.

THE WASHINGTON TIMES MARCH 6, 1985

'Star wars' plan backed by Italian

WASHINGTON — Italian Prime Minister Bettino Craxi came to the White House for lunch Tuesday and departed endorsing President Reagan's space weapons research.

Today, Craxi — like British Prime Minister Margaret Thatcher two weeks ago — addresses a joint session of Congress to urge support for the president's policies.

He is the first high-ranking Italian official to speak to Congress since President Antonio Segni in 1964.

Craxi, who recently met with Soviet Foreign Minister Andrei Gromyko, told Reagan the Russians are studying Star Wars.

And he urged the president to keep the allies informed of progress in the arms control talks so the Soviets can't drive a wedge between them.

THE WASHINGTON POST
MARCH 21, 1985

Kohl: Europeans Need Joint 'Star Wars' Stand

Unity Seen Boosting Influence on Project

By William Drozdiak
Washington Post Foreign Service

BONN, March 20—West German Chancellor Helmut Kohl urged the European allies of the United States today to develop a joint approach to President Reagan's Strategic Defense Initiative in order to influence future decisions on its possible deployment.

In an effort to reconcile differences in Europe as well as in his own government about the controversial program, Kohl said it was essential to keep open any commitment to build a space-based missile defense system in order to enhance prospects for early agreements at the Geneva arms talks that would involve deep cuts in strategic and medium-range nuclear weapons.

Kohl stressed that if the Geneva negotiations succeed in making drastic cuts in offensive nuclear arms in both East and West, the "deployment of space-based systems could become increasingly superfluous."

Speaking to the annual congress of his Christian Democratic Party in Essen, Kohl said, "We will continue to advocate that the Europeans develop a joint position and that they bring this to bear with our American allies."

The Reagan administration's determination to proceed with a $26 billion research program into space-based defense over the next five years has evoked mixed emotions in Europe.

While acknowledging that the so-called Star Wars project was probably a key factor in bringing Moscow back to the arms control talks, the European allies have expressed concern that the program might develop such momentum that antimissile technology soon could be deployed that would undercut western deterrent strategy.

Allied leaders have ostensibly backed U.S. research to counter the Soviet Union's own space defense experiments, but they have also warned that an uncontrolled spiral in offensive and defensive weapons systems could jeopardize the North Atlantic Treaty Organization's cohesion as well as their own national interests.

Britain and France are worried that a leap toward new antimissile defenses or more effective nuclear weaponry could render obsolete their small nuclear-missile forces, based on land and sea, that are now poised to undergo expensive modernization.

West Germany is concerned that vast infusions of money into SDI eventually would divert resources from NATO forces in Central Europe, thus upsetting the conventional balance.

West German Foreign Minister Hans-Dietrich Genscher, echoing reservations voiced by British Foreign Secretary Geoffrey Howe last week, warned Monday that the United States and its European allies "must not be decoupled through technological innovation."

"Absolutely nothing must be allowed to endanger the high moral goal" of deterrence, Genscher said. "Every new development must therefore be examined to see whether it brings us closer to the goal of preventing war."

Despite Foreign Ministry denials of a rift between himself and Genscher on the potential repercussions of SDI, Kohl appears to have adopted a more sanguine perspective toward the project. He has endorsed research into space-based defense but wants the European allies to share in the economic and technological spinoffs that emerge from the U.S. program, according to his aides.

Senior chancellery officials said Kohl's call for a joint European approach to SDI reflected his conviction that the allies would gain a greater voice in ultimate decisions on deploying space-based systems if they became actively involved in the research phase.

Officials in Bonn's defense and research ministries also have argued that since the Reagan administration appears determined to press ahead with its massive research program, West Germany should seek to reap economic benefits by proposing its own contributions to the project.

Such tasks might include advanced research in optic lasers, space sensors and other fields that would serve to bolster Europe's high-technology industries.

Kohl is also persuaded, a top adviser said, that the Geneva arms talks will secure deep cuts in the superpowers' nuclear arsenals only if Moscow is prodded toward an agreement by the risk that SDI will yield enormous technological advantages for the West.

Kohl appealed in his speech for both the United States and the Soviet Union to channel their mutual research efforts into antimissile systems to lead to cooperative agreements that would strengthen the 1972 antiballistic missile treaty and forestall an arms race in space.

He said the opening of the Geneva arms talks last week augured well for a more enduring era of detente but contended that this could happen only if the smaller countries in Eastern and Western Europe were permitted to develop their own independent relations.

In a clear admonition to Moscow not to interfere with Bonn's efforts to promote better contacts with Eastern Europe, Kohl said, "Whoever tries to hinder this [dialogue] will raise questions about the credibility of his political intentions."

Kohl also urged the new Soviet leader, Mikhail Gorbachev, to fulfill promises he made during a meeting in Moscow last week for an imminent improvement in Soviet-West German relations.

Italy Signs Strategic Defense Initiative Agreement

By SERGIO A. ROSSI
Special to Defense News

ROME — Pressed by Italy's political left in Parliament last Wednesday, Foreign Minister Giulio Andreotti and Defense Minister Giovanni Spadolini issued advance word of the government's imminent agreement with the United States to participate in the Strategic Defense Initiative (SDI).

A memorandum of agreement signed Friday in Washington states that Italian industries and research centers will participate in SDI, the Reagan administration's effort to devise a defense against attacking ballistic missiles.

In Washington, Italian authorities insisted that the event be low-key. The memorandum was signed in a closed Pentagon meeting by Renato Ruggiero, secretary general of the Foreign Ministry, and Adm. Mario Porta, secretary general of the Defense Ministry. U.S. Defense Secretary Caspar Weinberger signed for the United States. Sensitive to objections from some domestic political factions, Ruggiero and Porta declined to meet afterward with news reporters or photographers.

Andreotti and Spadolini told the Italian parliament on Wednesday about the pending agreement in reply to an interrogation by the communist and radical parties. The interrogation was based on news published by the Italian press last week that an SDI agreement between Washington and Rome had been reached last month and only needed to be signed.

The memorandum of understanding was signed at what authorities here described as the "technical level." The Italian government repeatedly has stated that it considers participation in SDI research to be in the national interest, but this will not mean an unconditional approval of the political and strategic implications of SDI. Such implications are difficult to evaluate at this early stage, Andreotti said last Wednesday. Also, SDI must be discussed in NATO and in the Western European Union (WEU).

Thus, Italy will be the fourth ally of the United States to officially join the SDI program. Britain, West Germany and Israel have signed agreements to participate. Japan has announced its intention to sign an agreement.

The Italian decision on SDI was prompted by two factors that outweighed domestic opposition by the left. First, Rome looked to be the last ally of the United States to jump on the SDI bandwagon. So it found little room for relevant research contracts.

Also, the recent Glenn amendment approved by the U.S. Senate to reserve SDI contracts for U.S. companies was deemed by the Italian foreign minister as unacceptable and would be countered by a free competition among industries of all Western allied countries.

Sergio A. Rossi is a Rome reporter who specializes in defense issues.

SDI AND ARMS REDUCTIONS

Executive Summary

As the arms talks in Geneva have continued, so has the debate over the SDI program. The Soviets have continued to publicly call for an end to the program, while the United States has forcefully defended SDI and its goals. While there reportedly has been some movement at the talks, the two sides are currently reported as having major differences.

This chapter reviews the current developments in Geneva and, in particular, focuses on the impact of American and Soviet proposals on SDI. In recent months, the talks have reportedly focused more and more on whether to extend the Anti-Ballistic Missile (ABM) Treaty of 1972 and to what extent research, development and testing of a missile defense system would be permitted under the existing Treaty (or a revised one). In addition, a great deal of discussion has reportedly taken place on the amount and type of reduction in offensive weapons that might be part of any future agreement, but the two sides reportedly remain far apart.

The President and SDI supporters note that SDI cannot and should not be viewed as a "bargaining chip" -- a system that is under development merely for the purpose of trading it away at the negotiating table. The United States remains firmly committed to continuing the program and moving ahead on it, and the President has made it clear that the Geneva talks will not impact on SDI research and development. Deployment, he has said, should be a matter

of discussion. At the same time, it is important to note that SDI has had an impact at the Geneva talks: most observers agree that the Soviets have begun to bargain more seriously about offensive arms reductions as the SDI program has continued. In short, SDI has enabled the U.S. to bargain from a position of strength, and continuation of the program will permit our negotiators to continue bargaining from a stronger position.

This chapter also explores the American response to the Soviet charge that some SDI testing involves a violation of the existing ABM Treaty of 1972. The United States disputes this, saying that the correct interpretation of the treaty permits some elements of testing as part of research and development. The U.S. also points out the continuing probable Soviet violation of the ABM Treaty through its new radar installation in Siberia.

With SDI providing leverage that even its critics admit has gotten the Soviets to negotiate more seriously, it is important that the program continue in order to help achieve reductions in offensive nuclear arms.

SDI AND ARMS REDUCTIONS

"There can be little doubt about how important the accelerated development of our most advanced technology is for our national security. Without the threat that our SDI program apparently poses to the Soviets, for instance, I seriously doubt we would be witnessing the positive give-and-take on arms control matters that we see today."

-- Senator Robert Byrd (D-WV)
Senate Minority Leader
August 9, 1986

The debate over the Strategic Defense Initiative has often concerned whether SDI should -- or could -- be negotiated or "traded" for arms concessions from the Soviets in current arms talks. Yet the primary issue concerning SDI's role in arms negotiations control should be focused not onwhether the system should be a "bargaining chip;" but, rather, on this more fundamental point: Will continuation of the SDI research program enable us to ultimately achieve substantial reductions in offensive nuclear weapons?

The answer to that question is yes. By definition, SDI is a program that is intended, ultimately, to lead to a system of defense and, consequently, to reduce reliance by the U.S. and U.S.S.R. on offensive weapons.

President Reagan's position on SDI has been far more consistent than most critics would contend. Specifically, the President always has insisted that SDI research and development are not negotiable. Conversely, he has always

indicated that deployment of any potential strategic defense (a decision for SDI that would not be made until the 1990s) could be subject to negotiation.

The President's insistence that SDI research and development are non-negotiable is rooted in the fact that: (1) the United States, the President believes, should, at the minimum, review the feasibility of such a system; and (2) limitations on research and development are difficult to verify anyway; (3) the Soviets have had their own research & development program; and (4) research & development is not an ABM Treaty violation.

As President Reagan said during a July, 1986, radio speech:

> "We also have been moving ahead to modernize our strategic forces and, simultaneously, to reach fair and verifiable arms reduction agreements with the Soviet Union. The Soviets have yet to agree to arms reduction despite the strenuous efforts of several U.S. administrations. However, our SDI research to make nuclear missiles less effective also makes these missiles more negotiable. And when we talk about negotiations, let's be clear. Our SDI research is not a bargaining chip. It's the number of offensive nuclear missiles that need to be reduced, not the effort to find a way to defend mankind against these deadly missiles."

Overall, this chapter presents an update on the current status of arms negotiations. As with any time-sensitive report, it is important to emphasize that some of the proposals and positions outlined will undoubtedly change over time as the U.S. and Soviets continue efforts in Geneva and plans for the next summit. Nonetheless, it is important to note that, while SDI has been discussed in more detail in recent American and Soviet proposals, the President still strongly believes that the research and development phase

-- which is the program he outlined in March, 1983 -- can and will go forward independent of these superpower discussions.

There also is a growing bipartisan consensus in Congress that the R&D phase for SDI should go forward. The debate in 1986 has focused more on funding levels and less on the "need" for a strategic defense research program. In fact, a bipartisan group of 46 Senators, many of whom are the strongest opponents of SDI, nonetheless said in a letter to Senator Barry Goldwater:

> "We support a vigorous ballistic missile defense research program which conducts research into innovative technologies. Such a program is necessary to hedge against Soviet breakout from the ABM Treaty, to protect the U.S. from technological surprises, and to maintain an array of strategic options including strategic defense."

ARMS CONTROL "LEVERAGE" OR "BARGAINING CHIP?"

President Reagan has repeatedly stated that SDI is not a "bargaining chip." Yet, at the same time, he says that SDI has given the United States extra leverage at the ongoing arms reduction talks in Geneva. As an example, he points to recent Soviet proposals that, for the first time, offer substantial reductions in offensive nuclear weapons. Even though the current Soviet proposals are far from acceptable for the United States' security, President Reagan notes that SDI has, for the first time, brought the Soviets to propose the kinds of offensive arms reductions that the United States is seeking.

So how can SDI provide "leverage" at Geneva without being a "bargaining chip?"

The point that the President and SDI supporters make repeatedly about arms reduction is that SDI helps the United States negotiate from a position of strength -- it provides "leverage." But it is not a "bargaining chip;" i.e. a defense program being undertaken solely with the objective of having it traded away.

Representative Les Aspin has echoed this approach (although it should be noted that he has also called upon the Administration to "speak with one voice" on SDI). Said Aspin in a January, 1985 speech:

> "Obviously, if Congress unilaterally eliminates those weapons that the Soviets want eliminated, there is no reason for the Soviets to bargain away any of their weapons that we want to see eliminated."

In short, SDI does help our bargaining position in Geneva -- and it has already brought some concrete changes and proposals from the Soviets. Yet it must be understood that SDI can never be a "bargaining chip" whereby its sole purpose is to be traded away. This will not happen. The goals of SDI are an elimination of offensive weapons, and the only way that will occur is if the research and development program goes forward.

THE CURRENT ENVIRONMENT

On July 25, 1986, President Reagan proposed a major arms control initiative in response to proposals made by Soviet Chairman Mikhail Gorbachev. The Gorbachev proposals had been originally offered at the negotiations in Geneva on June 11, 1986.

The Soviet proposal delivered in Geneva was their first proposal indicating that they would be willing to talk about a reduction in strategic offensive weapons. According to published reports, the Administration attributes this change in heart to three major factors: (1) the change in leaders in the Kremlin; (2) the President's continued modernization of U.S. strategic forces since 1980, which has given the U.S. a stronger negotiating position; and (3) the technological advancements of the Strategic Defense Initiative. Specifically, the Soviets proposed:

-- a roughly 1/3 reduction in nuclear warheads by both sides;

-- a 15-20 year extension of the 1972 Anti-Ballistic Missile Treaty (which currently has no expiration date but can be broken off by either side with six months notice);

-- an acknowledgement that research on SDI would not violate ABM;

-- for the first time, dropped insistence that forward-based missiles (U.S. bombers based in Europe and on carriers) be reduced as part of a treaty, but proposed a limitation on the number of forward-based missiles;

-- an end to their insistence on a ban for all long-range air-launched cruise missiles (ALCMs). Sea-launched cruise missiles could be permitted on submarines.

In short, the key element of this Soviet proposal is a "trade-off" between a major reduction of nuclear warheads in exchange for guarantees against deployment of SDI (through extension of the 1972 ABM Treaty).

President Reagan's July 25th response was positive in tone, and although his letter has not been made public, according to published news accounts it reportedly proposes:

-- A 7½-year extension or replacement of the 1972 Anti-Ballistic Missile Treaty. This includes a five-year research period after which time SDI would be assessed for feasibility. If SDI is determined feasible, there would be a two-year transition period for both the U.S. and the Soviets to gradually switch to a nuclear policy based on defense. If no agreement is reached after the seven-year period, then either side could unilaterally withdraw from adherence to ABM through the six-month kick-out clause. The two-year transition period in the Reagan proposal is the most critical. The balance of power must remain constant during a period of deployment of SDI for this approach to work.

-- A clause which would permit testing and development of any SDI elements as part of the ongoing research. The Soviets have not agreed to permit testing and development under their interpretation of ABM.

-- An offer to share "the benefits of SDI." This is a clarification of original statements implying that the United States would share SDI "technology."

-- A proposal that, in exchange for the ABM Treaty extension, each side would reduce strategic offensive weapons by 50%. A major U.S. objective is to limit the Soviet SS-24 ICBM which has the capability of carrying up to 10 warheads.

-- Improved verification of underground nuclear testing.

-- Reductions to zero in intermediate range nuclear weapons on a "global" basis (which would include Europe and Asia). The U.S. has implied that it would cut a portion of the Pershing II NATO deployment in Europe in exchange for reductions in the Soviet SS-20 missile arsenal.

In addition, the Reagan proposal reportedly contains offers to reduce conventional forces, eliminate chemical weapons, halt nuclear proliferation, and undertake a joint U.S./Soviet space exploration effort. Finally, the President reportedly proposed cooperation in nuclear power plant safety (to avoid another Chernobyl and assist in ameliorating current damage).

Foreign policy experts make the following observations concerning the two first-round proposals:

-- The Soviet proposal does not offer much of a compromise on the chief U.S. concern about reducing the Soviet first-strike offensive capability. In fact, they have increased the number of warheads that would be allowed on land-based Soviet missiles -- from 3600 to 4800 -- supposedly to compensate for the lifting of the ban on sea-launched cruise missiles.

-- Gorbachev also is anxious to scale down the continued build-up of offensive weapons and to shift funding to the development of more conventional weapons. For example, the Soviets are currently building

three aircraft carriers. Many analysts believe that the current state of the Soviet economy cannot sustain continued funding of its strategic offensive weapons at current levels, along with a ballistic missile defense program and conventional weapons programs.

Beyond the political realities of Reagan's time remaining in office, he and Secretary of State Shultz realistically assess that now is the crucial time for negotiating an arms control agreement: the Soviet economic problems may improve chances for Soviet cooperation; the acknowledged "softening" in U.S./Soviet relations, brought partially about by rise to power of the new "Americanists" in the Kremlin, also may help; SDI is at the proper stage whereby it can serve as a powerful incentive to negotiate seriously; and, finally, the Soviets fear that new technological alliances between the U.S. and our allies, France, West Germany and Japan could result in scientific advances that they can not match.

SDI AND THE ABM TREATY

> "SDI is not a bid for strategic superiority; on the contrary, it would maintain the balance, in light of the rapid Soviet progress in both offensive and defensive programs. Nor is SDI an abrogation of the ABM Treaty. President Reagan has directed that the research program be carried out in full compliance with the treaty. He has also made clear that any future decision would have to be a matter of negotiation."
>
> -- Secretary of State George Shultz
> March 28, 1985

Some of the debate concerning the Strategic Defense Initiative has centered around Soviet charges that the program "violates" the Anti-Ballistic Missile (ABM) Treaty. The United States government rejects this charge as totally untrue, and further argues that the Soviets have, for years, been violating the ABM Treaty through installation of a second ABM defense in Siberia (see Chapter on the Soviet Defensive Programs).

In recent months, the Soviet's own position has been that SDI "research" does not violate ABM but that any testing (which the U.S. sees as part of its research effort) and any deployment would be a violation. As noted earlier in this section, the President (reportedly) has recently emphasized, in his counterproposal to Gorbachev, that testing of SDI elements should be permitted if there is any extension of the ABM Treaty.

THE SALT II TREATY

In May, 1986, President Reagan announced that the United States would no longer be bound by provisions of the unratified SALT II Treaty unless the Soviets take "constructive steps" toward ending their own violations of SALT II. Specifically, the United States has charged that Soviet deployments of the SS-25 missiles represent "new" ICBMs not permitted under SALT. In addition, the United States charges that Soviet codification of their telemetric data from missile tests is also a serious violation of the still unratified SALT II treaty.

The SALT II pact contains no provisions that directly impact the Strategic Defense Program. What proponents of SDI have argued, however, is that the history of Soviet violations on SALT II and the ABM Treaty make it more likely that the United States itself will take a "legally correct" view of the ABM Treaty rather than a restrictive one, in order to continue development and testing of the SDI program.

The Soviet history of non-compliance on major arms control agreements has led the Administration to insist on verification for any future agreements. The bipartisan support in Congress for strategic modernization and continued funding for SDI research is due, in part, to the Soviet record of violations (as well as our nation's own national security needs and the important SDI relationship to arms negotiations). In considering any future negotiations

or summit, it is important to note the President's often stated belief that SDI is not a "bargaining chip" -- i.e., something built simply to be traded away.

As the President believes -- and a bipartisan coalition in Congress has supported -- continuation of SDI research is essential to enhance the prospect of a reduction in offensive weapons and to offer the possibility of a future defense against nuclear weapons.

UNION OF SOVIET SOCIALIST REPUBLICS

Limitation of Anti-Ballistic Missile Systems

Treaty signed at Moscow May 26, 1972;
Ratification advised by the Senate of the United States of America August 3, 1972;
Ratified by the President of the United States of America September 30, 1972;
Ratified by the Union of Soviet Socialist Republics May 29, 1972;
Ratifications exchanged at Washington October 3, 1972;
Proclaimed by the President of the United States of America October 3, 1972;
Entered into force October 3, 1972.
With agreed interpretations, common understandings, and unilateral statements.

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

CONSIDERING THAT:

The Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems was signed at Moscow on May 26, 1972, the text of which in the English and Russian languages is annexed;

The Senate of the United States of America by its resolution of August 3, 1972, two-thirds of the Senators present concurring, gave its advice and consent to the ratification of the Treaty;

The President ratified the Treaty on September 30, 1972, in pursuance of the advice and consent of the Senate;

The instruments of ratification of the respective Parties were exchanged at Washington on October 3, 1972; and

The Treaty entered into force on October 3, 1972, the day of the exchange of the instruments of ratification, as provided in Article XVI of the Treaty;

NOW, THEREFORE, I, Richard Nixon, President of the United States of America, proclaim and make public the Treaty between the United States of America and the Union of Soviet Socialist Republics on the

Limitation of Anti-Ballistic Missile Systems to the end that it shall be observed and fulfilled with good faith on and after October 3, 1972, by the United States of America and by the citizens of the United States of America and all other persons subject to the jurisdiction thereof.

IN TESTIMONY WHEREOF, I have signed this proclamation and caused the Seal of the United States of America to be affixed.

DONE at the city of Washington this third day of October in the year of our Lord one thousand nine hundred seventy-two and of the Independence of the United States of America the one hundred ninety-seventh.

[SEAL]

RICHARD NIXON

By the President:
WILLIAM P ROGERS
Secretary of State

TREATY
BETWEEN THE UNITED STATES OF AMERICA
AND
THE UNION OF SOVIET SOCIALIST REPUBLICS
ON THE LIMITATION OF ANTI-BALLISTIC MISSILE SYSTEMS

The United States of America and the Union of Soviet Socialist Republics, hereinafter referred to as the Parties,

Proceeding from the premise that nuclear war would have devastating consequences for all mankind,

Considering that effective measures to limit anti-ballistic missile systems would be a substantial factor in curbing the race in strategic offensive arms and would lead to a decrease in the risk of outbreak of war involving nuclear weapons,

Proceeding from the premise that the limitation of anti-ballistic missile systems, as well as certain agreed measures with respect to the limitation of strategic offensive arms,[1] would contribute to the creation of more favorable conditions for further negotiations on limiting strategic arms,

---

[1] For interim agreement and protocol between the United States and the Soviet Union, signed May 26, 1972, see TIAS 7504; *post*, p. 3462.

Article XV

1. This Treaty shall be of unlimited duration.

2. Each Party shall, in exercising its national sovereignty, have the right to withdraw from this Treaty if it decides that extraordinary events related to the subject matter of this Treaty have jeopardized its supreme interests. It shall give notice of its decision to the other Party six months prior to withdrawal from the Treaty. Such notice shall include a statement of the extraordinary events the notifying Party regards as having jeopardized its supreme interests.

Article XVI

1. This Treaty shall be subject to ratification in accordance with the constitutional procedures of each Party. The Treaty shall enter into force on the day of the exchange of instruments of ratification.

2. This Treaty shall be registered pursuant to Article 102 of the Charter of the United Nations. [1]

---

[1] TS 993; 59 Stat. 1052.

Done at Moscow on May 26, 1972, in two copies, each in the English and Russian languages, both texts being equally authentic.

FOR THE UNITED STATES OF AMERICA: [1]

President of the United States of America

FOR THE UNION OF SOVIET SOCIALIST REPUBLICS: [2]

General Secretary of the Central Committee of the CPSU

[1] Richard Nixon
[2] L. I. Brezhnev

Mindful of their obligations under Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons,[1]

Declaring their intention to achieve at the earliest possible date the cessation of the nuclear arms race and to take effective measures toward reductions in strategic arms, nuclear disarmament, and general and complete disarmament,

Desiring to contribute to the relaxation of international tension and the strengthening of trust between States,

Have agreed as follows:

Article I

1. Each Party undertakes to limit anti-ballistic missile (ABM) systems and to adopt other measures in accordance with the provisions of this Treaty.

2. Each Party undertakes not to deploy ABM systems for a defense of the territory of its country and not to provide a base for such a defense, and not to deploy ABM systems for defense of an individual region except as provided for in Article III of this Treaty.

---

[1] TIAS 6839; 21 UST 490.

Article II

1. For the purposes of this Treaty an ABM system is a system to counter strategic ballistic missiles or their elements in flight trajectory, currently consisting of:

(a) ABM interceptor missiles, which are interceptor missiles constructed and deployed for an ABM role, or of a type tested in an ABM mode;

(b) ABM launchers, which are launchers constructed and deployed for launching ABM interceptor missiles; and

(c) ABM radars, which are radars constructed and deployed for an ABM role, or of a type tested in an ABM mode.

2. The ABM system components listed in paragraph 1 of this Article include those which are:

(a) operational;

(b) under construction;

(c) undergoing testing;

(d) undergoing overhaul, repair or conversion; or

(e) mothballed.

Article III

Each Party undertakes not to deploy ABM systems or their components except that:

(a) within one ABM system deployment area having a radius of one hundred and fifty kilometers and centered on the Party's national capital, a Party may deploy: (1) no more than one hundred ABM launchers and no more than one hundred ABM interceptor missiles at launch sites, and (2) ABM radars within no more than six ABM radar complexes, the area of each complex being circular and having a diameter of no more than three kilometers; and

(b) within one ABM system deployment area having a radius of one hundred and fifty kilometers and containing ICBM silo launchers, a Party may deploy: (1) no more than one hundred ABM launchers and no more than one hundred ABM interceptor missiles at launch sites, (2) two large phased-array ABM radars comparable in potential to corresponding ABM radars operational or under construction on the date of signature of the Treaty in an ABM system deployment area containing ICBM silo launchers, and (3) no more than eighteen ABM radars each having a potential less than the potential of the smaller of the above-mentioned two large phased-array ABM radars.

Article IV

The limitations provided for in Article III shall not apply to ABM systems or their components used for development or testing, and located within current or additionally agreed test ranges. Each Party may have no more than a total of fifteen ABM launchers at test ranges.

Article V

1. Each Party undertakes not to develop, test, or deploy ABM systems or components which are sea-based, air-based, space-based, or mobile land-based.

2. Each Party undertakes not to develop, test, or deploy ABM launchers for launching more than one ABM interceptor missile at a time from each launcher, nor to modify deployed launchers to provide them with such a capability, nor to develop, test, or deploy automatic or semi-automatic or other similar systems for rapid reload of ABM launchers.

Article VI

To enhance assurance of the effectiveness of the limitations on ABM systems and their components provided by this Treaty, each Party undertakes:

(a) not to give missiles, launchers, or radars, other than ABM interceptor missiles, ABM launchers, or ABM radars, capabilities to counter strategic ballistic missiles or their elements in flight trajectory, and not to test them in an ABM mode; and

(b) not to deploy in the future radars for early warning of strategic ballistic missile attack except at locations along the periphery of its national territory and oriented outward.

Article VII

Subject to the provisions of this Treaty, modernization and replacement of ABM systems or their components may be carried out.

Article VIII

ABM systems or their components in excess of the numbers or outside the areas specified in this Treaty, as well as ABM systems or their components prohibited by this Treaty, shall be destroyed or dismantled under agreed procedures within the shortest possible agreed period of time.

Article IX

To assure the viability and effectiveness of this Treaty, each Party undertakes not to transfer to other States, and not to deploy outside its national territory, ABM systems or their components limited by this Treaty.

Article X

Each Party undertakes not to assume any international obligations which would conflict with this Treaty.

Article XI

The Parties undertake to continue active negotiations for limitations on strategic offensive arms.

Article XII

1. For the purpose of providing assurance of compliance with the provisions of this Treaty, each Party shall use national technical means of verification at its disposal in a manner consistent with generally recognized principles of international law.

2. Each Party undertakes not to interfere with the national technical means of verification of the other Party operating in accordance with paragraph 1 of this Article.

3. Each Party undertakes not to use deliberate concealment measures which impede verification by national technical means of compliance with the provisions of this Treaty. This obligation shall not require changes in current construction, assembly, conversion, or overhaul practices.

Article XIII

1. To promote the objectives and implementation of the provisions of this Treaty, the Parties shall establish promptly a Standing Consultative Commission, within the framework of which they will:

(a) consider questions concerning compliance with the obligations assumed and related situations which may be considered ambiguous;

(b) provide on a voluntary basis such information as either Party considers necessary to assure confidence in compliance with the obligations assumed;

(c) consider questions involving unintended interference with national technical means of verification;

(d) consider possible changes in the strategic situation which have a bearing on the provisions of this Treaty;

(e) agree upon procedures and dates for destruction or dismantling of ABM systems or their components in cases provided for by the provisions of this Treaty;

(f) consider, as appropriate, possible proposals for further increasing the viability of this Treaty, including proposals for amendments in accordance with the provisions of this Treaty;

(g) consider, as appropriate, proposals for further measures aimed at limiting strategic arms.

2. The Parties through consultation shall establish, and may amend as appropriate, Regulations for the Standing Consultative Commission governing procedures, composition and other relevant matters.

Article XIV

1. Each Party may propose amendments to this Treaty. Agreed amendments shall enter into force in accordance with the procedures governing the entry into force of this Treaty.

2. Five years after entry into force of this Treaty, and at five year intervals thereafter, the Parties shall together conduct a review of this Treaty.

Bargaining Over Arms: How Kremlin and White House Proposals Compare

The Soviet Union has recently made some significant shifts in its position at the Geneva arms talks. Administration officials say that the Soviet offers still cannot be accepted in their entirety, but that they may pave the way for progress in the talks. Some previous offers, such as the U.S. offer on medium-range forces and the Soviet offer on strategic forces and the Strategic Defense Initiative, remain on the negotiating table as an alternative approach. Here is how the latest Soviet offers compare with previous proposals and with past and present ones from the United States.

	Soviet positions		U.S. positions	
	Latest	**Previous**	**Latest**	**Previous**
Strategic weapons				
Total number of missile launchers and bombers	1,600 for each side (but would also freeze U.S. medium-range forces in Europe and fighter-bombers on aircraft carriers close to the Soviet Union)	U.S.: 1,680 (would count U.S. medium-range forces in Europe and fighter-bombers on aircraft carriers close to the Soviet Union), Soviet: 1,250	Breaks them down as indicated below	Breaks them down as indicated below
Intercontinental ballistic missiles (ICBM's) and submarine-launched ballistic missiles (SLBM's)	Included in totals for all missiles and bombers	Same	1,250-1,450 for each side	1,250 for each side
Long-range bombers	Included in totals for all missiles and bombers	Same	350 for each side, including Soviet Backfires	400 for each side, including Backfires
All missiles and bomber warheads	8,000 for each side	6,000 for each side	Broken down as indicated below	Same
ICBM and SLBM warheads	Included in total for all warheads and bombs	Same	4,500 for each side	5,000 for each side
Long-range air-launched and sea-launched cruise missiles (ALCM's and SLCM's)	Limits long-range ALCM's and SLCM's on submarines. Bans long-range cruise missiles on ships.	Bans all long-range ALCM's and SLCM's	1,500 ALCM's for each side. Does not address SLCM's	Implicit limit of 8,000 ALCM's for each side. Does not address SLCM's
Limits on ICBM warheads	4,800 for each side	3,600 for each side	3,000 for each side	2,500 for each side
Missile throw weight	No proposal; reductions would follow from overall cuts	Same	Reduces Soviet throw-weight by 50 percent, to about 3,000 tons for each side	About 2,000 tons for each side
New systems	Bans all new types of ICBM's, SLBM's and bombers with cutoff dates to be negotiated	Same	Bans all new "heavy" ICBM's (modernized Soviet SS-18) and mobile missiles (modernized Soviet SS-24, SS-25 and U.S. Midgetman)	Bans all new "heavy" ICBM's (such as Soviet SS-18)
Medium-range forces	Eliminates all U.S. and Soviet medium-range missiles in Europe, freezes Soviet SS-20 missiles in Asia. British and French must agree to limit their missiles to current levels. U.S. must agree not to transfer missiles to "third parties" such as Britain. Does not limit short-range missiles.	Equal number of warheads for U.S., British and French forces. No increase in Asian based SS-20's if "strategic situation" unchanged. Same on short-range missiles. U.S. allowed 100 to 120 ground-launched cruise missiles, but Pershing 2 missiles banned.	A 3-part plan calling for eventual elimination of all U.S. and Soviet medium-range missiles in three years. Short-range systems would be restricted. British and French systems excluded.	A limit of 140 on U.S. and Soviet medium-range missiles in Europe. Total number of warheads would be between 420 and 450 for each side. Proportional reductions of Soviet missiles in Asia.
Strategic Defense Initiative	Each side to pledge not to withdraw from ABM treaty for period of 15 to 20 years. Some anti-missile research can be conducted in laboratory. Proposes a strict interpretation of ABM treaty terms in order to block significant testing of ABM systems in space. Ban on anti-satellite weapons	A ban on all "Star Wars" research, including that in laboratory.	Rejects notion that progress on reducing arms should be contingent on limits on anti-missile research. Seeks to discuss a cooperative transition to a world in which both sides have anti-missile defenses	Same

Sources: Arms Control Association, Reagan Administration officials and Soviet and American Government statements.

Reagan Polishes a Response to Gorbachev

Moving Inch by Inch on Arms Control

By LESLIE H. GELB

WASHINGTON

AFTER six and a half years, the Reagan Administration and the Russians are finally engaged in what officials and diplomats here say is the beginning of a serious bargaining process on arms control. And, despite substantial differences, there were strong signals last week of both sides' willingness to compromise.

The focal point was President Reagan's draft letter to Mikhail S. Gorbachev, the Soviet leader. The draft was said to contain some new responses to Soviet proposals on the future of space-based missile defenses and on deep cuts in offensive nuclear forces. But there also was a good deal of action in Geneva, where delegations of experts from Washington and Moscow met to talk about the future of the 1979 strategic arms limitation pact and the future of nuclear testing.

Three Points Emerge

In all of this activity, three points stand out: First, Mr. Reagan and Mr. Gorbachev are engaged with each other on a broad foreign policy front — in direct letters, through embassies and third parties and through their diplomats talking about such matters as southern Africa and especially arms control. Second, the positions of the two sides on virtually all the arms control issues is still very far apart, especially on the President's Strategic Defense Initiative, the space-based defense system also known as "Star Wars." Third, differences notwithstanding, there were signals of willingness to compromise. Especially on Mr. Reagan's part, the signals still point to a desire to hold a summit later this year. And at week's end United States officials seemed optimistic at the announcement that Secretary of State George P. Shultz would meet tomorrow with a ranking Soviet official to discuss an agenda for a Reagan-Gorbachev meeting.

The key to the situation was Mr. Reagan's draft letter, a response to a letter from Mr. Gorbachev received on June 23. Administration envoys fanned out around the world to consult and reported that the allied response to the draft was very positive. Mr. Reagan considered those reactions before he sent the letter to Moscow on Friday. This is what a variety of officials, often with conflicting interests, have disclosed about the draft so far on the key issue of space-based missile defenses. Mr. Reagan's goal remains securing Moscow's agreement to deploy such weapons. And he is giving Moscow a choice: Either stay with the 1972 Antiballistic Missile Treaty, which permits withdrawal from observance and deployment of new systems on six months' notice, or sign a new treaty that would delay the deployments as much as seven years, after which the two sides could deploy jointly or the United States would go ahead alone. This stands in contrast to Moscow's proposal for an agreement to delay for 15 to 20 years the deployment of any new anti-ballistic missile systems, including space-based systems. But the gap between the United States proposal for a maximum delay of seven years and the Soviet proposal for a minimum delay of 15 years may be smaller than it seems. This is because the United States is not expected to have any such systems ready for actual deployment until 1995, that is, nine years from now, rather than seven.

Mr. Reagan's draft is also said to state that, while the deployment of a space-based defense is delayed, he intends to proceed with research, development and testing of new technologies it would use. This, too, is far from Moscow's demand that work be limited to laboratory research.

The President's Dream

The Administration officials who want to move on arms control argue that critics should not look at the details. Focus, they say, on the fact that the President for the first time has indicated a willingness to bargain about his defense dream. The anti-arms control officials say the focus should be on the fact that Mr. Reagan still wants Moscow to join him in making the dream a reality, but they admit that the White House is on the slippery bargaining slope. They content themselves, for the moment, with the fact that the slope is still very long.

In recent months the bargaining between the two nations has come to center more and more on arms control, a tendency the Reagan Administration has resisted for many years. The White House pressed for at least equal attention to regional disputes and human rights. But Mr. Gorbachev has been a skillful diplomat, and Administration officials admit that Mr. Reagan has now found himself having to play the arms control game.

THE WALL STREET JOURNAL
August 25, 1986

New Reagan Gambit on Arms Control Is a Tall Order for Russians to Accept

FOREIGN INSIGHT

By JOHN WALCOTT
Staff Reporter of THE WALL STREET JOURNAL

WASHINGTON—That old radical, Ronald Reagan, is at it again.

First he tried to turn American economic policy on its head. Now he wants to revolutionize the equally dismal science of arms control. Mr. Reagan's startling suggestion in a letter to Soviet leader Mikhail Gorbachev that the superpowers scrap the hearts of their nuclear arsenals and cooperate in developing Star Wars defenses is every bit as radical, in its own way, as his abiding faith in tax cuts.

Whether the Soviets can be persuaded to go along with the president's vision isn't clear, but once again, Mr. Reagan is gambling that by changing the rules of the game he can succeed where his predecessors have failed.

A Two-Way Gamble

It is a high-stakes gamble in two ways. Not only is Mr. Reagan hoping that his offer will break the logjam in the arms talks instead of breaking the back of arms control, he is betting that his vision of a missile-defense shield can provide a more stable foundation for superpower relations than the current balance of nuclear terror.

There are two potential problems with this logic. The first is technological: It is not yet clear that Star Wars defenses can be effective and economical or that future developments in offensive weaponry—such as supersonic cruise missiles that are difficult to detect on radar—won't be able to foil them. The second is political: because the Soviet Union's claim to superpower status rests so heavily on Moscow's nuclear forces, the Soviets may be reluctant to abandon their big ballistic missiles and to put their faith in a defense developed jointly with their arch enemy.

Indeed, if Mr. Reagan is correct in his belief that the U.S.S.R. is by nature aggressive and expansionist, convincing the Kremlin to embrace his vision of the future may be a tall order, even for a great communicator.

Is Gorbachev Intrigued?

So far, it isn't clear what the Soviets have made of the new proposal. It flies in the face of 20 years of arms negotiations, during which progress always has been made inch by inch, not in giant steps. Even some of the president's senior advisers worry that introducing such a radical notion just when it appears the arms talks finally might bear fruit will convince Mr. Gorbachev that Washington isn't serious about arms control.

"The Soviets tend to be wary of new, far-reaching proposals," says Raymond L. Garthoff, an expert on U.S.-Soviet relations at the Brookings Institution, a Washington-based think tank. "They can't help but be suspicious."

So it is surprising that Mr. Gorbachev didn't reject the president's proposition out-of-hand, as the Soviets rudely torpedoed a much less ambitious Carter-administration proposal, made in 1977, for deep cuts in the superpowers' missile forces. That may be because Mr. Gorbachev is intrigued by some elements of the offer, or it may be because he's a savvy public relations man who wants to make sure it's the U.S. that is always saying *nyet* to new arms-control proposals.

Mr. Garthoff thinks the new Soviet leadership may be more willing to entertain new ideas than their predecessors. "They're probably scratching their heads and are divided about what to do," he says.

Radical as it is, the Reagan proposal does contain bait for the Soviets. It offers to negotiate a delay in deployment of strategic defenses and it invites a discussion of what kind of research and testing of missile defenses is permitted by the 1972 Anti-Ballistic Missile Treaty. Most important to Moscow, perhaps, it also suggests the U.S. is prepared to scrap what may be the most threatening weapon in its arsenal, the Navy's new D-5 missile, the first submarine-launched ballistic missile accurate enough to attack hardened Soviet missile silos and command bunkers.

But the president's July 25 letter to Mr. Gorbachev contains its share of barbed hooks, too. "It's a fairly shrewd formulation," says East-West relations expert Helmut Sonnenfeldt of the Brookings Institution.

As it's worded, the president's proposal would require the Soviets to accept Washington's claim that the ABM Treaty permits testing of space-based missile defenses. And it would give the U.S. carte blanche to deploy such defenses after 7½ years.

U.S. Hurt Less

Also, giving up ballistic missiles would hurt the U.S. less than the Soviets, who depend on them more. By contrast, the U.S. is the leader in such weapons as cruise missiles and stealth bombers, which would still be allowed under the plan.

There is plenty of room for negotiating, senior administration officials insist. But some hard-liners in the administration and Congress worry that Mr. Reagan has given up too much already. They fear that if Mr. Gorbachev makes some fuzzy promises at a summit to negotiate a deal five years from now along the lines of the president's letter, Congress will lose interest in underwriting the D-5, the MX missile, and other big-bucks weapons that later might be scrapped. Then, this nightmare goes, if the U.S. weren't able to field an effective missile defense anytime soon, the Soviets might be left with a decisive edge in nuclear weaponry.

Mr. Reagan is indeed betting heavily on his Strategic Defense Initiative and on his ability to convince the Soviets that developing new and unproven defenses is a better investment than simply perfecting more offensive weapons. He can only hope that time and technology will vindicate him.

The Washington Times MONDAY, JULY 14, 1986 / PAGE 5A

Reagan: 'Star wars' key to arms pact

By Jeremiah O'Leary
THE WASHINGTON TIMES

President Reagan said U.S. research to devise weapons that would destroy an enemy's ballistic missiles in flight will make it easier to negotiate a reduction in such missiles with the Soviet Union. But he told the nation in his weekly radio broadcast Saturday that the Soviets have yet to agree to arms reduction.

The president, who has not yet sent a formal reply to Soviet leader Mikhail Gorbachev's most recent arms proposal, reiterated his opposition to Soviet calls for termination of U.S. research on the Strategic Defense Initiative.

"Let's be clear. Our SDI research is not a bargaining chip," he said. "It's the number of offensive nuclear missiles that need to be reduced, not the effort to find a way to defend mankind against these missiles. Reliable defenses could also serve as insurance against cheating or breaking out of an arms reduction agreement."

The U.S. position at Geneva has always been that SDI is not negotiable and that verification of compliance with arms agreements is the answer to preventing treaty violations.

Mr. Reagan was optimistic about the progress made by the United States in SDI research in just over three years. "Even faster progress than expected has been made in developing the system's 'eyes' — scientists call them sensors — and its 'brains,' which guide an interceptor toward its target, and methods of stopping incoming missiles, especially with non-nuclear means," the president said.

Technological advances now permit the United States to detect and track an aggressor's missiles in the early flight, or boost phase, during which missiles must be intercepted and knocked out, he said.

Mr. Reagan said SDI will not be cheap, but is a prudent investment in a defensive system that can protect the nation and its allies against all ballistic missiles, nuclear or conventional.

"I'm sorry to say, however, that some members of Congress would take a short-sighted course, deeply cutting the funds needed to carry out this vital program," the president said. "In the weeks ahead, it would be a tragedy to permit the budget pressures of today to destroy this vital research program and undercut our chances for a safer and more secure tomorrow."

He noted that the Soviets have been racing forward since the early 1970s in a vast and continuing military buildup, including expansion of their offensive nuclear arsenal and an intense effort to develop their own strategic defense system. The Soviet Union also has deployed the world's only anti-ballistic missile system, known as the "Red Shield," he said.

"In stark contrast," Mr. Reagan said, "we are defenseless against the most dangerous weapons in the history of mankind. Our search for an effective defense is a key part of a three-pronged response to the Soviet threat. We also have been moving ahead to modernize our strategic forces and reach fair, verifiable arms reduction agreements with the Soviet Union."

THE WALL STREET JOURNAL
June 2, 1986

Reagan's Move on SALT II Could Lead To Effort to Loosen ABM Treaty Curbs

By Frederick Kempe
Staff Reporter of The Wall Street Journal

WASHINGTON—President Reagan's renunciation of the unratified SALT II agreement on offensive nuclear arms increases the likelihood that he also will rethink limits on defensive weapons that stand in the way of his space-based defense plans, U.S. officials said.

Mr. Reagan's Strategic Defense Initiative, or SDI, is on a collision course with the 1972 anti-ballistic missile treaty, which restricts the development of defensive systems. The president's SALT II decision was an important victory for those in the Pentagon who want to interpret the ABM treaty broadly to allow more comprehensive SDI testing. They want eventually to scrap the agreement altogether if space defense is shown to be feasible.

Opponents of the president's SALT II decision say Mr. Reagan has seriously set back any chance of progress on arms control during the rest of his administration. Opponents and proponents say the decision shows that the president considers SDI to be a far more important legacy to leave at the end of his term than arms control accords, and that he will risk losing a second summit with Soviet leader Mikhail Gorbachev to promote it.

Weinberger Comments

Defense Secretary Caspar Weinberger, appearing on CBS-TV's "Face the Nation," called SDI "the most hopeful prospect mankind has." He added: "The president's high priority that he assigns to that is, I think, absolutely right. . . . I'd like to see us develop a thoroughly reliable strategic defense initiative and deploy it."

Soviet negotiators at Geneva last week presented a new proposal, aimed at heading off apparent U.S. plans to interpret the restrictions of the 1972 ABM treaty more loosely. They offered to start reducing offensive nuclear weapons if the U.S. would agree to adhere to the treaty for 15 or 20 more years.

The proposal also would define more precisely permissible research and other technical aspects of the treaty so as to restrict the U.S. space defense program.

Secretary of State George Shultz, speaking on NBC-TV's "Meet the Press," wouldn't comment on the new Soviet proposal. He said U.S. policy was, for the moment, to stick to a restrictive interpretation of the treaty, but he added that legal experts have said that a far looser interpretation of the treaty would be possible.

Mr. Weinberger, however, said: "I don't want ever to agree to anything that attempts to define on their (Soviet) terms research, or attempts to prevent our doing the kinds of things necessary to see if we can develop and deploy an effective defense against Soviet missiles."

Those who favored the president's decision on SALT II say they hope the tough U.S. approach might force the Soviets to be more forthcoming at Geneva talks, and to comply more strictly with past arms agreements. A senior U.S. official, however, said many in the administration believe the president's decision was a victory for officials, such as Assistant Defense Secretary Richard Perle, who are said to believe that the Soviets aren't to be trusted and that arms agreements with Moscow only serve dangerously to lull the West.

The U.S. argues that Soviets have already violated SALT II by deploying a new intercontinental missile, the SS-25, and by taking steps that have hindered U.S. verification of Soviet compliance. The Soviets contest both assertions.

Under President Reagan, the U.S. has been adhering to SALT II. But last week Mr. Reagan said the U.S. no longer would feel bound to comply. At the same time, however, he agreed to dismantle two aging Poseidon submarines, thus assuring that the U.S. would remain in technical compliance despite the deployment of a new Trident submarine.

But the president added that the U.S. would continue to arm B-52s with cruise missiles without feeling obligated to make offsetting weapons cuts as would be required under the treaty. Congressional aides said the U.S. probably will exceed the treaty's arms limits late this year, when the 131st B-52 is so equipped.

"One shouldn't underestimate the importance of this decision," said Spurgeon Keeny, president of the Arms Control Association who has served on the Arms Control and Disarmament Agency during Democratic and Republican administrations. "The situation has never looked worse from the point of view of arms control. It casts a long shadow on the prospects of the ABM treaty."

Moscow's Restraint Cited

Moscow's restrained response to the president's SALT II announcement appeared designed to help the Soviets regain lost ground in international opinion at a time when U.S. allies are universally condemning the U.S. action. A West German government adviser said the Soviets have reacted "far less belligerently than we expected."

Moscow, he said, has tried to throw the ball back into the U.S. court by saying that it, too, will consider abandoning the restrictions of the SALT II treaty and other agreements, but only after the U.S. does so.

Many arms-control experts believe that if the U.S. really is undercutting the chances of arms control, that also could endanger the Strategic Defense Initiative. The Congressional Office of Technological Assessment last year said that SDI would work only if the Soviets agree to put a lid on offensive weapons. Gen. James Abramson, SDI program director, has said much the same thing.

"A lot of the calculations of SDI working assumes certain warhead limits," says one Senate aide who works on arms control issues. "The SALT II renunciation runs counter to the logic of how you get an effective SDI."

SDI: POINT/COUNTERPOINT

ISSUE: THE MISSION AND GOALS OF SDI

CHARGE: The SDI program is dangerous and cannot succeed.

ANSWER: The SDI program is necessary for three basic reasons. First, a defense against ballistic missiles would significantly enhance deterrence and stability. Second, recent technological breakthroughs suggest that it may be possible to overcome the current difficulties in defending against ballistic missiles. Third, the Soviets have long been hard at work in this area, and we cannot afford to risk letting them gain a significant technological advantage accordingly, one that could translate into a significant military advantage over us.

Overall, by pursuing SDI research now we learn more about the prospect for defense against ballistic missiles and have a prudent hedge against the possibility of a Soviet breathrough in defensive technologies and breakout or abrogation of the ABM treaty.

CHARGE: The Strategic Defense Initiative will not eliminate the threat of nuclear war. SDI will never be "leakproof" and could not entirely remove the threat of nuclear weapons.

ANSWER: SDI does not need to be a perfect defense system to prevent nuclear war. The system will act as a deterrent to nuclear war. SDI acts as a deterrent, not by its threat of offensive retaliation, but by its ability to protect targets -- military or civilian. The Soviets realize that without a substantial number of warheads reaching their targets, there is no real hope for a "victory" of any sort in a nuclear conflict. Without a guarantee of victory, the Soviets will be deterred from launching a first strike. The long term goal of SDI, a nationwide defense, would be to effectively eliminate the threat posed by first-strike nuclear weapons.

CHARGE: SDI is not survivable. The technology is highly vulnerable in space and could be destroyed by various Soviet countermeasures.

ANSWER: Survivability is indeed a key consideration within the SDI research program, as it is with every strategic program. The decision to deploy SDI cannot be made unless enough is known about the system's potential survivability. President Reagan recently signed a national security decision directive that established the survivability criteria as official policy. It means, quite simply,

that the United States will not develop a system that could not be defended adequately. The U.S. also is aware of the possible new Soviet countermeasures and SDI would be adjusted or changed in its defensive technologies accordingly.

CHARGE: Through pursuit of SDI, the United States unilaterally is accelerating the arms race.

ANSWER: Beyond the continued Soviet build up of offensive weapons, the Soviets already are hard at work on advanced technologies for ballistic missile defense (BMD), as noted earlier. This includes work on lasers and other directed-energy weapons and active programs on more conventional approaches to BMD -- including upgrading the anti-ballistic missile (ABM) system in place around Moscow (the only ABM system in the world), and research and development on a new rapidly deployable ABM system.

These Soviet programs have been going on without regard to U.S. efforts. Most were underway many years before the President's speech on strategic defense. There is no reason to believe they would stop if we unilaterally decided to do no further research on SDI.

Moreover, the Soviets' massive build-up of all categories of offensive weaponry has continued despite the existence of the ABM

Treaty and that treaty's commitment to corresponding reductions in offensive (as well as defensive) capabilities.

CHARGE: SDI will mean "the militarization of outer space."

ANSWER: Recent Soviet propaganda has stressed the supposed need "to prevent the militarization of outer space." In fact, the Soviets have had a fully deployed anti-satellite (ASAT) weapon for over a decade; it is the only such operational space system in existence, although U.S. ASAT is under development. In the late 1960s, the Soviets also developed a Fractional Orbiting Bombardment System, involving an orbiting nuclear warhead -- a system with no U.S. counterpart, then or now. Moreover, the "militarization of space" began in the late 1950s when the first Soviet ballistic missiles were tested. Thus, professed Soviet concerns about preventing the United States from "militarizing space" are disingenuous at best.

The USSR always has devoted far greater financial and human resources to weapons and strategic defense than has the U.S. The Soviets are maintaining (and upgrading) the world's only operational anti-ballistic missile (ABM) system, which is in place around Moscow. They are building a new, large phased-array radar in Siberia (which almost certainly violates the ABM treaty). The Soviets also are engaged in research and development on a potential

ABM system which could be quickly installed and could form the basis of a nation-wide defense if they chose to go ahead with such a system. In addition, for more than fifteen years, the Soviets have been vigorously pursing research in advanced technologies -- including laser and neutral particle beams -- which could be used in a ballistic missile defense (see chapter on The Soviet Threat). If a decision were made at some future time to deploy an American BMD system, some components might well be based in space. Any such deployments would be defensive systems, aimed at preventing the use of weapons, which themselves go through space to attack targets on earth. It is hard to understand why it is wrong even to consider possible ways to use space to prevent nuclear devastation on earth.

Today, there are a considerable number of "military" uses of space that directly help maintain stability and preserve the peace. Both the United States and the USSR, for instance, use space for such purposes as early warning and the monitoring compliance with arms control agreements.

ISSUE: SDI AND NUCLEAR STABILITY

CHARGE: Mutual Assured Destruction (MAD) is a sufficient nuclear deterrent. We do not need anything else to act as a deterrent to war.

ANSWER: The theory of MAD has worked, but it is inherently risky because it provides no defense if it fails. As long as both sides are mutually vulnerable to retaliation, neither side would risk nuclear war by launching a first strike.

Currently, however, the Soviets are ahead of the United States in its offensive nuclear forces, creating a dangerous imbalance and undermining the U.S. deterrent capability. The U.S.S.R. has developed and improved the Moscow ABM system and is currently building another such system at Krasnoarmeysk. Finally, the Soviets are actively pursuing an SDI research program and they are estimated to be 10 years ahead of the U.S. in their own space program. Hence, mutual vulnerability may no longer exist. Consequently, changing our fundamental approach -- from an offensive "threat" to a defensive strategy is both timely and necessary to maintain deterrence.

CHARGE: SDI would give the U.S. confidence to strike first in a crisis.

ANSWER: The United States does not seek a "first-strike capability" and we will not attempt to acquire one. The President has reaffirmed that we do not aim for a unilateral advantage in BMD.

In fact, effective defenses against ballistic missiles, by increasing the uncertainty a potential attacker must confront, would be a powerful disincentive to anyone contemplating a nuclear first-strike. This disincentive to first-strike can be further enhanced by reductions of offensive ballistic missiles -- precisely the objective we have been trying to achieve in arms control.

The basic U.S. arms control objective is to achieve balanced outcomes at the lowest possible level, with the forces of both sides deployed in a way that increases crisis stability. The U.S. strategic modernization program is designed both to provide incentives for the Soviets to move toward such an outcome, and to enhance deterrence and stability whether they do so or not, as well as to "the arms negotiations environment."

Soviet commentators, of course, can be counted on to call any new U.S. weapon a "first-strike" system -- they have even applied the term to the Space Shuttle. Comparable Soviet systems -- including many deployed for years before their U.S. counterparts -- never earn this sobriquet. Their discussion of the SDI research program is fully consistent with this pattern.

CHARGE: SDI means a radical change in the fundamental concepts of U.S. military-political strategy.

ANSWER: Fundamental U.S. and NATO defense policy is to avoid war through deterrence. A mix of offensive and defensive systems is fully compatible with that objective.

The purpose of SDI is to determine whether there are cost-effective defensive technologies that could enhance deterrence and increase stability.

Technological advances inevitably have profound military and political effects. The course of statesmanship is not to ignore the advance of technology, but to look ahead, to study the promise and potential pitfalls of these advances, especially in their implications for international security. That is precisely what SDI is designed to do.

CHARGE: SDI will leave our allies defenseless and mean a return to "Fortress America."

ANSWER: The President made clear that no change in technology can or will alter our commitments to our allies. In particular, NATO's strategy of flexible response, which is the basis for deterrence and

peace in Europe, remains as valid today as when it was first adopted in 1967. The President made our continuing commitment to our allies explicit in his March, 1983 speech announcing SDI. Consequently, SDI is looking at the entire ballistic missile threat, including the shorter-range threat to our allies.

ISSUE: SDI TECHNOLOGY

CHARGE: SDI is not technologically feasible.

ANSWER: Critics who make such a charge tend to "conveniently" ignore this fundamental fact: SDI is a RESEARCH project to determine the feasibility of a variety of Ballistic Missile Defense technologies. We are in the early stages of research, and a definitive decision on technical feasibility is simply premature, despite the continuing progress and "success stories" achieved thus far. Some examples of research and development success: the FLAGE test (flexible lightweight agile guided experiment); the F-15 ASAT test; the recent successful Delta launch and tracking experiment; and the airborne laser that destroyed an expendable Titan missile. To paraphrase what SDIO Chief General James Abrahamson has said, "The technology is achievable. The issue is more one of whether we have the political will to proceed."

CHARGE: The U.S. lacks the launch capability to lift the necessary SDI components.

ANSWER: The SDI components will be launched into orbit in several stages of development over a period of years. Several contractors are currently building new expendable rockets. These, along with the fourth shuttle recently authorized by President Reagan, will help lift the critical material needed for an effective layered defense.

It is clear that the size of some potential SDI components will have to be reduced in order to launch them into space. Equally clear is that payload costs will have to be reduced. That is why SDI research is continuing before a fully rational and realistic decision can be made for the long-term prospects for SDI.

CHARGE: SDI is unreliable since it cannot be fully tested short of trying it in a "real-life" battle.

ANSWER: The comprehensive SDI network can be sufficiently tested under computer-simulated conditions. Well-developed techniques already exist for testing programs that deal with emergencies too dangerous to allow them to happen for test purposes. This "National Test Bed" will simulate realistic battles that test the program even

more fully than a real attack. The computer can hurl more "missiles," "warheads," and "decoys" at us than the Soviets can ever build. And it can "launch" them more quickly than the Soviets could ever launch their missiles in an actual attack.

The National Test Bed, which will be located at the Falcon Air Station in Colorado, will use a variety of these testing techniques.

CHARGE: SDI technology provides no defense against low-flying cruise missiles or stealth bombers.

ANSWER: The U.S. has limited defenses already available to deal with incoming cruise missiles and stealth bombers. With the help of SDI technologies, such as lasers, we can destroy low flying cruise missiles even at tree-top level. Even if the cruise missiles are protected by stealth technology, stealth will not work against radars beamed at them from space. Stealth is directional; it can conceal a bomber or cruise missile from radar coming from one direction, but it is relatively useless against radars coming from several directions at once -- as would be the case for radars mounted on a fleet of SDI satellites.

CHARGE: The experts "know" that there is no point in even trying to defend against attack.

ANSWER: The history of the development of technology simply refutes those who make flat statements that something is technologically impossible. Advances in physics, data processing, and other fields offer ample justification to explore whether technologies in these and other fields can be applied to defend the United States and its allies. Arguments made by Western scientists over the feasibility of defending against ballistic missiles can only be resolved with further research. This is underscored by the U.S. successes in the Apollo program, an effort that also had its critics and scientific "naysayers."

This argument also is a favorite theme of the "concerned" Soviet scientists who have been vocal in arguing via the Western media that the United States should refrain from even <u>exploring</u> whether or not it is possible to defend against offensive nuclear systems. In doing so, they carefully and intentionally refrain from acknowledging the Soviet Union's <u>own</u> efforts in these areas of nuclear defense.

CHARGE: A missile defense system could lead to a point where vital defense decisions would simply be made by computers rather than by the President.

ANSWER: This is not true. The United States always has placed the highest priority on ensuring that control of our deterrent forces remains in the hands of the President. Nothing in the Strategic Defense Initiative would change that. Indeed, a major aim of the Strategic Defense Initiative research effort is to ensure maximum safety, reliability, and political control through any potential defensive system that may result.

ISSUE: SDI AND ARMS CONTROL

CHARGE: The Strategic Defense Initiative will lead to another arms race, and it will make the USSR even more reluctant to reduce offensive weapons.

ANSWER: The Soviet strategic defense program has existed -- and will likely continue to exist -- independently of U.S. efforts in this field. Rather than stimulating a new arms race, the U.S. Strategic Defense Initiative could complement our efforts to seek equitable and verifiable reductions in offensive nuclear arsenals. This inter-relationship between offensive and defensive forces has long been an important consideration in our strategic thinking and in fashioning arms agreements. To the extent that SDI research proves successful and leads to the capability to defense against ballistic missiles, those missiles could lose much of their offensive value. That, in turn, would increase incentives for both sides to reduce the numbers of ballistic missiles significantly.

CHARGE: SDI violates the Anti-Ballistic Missile (ABM) Treaty.

ANSWER: The United States does not and will not violate its treaty obligations. The ABM treaty explicitly permits the kind of research envisioned under SDI (Article III), and all such research will be conducted within the treaty's constraints. Moreover, the Soviets have been conducting analogous research for many years and they have not called their research program a violation of the ABM Treaty.

At the same time, the Soviet Union is constructing a large phased-array radar that will contribute to its ABM potential. Because of the location and orientation of this radar, it almost certainly constitutes a violation of the 1972 ABM treaty.

The ABM treaty provides for possible amendments and periodic review sessions in which possible changes can be discussed. When the SDI research has produced specific options to develop and deploy a BMD system, we would then address the question of availing ourselves of these procedures in order to modify the Treaty.

Meanwhile, the ABM treaty specifically calls on the United States and USSR to take effective measures to reduce offensive nuclear weapons. The United States welcomes the Soviet Union's decision to return to such negotiations, which it had boycotted since late 1983.

Finally, the U.S. has repeatedly told the Soviets we would like to discuss the implications of these new defensive technologies with them in a government-to-government forum. We have made suggestions about the venue and invited their ideas.

ISSUE: SDI FUNDING

CHARGE: Extensive allocations for SDI drains funding from other valuable research and development projects -- both military and commercial.

ANSWER: The United States is attempting to change its entire arms strategy from an offensive one to a defensive one. This "new" orientation places a high priority on SDI research.

Additionally, the Strategic Defense Initiative also has become a vital project in civilian research. The possibilities for technological spinoffs from SDI research are numerous. For examples of high-tech "spinoffs" from classified military research, one can look at jet engines, nuclear power and commercial experiments in space.

CHARGE: Effective Ballistic Missile Defense (BMD) would be fantastically expensive and easily negated by Soviet countermeasures.

ANSWER: Judgments of any SDI technological feasibility and associated cost options (including offense cost ratios) are highly premature. When not the product of prejudgment or bias, many critics' assertions betray a static approach to complex questions of evolving technology and strategic deterrence, both of which are by their nature, highly dynamic.

CHARGE: We cannot justify spending billions of dollars for research on something that might never be built.

ANSWER: Given the advances that the Soviet Union has made in this area, and the potential contribution -- or dividend -- that strategic defense is likely to make to deterrence, pursuit of this research program is a prudent and necessary investment. The budget proposed for the Strategic Defense Initiative research is about $26 billion in fiscal years 1985 through 1989.

ROBERT JASTROW

Frequently asked questions on SDI

Q: Don't scientists say an effective U.S. defense against Soviet missiles is impossible?

A: Only four scientists in the entire country with full access to classified information on missile defense say that. [Drs. Bethe, Garwin, Drell and Panofsky.]

On the other side are Dr. G.A. Keyworth II [the president's science adviser], 50 leading missile experts on Dr. James Fletcher's panel, the brilliant weapons experts Lowell Wood at Livermore and Gregory Canavan at Los Alamos, and thousands of scientists and engineers actually working in missile defense.

Nature, the leading scientific journal in the world, wrote recently that "a substantial part of the technical community" agrees defense against missiles is feasible. *Nature* concluded about the objections from some scientists, "Critics for the project should look elsewhere for ammunition."

Fifty-four Nobel Laureates recently signed an appeal opposing space-based missile defenses, or Star Wars, but 53 of the 54 have no experience with missile defense work.

Q: How good will this defense be?

A: Dr. Fletcher, former head of NASA, a physicist with extensive experience in development of missiles, headed a panel of the country's leading missile defense experts which spent 36,000 man-hours on the study of the new technologies. He wrote in a National Academy of Sciences journal that his studies indicate that the basic two-layer defense, which could be operational in the early 1990s, could protect "90 to 99 percent of the nation's population... from a massive nuclear attack." He said the advanced three- or four-layer defense proposed for the late 1990s or the end of the century could protect "perhaps even greater than 99 percent of the nation's population against a nuclear attack."

Q: What good is a 90 percent or even a 99 percent defense when even one warhead can blow up a city?

A: If a Soviet general knows that only one warhead in 10 will get through to its target, he knows he cannot hope to knock out our retaliatory power in a surprise attack. [If] he gives the word to attack, his own homeland will lie in ruins. They will never order an attack under those circumstances. In other words, a 90 percent defense against Soviet missiles gives 100 percent protection.

The Soviets are already racing ahead on missile defense.

Q: Can the Soviets overwhelm our defense if we build it?

A: The Soviets have threatened to do this, but their threat is empty. The Soviets spent a half a trillion dollars on the missile force they now have. To overwhelm our 90 percent defense and get as many warheads through to their targets as they would have if we had no defense, they would have to beef up their arsenal to 10 times its present size. That means spending 10 times a half a trillion dollars, or $5 trillion.

The Soviet Union would be very hard-pressed to spend another $5 trillion on missiles in the next five to 10 years, on top of its present military outlays.

Ambassador [Paul] Nitze has emphasized the importance of the cost ratio "at the margin," i.e., how many dollars the Soviets have to spend on countering our defense for every dollar we spend on adding to it. These marginal cost ratios are also in our favor.

Studies at Los Alamos and elsewhere show that to counter our defense, the Soviets must spend $3 for

Dr. Robert Jastrow

Dr. Robert Jastrow, founder of NASA's Goddard Institute for Space Studies and author of How to Make Nuclear Weapons Obsolete, *prepared the pamphlet,* SDI: The Star Wars Project, *(© The George Marshall Institute), from which this article is excerpted.*

every dollar we spend on building it. For some advanced kinds of defenses the ratios are even higher: 10 to one or more in favor of our defense.

Q: How much will it cost?

A: For the basic two-layer defense using "smart bullets," the cost is $60 billion spread over about five years, or $12 billion a year. This defense could be available in the early 1990s. For the advanced three- or four-layer defense that might become available in the late 1990s, the cost is roughly $200 billion spread over 10 years, or $20 billion a year. The figures of $1 trillion or more tossed around by Soviet spokesmen and domestic opponents of SDI are off the wall.

For comparison, note that we are spending more than $40 billion a year on nuclear weapons of destruction designed to keep the Soviets out of our backyard by the threat of retaliation.

Q: How do you know it will work and will cost that much?

A: We won't be certain until we are farther along in the research, but all the calculations and experiments thus far are very encouraging.

The "smart bullet" has been tested in flight against a Minuteman warhead and vaporized the warhead.

High-powered lasers are coming along faster than anyone expected. Livermore has tested a laser at a peak power of one billion watts with an average power of 100 million watts in sight. This is well above the level of 20 million watts considered necessary for a useful laser defense.

There is amazing progress in building big mirrors cheaply, and also "rubber mirrors" that change shape to correct for air turbulence.

Transmission of a laser beam from the Earth to space was successfully tested in a recent shuttle flight.

Research on railguns, used for launching "smart bullets" at very high speeds, is making rapid progress.

Much of this research has major scientific and commercial spin-offs.

Q: Can't the Soviets foil our defenses with decoys and other countermeasures?

A: The defenses we are designing will be probing Soviet decoys in many different ways with lasers, radars and heat-sensitive instruments. The Soviets can try to fool these instruments with decoys, but the decoys will have to be very elaborate to work.

For example, we can tell a decoy from a warhead by tapping both with a weak pulse of laser energy and then observing how they recoil. The decoy, being light and flimsy, will recoil from the tap more readily than the heavy warhead.

If the Soviets made their decoys heavy enough to fool us in this test, they would weigh nearly as much as the warheads. But if the decoys weigh nearly as much as the warheads, the Soviets cannot release large numbers of them during their attack, and they will be of little value to them.

Q: Aren't satellites very vulnerable? Can't the Soviets shoot down our laser satellites more easily than we can shoot down their missiles?

A: The opposite is true. Satellites can be made relatively invulnerable; missiles cannot.

The reason is that a satellite in orbit is weightless and we can plaster as much armor and shielding on it as we wish. For the same reason, a satellite can also carry heavy guns for its own defense — lasers, smart bullets, or particle beams.

If the Soviets try to shield their SS-18 from our lasers by coating the skin with one inch of protective material, the payload of the missile will be reduced by four tons. But four tons is the weight of all 10 warheads on the Soviet SS-18s. Protected this way, they could not carry warheads.

That would make these terrible weapons impotent and obsolete.

We hope to carry out a carefully phased, simultaneous deployment of fully effective defenses on both sides, leading to a world in which the nuclear weapon is useless.

Q: Isn't the computer program for SDI impossibly complicated?

A: The software for SDI will require about 10 million lines of code. However, this has already been surpassed in length and complexity by the AT&T program which controls the nation's telephone network. That has 50 million lines of code. Also, the number of interconnections between "nodes", i.e., nerve centers, in the AT&T program is 14,000, whereas the number of interconnections in the SDI program is estimated to be about 4,500.

Q: How can you test the SDI program fully, short of trying it in battle?

A: The one aspect of SDI that can be tested fully is the software. When signals are fed into the front end of the program, they look exactly the same to it regardless of whether they have been produced by a Soviet missile leaving its silo or by a piece of equipment that generates signals imitating the real battle. In fact, this equipment can create realistic "battles" that test the program more fully than a real attack.

It can hurl more "missiles," warheads" and "decoys" at us than the Soviets could ever build. And it can "launch" them more quickly than the Soviets could ever launch their missiles in an actual attack.

Well-developed techniques exist for testing programs that deal with emergencies too dangerous to allow them to happen for test purposes. These techniques were used in testing the AT&T program. When the AT&T program was put into operation, it worked immediately although it had never been tested completely "in battle."

Q: What about the fast-burn booster? Some critics of SDI say it could be a low-cost and highly effective Soviet countermeasure.

A: It took the Soviets about 15 years to build their present missile force. Fast-burn missiles — which burn out and release their warheads in less than a minute — are a much harder engineering problem. Experts on missile development agree that this very advanced kind of missile will not be available to the Soviets before the 21st century.

Cost is also a very serious problem for the Soviets in considering this countermeasure. Statements by Union of Concerned Scientists spokesmen that the Soviets could build a fast-burn Midgetman for $10 million each are not in accord with the facts. The real cost will be $200 million each, according to official Air Force figures for the cost of the Midgetman.

So, if the Soviets replaced their arsenal of approximately 8,000 warheads with fast-burn Midgetmen, it would cost them $1.6 trillion.

Even spread over several years, this would be a very massive military burden for the Soviet Union, on top of its already massive military outlays.

Finally, the defenses recommended by the Fletcher panel on missile defense are designed to handle fast-burn missiles. So even if the Soviets go to the trouble and expense of scrapping their entire arsenal to replace it with first-burn ICBMs, at a cost of more than a trillion dollars, it will avail them nothing.

Q: Isn't it a bad idea to put weapons in space?

A: These devices — the smart bullet, the laser and particle beam — are defensive. They only go into action if the Soviets launch an attack to destroy us. It is much better to rely on them for protection than on the threat of using weapons of mass destruction.

Q: Will our defense involve nuclear weapons in space?

A: The smart bullets planned for early deployment are non-nuclear. All the lasers under study are also non-nuclear with one exception — the X-ray laser, mainly a hedge against a Soviet breakthrough in this area. We know that the Soviets are working very hard on the X-ray laser.

Q: If our defense destroys Soviet nuclear warheads, won't that cause nuclear explosions in space?

A. No, because it is very difficult to make a nuclear weapon explode.

If the bombs are "salvage-fused" to explode on approach of an intruder, there will still be no clouds of radioactive dust and no damage on the ground, provided the interception occurs above 50,000 feet.

Since our defense will prevent most bombs from exploding, it also greatly diminishes the "nuclear winter" effect.

The Union of Concerned Scientists has been irresponsible in placing newspaper ads and TV commercials which imply that SDI means fighting a nuclear war in space. This aspect of the UCS campaign directly suppports Soviet propaganda against SDI.

Q: Some people say SDI will bring the world closer to nuclear war. Won't the Soviets feel threatened by SDI and launch a pre-emptive attack?

A: In the near term, they won't attack for the same reason they don't attack the United States today, namely, because we have a strong submarine deterrent.

In the long term, our government has announced that it will try to negotiate a parallel deployment of defenses with the Soviets so that neither side gains a military superiority through these defenses, and neither side can feel threatened. This is a cardinal point of our negotiating position in Geneva — perhaps the most important point of all.

Q: If SDI works against ballistic missiles, aren't we still vulnerable to cruise missiles?

A: A laser defense fixed to handle thousands of ballistic missile warheads and tens of thousands of decoys, traveling at 10,000 miles an hour, will have little trouble tracking and destroying cruise missiles lumbering along at the speed of a commercial airliner.

Q: How about missiles launched from submarines?

A: A defense that protects against the greatest Soviet threat — their land-based missiles — will be even more effective against submarine-launched missiles.

First, only a fraction of the satellites in our defensive screen will be over the Soviet Union at any given time; the rest will be mostly over the world's oceans, watching for signs of missiles launched from Soviet submarines.

Second, a submarine cannot launch all its missiles at once; they have to be staggered, which makes it much easier for our defense because we can pick them off one by one.

Third, as soon as the submarine fires one missile, we know where it is and can probably destroy it before it launches the rest.

Fourth, submarine-launched missiles generally travel slower than ICBMs, which makes them easier to track and destroy.

Q: Will our defense work against the SS-20, and other short- and medium-range missiles that threaten Western Europe?

A: For several reasons, SS-20s and other medium- and short-range missiles pointed at Europe are easier to defend against than intercontinental missiles, contrary to statements emanating from some American scientists and Western European spokesmen.

First, and perhaps most important, because of their shorter range, they spend a larger part of their trajectory in the atmosphere. This makes it much easier for our defense to discriminate the warheads from the decoys. [The decoys, being lightweight, are retarded more by air resistance.]

Second, they fly more slowly, which makes them easier to track and destroy.

Third, they are smaller missiles with a smaller payload, and therefore carry fewer warheads and decoys, which again, makes the defense against them easier.

Q: What about missiles launched on low trajectories from submarines near U.S. shores? Wouldn't these Soviet missiles reach their targets — say Washington — too quickly for our defenses to work against them?

A: Our utility to track and destroy these "flat trajectory" missiles will not be impaired by their short flight times.

First of all, like the SS-20s, they fly lower and slower than ICBMs, which makes them easier to track and easier to intercept.

Second, our surveillance satellites detect them within seconds after launch, and our laser beams catch up to them in a hundredth of a second or less. As a consequence, it doesn't matter appreciably to our defense whether the flight time is five minutes or 20 minutes.

Q: Does SDI violate the ABM Treaty?

A: SDI is a research program whose stated goal is research on ABM defenses. However, the ABM Treaty does not limit goals. It only limits certain activities.

We may bump up against the treaty in three or four years — if, for example, we begin to test space-based components. But for the next several years there is no conflict between SDI and the ABM Treaty. The Soviet Star Wars program will also bump up against the ABM Treaty soon. Some experts say it has already done so.

Q: Why do we need SDI if nuclear deterrence has worked up to now?

A: Deterrence by the threat of retaliation has been effective, but there are signs of erosion of the U.S. position in this regard. Our ballistic-missile submarines are the principal U.S. deterrent at the present time, but their invulnerability is compromised by research into methods of detecting submerged submarines, as well as such developments as the recent Walker spy case. At some point in the 1990s we may find ourselves in a very dangerous position as a result.

The Reagan strategic modernization program has been valuable — especially in restoring the B-1B bomber — which unlike the B-52, has a fair chance of penetrating Soviet air defenses — but an even stronger deterrent would be a combination of an effective force of nuclear retaliation and a defense that prevents the Soviet Union from destroying the bulk of that retaliatory force in a surprise blow.

Q: At what point will the United States be able to scale down its offensive capability?

A: Our position is to maintain our present offensive capability threat for 10 years while we pursue Star Wars research and move toward deployment of a limited defense system. Then, in concert with the Soviets, we hope to carry out a carefully phased, simultaneous deployment of fully effective defenses on both sides, leading to a world in which the nuclear weapon is useless and its disappearance can be expected.

Q: Would SDI trigger an arms race in space?

A: The Soviets are already racing ahead on missile defense as fast as they can.

Q: Wouldn't Star Wars make a fine bargaining chip at Genevea, since the Soviets want so much to get rid of it?

A: We cannot offer Star Wars as a bargaining chip, because if we do, the Soviets are likely to have an effective defense against American missiles in the 1990s, while the U.S. has no defense against Soviet missiles.

Faced with the prospect in the 1990s of a world in which the Soviets have a massive first-strike arsenal of more than 10,000 accurate warheads, and also have an effective defense against any American retaliatory blow, we must proceed with our Star Wars research or place America in a very vulnerable position.

TALKING POINTS ON SDI

Purpose of SDI

* The purpose of SDI is to examine the ability of America and its allies to enhance deterrence through defensive systems which could destroy ballistic missiles before they could reach potential targets. The aim of SDI is to deter war -- both conventional and nuclear -- by increasing stability and eventually eliminating the need for nuclear weapons.

SDI as Deterrent

* SDI will be an effective deterrent because it will succeed "not by the threat of retaliation but by its ability to protect." SDI offers the promise of reversing the dangerous military trends of past decades and moving toward a more stable and secure deterrence based on defense.

SDI Morality

* SDI is moral and safe; as President Reagan says "it is better to save lives than avenge them."

SDI Commissions

* The Fletcher Commission (April, 1984) determined that the technology does exist to permit an informed decision on SDI by the early 1990s.

SDI and the Budget

* The Hoffman Commission (April, 1984) concluded that pursuit of advanced defensive technologies could enhance deterrence and increase strategic stability. It further determined that a broad research program on defensive technologies is entirely consistent with existing U.S. arms control obligations.

* Ample funding to attain the goal of an early 1990s decision is essential to maintain the momentum of the research program and prevent increased costs caused by delays.

Soviet Threat

* SDI is mandated by (1) the Soviet buildup of offensive weapons, and (2) improvement of Soviet defenses and pursuit of their own ballistic missile defense program. The Soviet Union possesses the world's only currently deployed ABM system and has the only deployed anti-satellite (ASAT) capability.

SDI and Arms Control

* SDI is a proven incentive to bring the Soviets to the negotiating table. SDI is an incentive to arms control because it does not seek superiority but a stable deterrence by maintaining a strategic balance. SDI allows the U.S. to negotiate from a position of strength.

* A strong commitment to SDI research is essential to deter any near-term Soviet breakout from the ABM Treaty. Cuts in Congressional funding weaken this deterrence.

SDI Decision-making

* SDI is a broad research program to consider "future options" for a ballistic missile defense. Strategic Defense Initiative Organization (SDIO) is investigating many different technologies and it is too early to decide which options might be feasible and desirable to incorporate in the final product. Funding for SDI should not be voted up or down on the success or failure of a particular technology.

SDI and Our Allies

* The U.S. will continue to honor its commitments to its allies. SDI is designed to enhance security for both the U.S. and its allies. Furthermore, the U.S. is committed to consulting and cooperating with its allies on all aspects of SDI that affect allied security. Major commitments to SDI research have been made by Britain, Japan, West Germany and Israel.

SDI as Part of Three-part Program

* Until the feasibility of SDI is determined, the U.S. must sustain over the near-term a modernization of offensive nuclear retaliatory capability and pursue meaningful and verifiable arms limitation agreements with the Soviet Union.

America's Lack of Nuclear Defenses

* Contrary to the belief of many Americans, the United STates currently has no means of protecting itself against a possible nuclear attack. SDI will help eliminate the needless loss of life from an accidental or an intentional nuclear or small-scale terrorist attack.

Support for SDI

* Funding cuts in the SDI program jeopardize the long-term objective of SDI, which is to develop a nationwide ballistic missile defense. The concept of a nationwide defense is supported by a clear majority of the American people.

* A major goal of the U.S. SDI program is to develop non-nuclear options for a ballistic missile defense system. But the Soviets have not restricted their options to non-nuclear technologies. Therefore, nuclear-directed energy concepts must be considered within the overall research program to determine the degree of their utility.

SDI Themes

In explaining the SDI research program, there are a dozen cogent themes that capture the direction and scope of the program:

1. The aim of SDI is not to seek superiority, but to maintain the strategic balance and thereby assure stable deterrence.

A central theme in Soviet propaganda is the charge that SDI is designed to secure military superiority for the U.S. Put in the proper context of the strategic challenge that we and our allies face, our true goals become obvious and clear. Superiority is certainly not our purpose. Nor is the SDI program offensive in nature. The SDI program is a research program aimed at seeking better ways to ensure U.S. and allied security, using the increased contribution of defenses -- defenses that threaten no one.

2. Research will last for some years. We intend to adhere strictly to ABM Treaty limitations and will insist that the Soviets do so as well.

We are conducting a broad based research program, in full compliance with the ABM Treaty, and with no decision made to proceed beyond research. The SDI research program is a complex one that must be carried out on a broad front of technologies. It is not a program where all resource considerations are secondary to a schedule. Instead it is a responsible, organized research program that is aggressively seeking cost-effective approaches for defending the United States and our Allies against the threat of nuclear-armed and conventionally-armed ballistic missiles of all ranges. We expect that the research will proceed so that initial development decisions could be made in the early nineties.

3. We do not have any preconceived notions about the defensive options the research may generate. We will not proceed to development and deployment unless the research indicates that defenses meet strict criteria.

The US is pursuing the broadly based SDI research program in an objective manner. We have no preconceived notions about the outcome of the research program. We do not anticipate that we will be in a position to approach any decision to proceed with development or deployment based on the results of this research for a number of years.

We have identified key criteria that will be applied to the results of this research whenever they become available. Some options which could provide interim capabilities may be available earlier than others, and prudent planning demands that we maintain options against a range of contingencies. However, the primary thrust of the SDI research program is not to focus on generating options for the earliest development/deployment decision, but options which best meet our identified criteria.

4. Within the SDI research program, we will judge defenses to be desirable only if they are survivable and cost-effective at the margin.

Two areas of concern expressed about SDI are that deployment of defensive systems would harm crisis stability and that it would fuel a runaway proliferation of Soviet offensive arms. We have identified specific criteria to address these fears appropriately and directly.

Our survivability criterion responds to the first concern. If a defensive system were not adequately survivable, an adversary could very well have an incentive in a crisis to strike first at vulnerable elements of the defense. Application of this criterion will ensure that such a vulnerable system would not be deployed, and, consequently, that the Soviets would have no incentive nor prospect of overwhelming it.

Our cost-effectiveness criterion will ensure that any deployed defensive system would create a powerful incentive not to respond with additional offensive arms, since those arms would cost more than the additional defensive capability needed to defeat them. This is much more than an economic argument, although it is couched in economic terms. We intend to consider, in our evaluation of options generated by SDI research, the degree to which certain types of defensive systems, by their nature, encourage an adversary to try simply to overwhelm them with additional offensive capability, while other systems can discourage such a counter effort. We seek defensive options which provide clear disincentives to attempts to counter them with additional offensive forces.

In addition, we are pressing to reduce offensive nuclear arms through the negotiation of equitable and verifiable agreements. This effort includes reductions in the number of warheads on ballistic missiles to equal levels significantly lower than exist today.

5. It is too early in our research program to speculate on the kinds of defensive systems -- whether ground-based or space-based and with what capabilities -- that might prove feasible and desirable to develop and deploy.

Discussion of the various technologies under study is certainly needed to give concreteness to the understanding of the research program. However, speculation about various types of defensive systems that might be deployed is inappropriate at this time. The SDI is a broad-based research program investigating many technologies. We currently see real merit in the potential of advanced technologies providing for a layered defense, with the possibility of negating a ballistic missile at various points after launch. We feel that the possibility of a layered defense both enhances confidence in the overall system and compounds the problem of a potential aggressor in trying to defeat such a defense. However, the paths to such a defense are numerous.

Along the same lines, some have asked about the role of nuclear-related research in the context of our ultimate goal of non-nuclear defenses. While our current research program certainly emphasizes non-nuclear technologies, we will continue to explore the promising concepts which use nuclear energy to power devices which could destroy ballistic missiles at great distances. Further, it is useful to study these concepts to determine the feasibility and effectiveness of similar defensive systems that an adversary may develop for use against future U.S. surveillance and defensive or offensive systems.

6. The purpose of the defensive options we seek is clear -- to find a means to destroy attacking ballistic missiles before they can reach any of their potential targets.

We ultimately seek a future in which nations can live in peace and freedom, secure in the knowledge that their national security does not rest upon the threat of nuclear retaliation. Therefore, the SDI research program will place its emphasis on options which provide the basis for eliminating the general threat posed by ballistic missiles. Thus, the goal of our research is not, and cannot be, simply to protect our retaliatory forces from attack.

If a future President elects to move toward a general defense against ballistic missiles, the technological options that we explore will certainly also increase the survivability of our retaliatory forces. This will require a stable concept and process to manage the transition to the future we seek. The concept and process must be based upon a realistic treatment of not only U.S. but Soviet forces and out-year programs.

7. U.S. and Allied security remains indivisible. The SDI program is designed to enhance Allied security as well as U.S. security. We will continue to work closely with our allies to ensure that, as our research progresses, Allied views are carefully considered.

This has been a fundamental part of U.S. policy since the inception of the Strategic Defense Initiative. We have made a serious commitment to consult, and such consultations will precede any steps taken relative to the SDI research program which may affect our allies.

8. If and when our research criteria are met, and following close consultation with our allies, we intend to consult and negotiate, as appropriate, with the Soviets pursuant to the terms of the ABM Treaty, which provide for such consultations, on how deterrence could be enhanced through a greater reliance by both sides on new defensive systems. This commitment should in no way be interpreted as according the Soviets a veto over possible future defensive deployments. And, in fact, we have already been trying to initiate a discussion of the offense-defense relationship and stability in the Defense and Space Talks underway in Geneva to lay the foundation to support such future possible consultations.

If, at some future time, the U.S., in close consultation with its allies, decides to proceed with deployment of defensive systems, we intend to utilize mechanisms for U.S./Soviet consultations provided for in the ABM Treaty. Through such mechanisms, and taking full account of the Soviet Union's own expansive defensive systems research program, we will seek to proceed in a stable fashion with the Soviet Union.

9. It is our intention and our hope that, if new defensive technologies prove feasible, we (in close and continuing consultation with our allies) and the Soviets will jointly manage a transition to a more defense-reliant balance.

Soviet propagandists have accused the U.S. of reneging on commitments to prevent an arms race in space. This is clearly not true. What we envision is not an arms race; rather, it is just the opposite -- a jointly managed approach designed to maintain, at all times, control over the mix of offensive and defensive systems of both sides, and thereby increase the confidence of all nations in the effectiveness and stability of the evolving strategic balance.

10. SDI represents no change in our commitment to deterring war and enhancing stability.

Successful SDI research and development of defense options would not lead to abandonment of deterrence, but rather to an enhancement of deterrence and an evolution in the weapons of deterrence through the contribution of defensive systems that threaten no one. We would deter a potential aggressor by making it clear that we could deny him the gains he might otherwise hope to achieve rather than merely threatening him with costs large enough to outweigh those gains.

U.S. policy supports the basic principle that our existing method of deterrence, and NATO's existing strategy of flexible response, remain fully valid, and must be fully supported, as long as there is no more effective alternative for preventing war. It is in clear recognition of this obvious fact that the U.S. continues to pursue so vigorously its own strategic modernization program and so strongly supports the efforts of its allies to sustain their own commitments to maintain the forces, both nuclear and conventional, that provide today's deterrence.

11. For the foreseeable future, offensive nuclear forces and the prospect of nuclear retaliation will remain the key element of deterrence. Therefore, we must maintain modern, flexible and credible strategic nuclear forces.

This point reflects the fact that we must simultaneously use a number of tools to achieve our goals today while looking for better ways to achieve our goals over the longer term. It expresses our basic rationale for sustaining the U.S. strategic modernization program and the rationale for the critically needed national modernization programs being conducted by the United Kingdom and France.

12. Our ultimate goal is to eliminate nuclear weapons entirely. By necessity, this is a very long-term goal, which requires, as we pursue our SDI research, equally energetic efforts to diminish the threat posed by conventional arms imbalances, both through conventional force improvements, and the negotiation of arms reductions and confidence building measures.

We fully recognize the contribution nuclear weapons make to deterring conventional aggression. We equally recognize the destructiveness of war by conventional and chemical means, and the need both to deter such conflict and to reduce the danger posed by the threat of aggression through such means.

WHAT THEY'RE SAYING ABOUT SDI

THE GOAL OF SDI

"Wouldn't it 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 achieving a truly lasting stability? I think we are. Indeed, we must ... Let me share with you a vision of the future which offers hope. It is that we embark on a program to counter the awesome Soviet missile threat with measures that are defensive."

"What if free people could live secure in the knowledge that their security did not rest upon the threat of instant U.S. retaliation to deter a Soviet attack, that we could intercept and destroy strategic ballistic missiles before they reached our own soil or that of our allies?

"I am directing a comprehensive and intensive effort to define a long-term research and development program to begin to achieve our ultimate goal of eliminating the threat posed by strategic nuclear missiles ... Our only purpose -- one all people share -- is to search for ways to reduce the danger of nuclear war."

-- President Ronald Reagan
Address to the Nation
March 23, 1983

"Our SDI research is not a bargaining chip. It's the number of offensive nuclear missiles that need to be reduced, not the effort to find a way to defend mankind against these deadly missiles. And reliable defenses could also serve as insurance against cheating or breaking out of an arms reduction agreement."

-- President Ronald Reagan
Radio Address to the American People
July 12, 1986

"We need to be clear, of course, as to what are the goals of the strategic defense. The objective is to destroy enemy missiles, and to destroy them as far away from their targets as we can -- ideally before the warheads have been separated from the booster ... If we can destroy Soviet missiles before they get into the earth's atmosphere, we will be able to protect our people; and if we can do that we will make the missiles obsolete and impotent.

"What is most puzzling to me is the self-defeating pessimism afflicting critics of SDI. Why should we not attempt to discover if a defense against nuclear missiles is possible? Why should we not seek to transcend this mutual suicide pact in which we find ourselves? The inability of our critics to offer satisfactory answers to these critical questions has driven them to take refuge in narrow budgetary wrangling.

"U.S. Defense Strategy is to protect our vital interests, not be aggression or war, but by preventing war. We seek to prevent war by persuading potential adversaries that the costs of attacking us will exceed any gain they could hope to achieve. We seek to build the strongest possible deterrent as quickly and effectively as possible.

"Our goal is not peace at the expense of freedom but both peace and freedom. Our goal is not to fight, but to preserve our freedom without fighting."

-- Secretary of Defense Caspar Weinberger
Remarks at U.S. Space Foundation
June 23, 1986

"It's not our missiles that we seek to protect but our people, and we must never lose sight of that goal."

-- Caspar Weinberger
Secretary of Defense
July 1, 1986

CONGRESSIONAL COMMENTS

"We support a vigorous ballistic missile defense research program which conducts research into innovative technologies. Such a program is necessary to hedge against Soviet breakout from the ABM Treaty, to protect the U.S. from technological surprises, and to maintain an array of strategic options including strategic defense."

-- Letter from 46 U.S. Senators of both parties to Chairman of Senate Armed Services Committee, Barry Goldwater, May, 22, 1986

"There is a growing fear that even if deterrence has worked so far, it cannot work over the long run. Deterrence policy rests on a foundation of rationality, and people fear that in the long run, it will break down due to some madman, perhaps, or an accidental launch. Deterrence has kept the peace for the last four decades -- but what about the next century?"

-- Representative Les Aspin
Chairman, House Armed Services Committee
January 16, 1985

"SDI is a good program, a needed program. That is why the Russians are pushing ahead with an SDI-like program, too, and in some areas faster than we are.

"SDI has already paid substantial dividends. It is generating new technologies, which will not only improve our security as a nation, but, potentially, our well-being and prosperity as a people. It is one major reason the Russians returned to the Geneva arms control talks, and it could one day be the "carrot" which gets them to negotiate seriously on real arms reductions."

-- Senator Robert Dole (R-KS)
Senate Majority Leader
June 5, 1986

"There can be little doubt about how important the accelerated development of our most advanced technology is for our national security. Without the threat that our SDI program apparently poses to the Soviets, for instance, I seriously doubt we would be witnessing the positive give-and-take on arms control matters that we see today."

-- Senator Robert Byrd (D-WV)
Senate Minority Leader
August 9, 1986

"It is abhorrent that the United States should be vulnerable to a first-strike nuclear attack. The president has asked the right question: Must this be inevitable forever, or shouldn't our best scientists take a look at whether there are ways to change the situation?"

-- Senator Richard Lugar (R-IN)
Chairman, Senate Foreign Relations Committee
December 18, 1984

"To keep abreast of the Soviet activities in this area, a prudent level of research is necessary."

-- Representative Dante Fascell (D-FL)
Chairman, House Foreign Affairs Committee
August 12, 1986

"Here is a program where our defense dollars are yielding results more promising and more quickly than we ever could have hoped -- and the Congress is poised to cut the program drastically."

-- Representative Jack Kemp (R-NY)
August 12, 1986

STRATEGIC NEED FOR SDI

"Current technical and political circumstances make the decision to proceed with a SDI eminently sensible ... The position adopted by the Soviet Union in the current talks at Geneva suggests that the political route will continue to be fruitless unless we go forward with a credible SDI program."

-- Zbigniew Brzezinski, Former National Security Adviser to President Carter, writing in Forward to "Strategic Defense: 'Star Wars' in Perspective" (1986)

"The United States needs to maintain into the 21st century a prudent mix of offensive and defensive strategic forces to prevent Soviet political intimidation, to preclude an outright Soviet military victory and to preserve a credible and flexible nuclear deterrent against Soviet conventional aggression in areas vital to American national security.

"The United States would jeopardize its own security if its self-restraint in the deployment of counterforce systems were unilateral and if its strategic efforts were confined to the selective and limited upgrading of offensive system. Deployment of a limited strategic defense is therefore more than desirable -- it is imperative.

"A limited strategic defense -- by definition -- need not be perfect. A limited defense against ballistic missiles would be a giant step toward achieving mutual strategic security."

-- Zbigniew Brzezinski
GAME PLAN
Altantic Monthly Press (1986)

"The Soviets are building mobile missiles and researching defensive technologies and it would be folly for the U.S. to ignore these developments, either or both of which could become the military wave of the future."

-- Lou Cannon
Washington Post (8/18/86)

COMPARING COSTS

"The U.S. currently spends between $40 billion and $50 billion each year on modernizing our offensive nuclear forces ... between now and the late 1990s we will probably spend $500 billion on these forces, designed to deter an attack by the threat of mass destruction ... Viewed against the background of these vast expenditures, the near term defenses being worked on the SDI seem to me to be a way of saving the taxpayers' money, as well as his life."

-- Dr. Robert Jastrow
Congressional Record (8/13/86)

"When the Administration with whom I was connected (Nixon) sought to implement an anti-ballistic missile program inherited from our predecessor, it became the subject of the most violent attacks from the theory that it was destabilizing, provocative and an obstacle to arms control -- because critics of BMD (ballistic missile defense) saw in strategic vulnerability of the U.S. -- a positive asset.

"The historically amazing theory developed that vulnerability contributed to peace and protecting invulnerability (or protecting ourselves) contributed to risks of war."

-- Henry Kissinger

ALLIED SUPPORT FOR SDI

"Our task is to see that potential aggressors ... understand plainly that the capacity and the resolve of the West would deny them victory in war, and that the price they would pay would be intolerable. That is the basis of deterrence.

"I firmly support President Reagan's decision to pursue research into defense against ballistic nuclear missiles -- the Strategic Defense Initiative ... I hope that our own scientists will share in this research the U.S. must not fall behind the work being done by the Soviet Union.

"Let us be under no illusions. It is our strength, not their good will, that has brought the Soviet Union to the negotiating table in Geneva."

-- British Prime Minister Margaret Thatcher to a joint Session of the United States Congress February 20, 1985

PUBLIC OPINION AND SDI

Executive Summary

Most major polls continue to show substantial public support for continued research into a missile defense system. Recent polls run from a high of 81% support and 13% opposed in the Committee on the Present Danger Poll (July, 1986), to a low of 52% support and 34% opposed in the Media General/ Associated Press poll (July, 1986). The variance often depends on the terminology of the question, but there clearly is a substantial majority of Americans who support continuation of SDI research.

Another interesting poll finding among several of the major polls is that a substantial number of Americans believe that the United States currently has an effective defense against incoming nuclear missiles. This is, of course, untrue. Thus, the more the public learns about our "lack of defense" against these missiles, the more inclined they are to support SDI.

The following chapter outlines the findings of a number of recent national polls on SDI and related issues. In addition, summaries of the poll data and copies of the questions are attached where available.

PUBLIC OPINION AND SDI

OVERVIEW

While the SDI program, as proposed by President Reagan in 1983, has been extensively debated in the media, in the political arena, and in countless public forums, it is interesting to note that almost every measure of public opinion shows a solid majority of Americans support the Strategic Defense Initiative.

Of equal importance is the fact that the more Americans know about SDI and the state of our defenses, the more likely they are to support the program.

Polling data demonstrates that America's inability to defend itself against nuclear missiles is misunderstood by the American public -- and that most Americans do not know our nation has no formal defense to be used against incoming warheads. In a very recent (June, 1986) poll conducted by the Associated Press and Media General, a full 58% of the American public believed that the United States' ability to defend itself against nuclear attack was good or excellent. This, of course, is a completely erroneous belief, demonstrating the confusion surrounding the SDI issue.

PUBLIC SUPPORT OF SDI

Recent surveys show a generally consistent level of majority support for SDI nationwide. These surveys include:

* Committee on the Present Danger Poll (July, 1986)

  -- 81% FAVOR SDI
  -- 13% OPPOSE
  -- 7% NO OPINION

* Sindlinger Poll (May, 1985)
  -- 77% FAVOR SDI (Develop "Star Wars")
  -- 10% OPPOSE (Keep current "Mutual Assured Destruction")
  -- 13% NO OPINION

* Time Magazine/Yankelovich Survey (November, 1985)

  -- 59% FAVOR SDI
  -- 34% OPPOSE
  -- 7% NO OPINION

* Washington Post/ABC News Poll (November, 1985)

  -- 55% FAVOR SDI
  -- 38% OPPOSE
  -- 7% OPINION

* Media General/Associated Press Poll (July, 1986)

  -- 52% FAVOR SDI
  -- 34% OPPOSED
  -- 14% NO OPINION

* Gallup Survey (October, 1985 -- results based on respondents who said they followed SDI debate "very closely" or "fairly closely")

  -- 61% FAVOR SDI
  -- 28% OPPOSE
  -- 11% NO OPINION

  (Of equal significance is the fact that SDI support grew from 58% to 61% since the Gallup Survey of January, 1985, and that opposition declined from 38% to 28% at the same time.)

The statistics noted above show that, among the general public, there remains solid majority support for SDI, with only about one-third of the electorate -- or less -- opposing the program. In addition, when the Gallup Survey questioned those who consider themselves to be "fairly well" or "very well" informed about SDI, support for SDI is even higher -- 61% in favor and only 28% opposed as of last November. Clearly, as Americans become more educated about SDI, its goals, and the nature of the Soviet threat, their support for the program increases accordingly.

AMERICA'S "DEFENSELESS" POSTURE NOT UNDERSTOOD

Almost every measure of public opinion demonstrates that, although a majority of Americans supports the Strategic Defense Initiative, the American public does not realize that our nation currently has no defense against incoming nuclear missiles. Thus, the more the American public learns about our inability to defend against intercontinental ballistic missiles (ICBMs) and the more they know about SDI goals, the more likely it is that support for the Strategic Defense Initiative will intensify and expand.

For example, the November, 1985, Time Magazine/Yankelovich Poll measured "informed" public opinion on SDI. Among those respondents who know about the SDI program, a full 58% believe it will make the United States more secure, with only 33% believing it will make our nation less secure. Among those same "informed" Americans, a full 65% believe SDI is "likely to work," while only 21% believe it is "likely not to work."

That there are many misconceptions about America's ability to defend against nuclear missiles is illustrated by the following:

* Associated Press/Media General in July, 1986 poll found that:

  -- 58% of the American public believes that the U.S. ability to defend itself against a nuclear attack is "good" or "excellent"

  -- 33% of the American public believes that our ability to defend against nuclear attack is "fair" or "poor"

* Sindlinger Poll in May, 1985, found that 43% of the American public does not realize that we cannot protect ourself against a nuclear attack (with 57% correctly noting that we cannot).

In short, despite the fact that Americans do not understand U.S. "defenselessness" against a nuclear attack, the majority who supports SDI today increases as SDI and the issue of "defense" becomes better understood by the public.

Committee on
THE PRESENT DANGER®
905 Sixteenth Street N.W. • Washington, D.C. 20006 • 202/628-2409

Press Contact: Suzanne M. Crow
(202) 628-2409

HOLD FOR RELEASE
10:15 A.M. WEDNESDAY, 27 AUGUST 1986

COMMITTEE ON THE PRESENT DANGER RELEASES

NEW NATIONAL POLL ON PUBLIC ATTITUDES TOWARD THE U.S. DEFENSE EFFORT

The Committee on the Present Danger today released the results of a national, in-depth poll on "Public Attitudes Toward the U.S. Defense Effort." The poll was conducted for the Committee late last month by the independent polling organization, Penn + Schoen Associates.[1]

The poll, conducted among a scientific sample of 1,004 Americans, revealed overwhelming support for the Strategic Defense Initiative (SDI), approval of current or greater levels of U.S. defense spending and a strong belief that the Soviet Union is involved in promoting world terrorism.

Eighty-one percent of Americans favored the development of an SDI system -- outnumbering those who oppose it by more than six to one. Seventy-eight percent said they favored using such a system in the United States if it could be developed.

- more -

---

[1]Penn + Schoen Associates is a highly respected, independent, national polling organization which has conducted polls for, among others, former Vice President Walter Mondale, Senator Edward Kennedy of Massachusetts, Senator Frank Lautenberg of New Jersey, Mayor Edward Koch of New York City and Mayor Marion Barry of the District of Columbia, as well as a broad spectrum of corporate clients and public interest groups.

A nonprofit, nonpartisan educational organization of citizens devoted to the *Peace, Security and Liberty of the Nation*
Co-Chairmen: C. Douglas Dillon • Henry H. Fowler Chairman, Policy Studies: Paul H. Nitze*
Executive Committee: Charls E. Walker, Chairman and Treasurer • David C. Acheson • Kenneth L. Adelman* • Richard V. Allen
Adda B. Bozeman • Valerie A. Earle • Andrew J. Goodpaster • William R. Graham* • Clare Boothe Luce • Charles Burton Marshall
Richard E. Pipes • John P. Roche • Eugene V. Rostow • Hugh Scott • Lloyd H. Smith • Herbert Stein • William R. Van Cleave • Elmo R. Zumwalt, Jr.
Director: Charles Tyroler, II General Counsel: Max M. Kampelman* Special Counsel: Bernard T. Renzy

*On leave in public service

Overall, three out of every four Americans oppose cutting the defense budget. Ninety-two percent believe that the importance of a strong military has either remained the same or increased in the past year, with less than ten percent of those polled expressing a decreased confidence in the U.S. defense effort.

Among the poll's other key findings:

-- 72% believe the Soviet Union is trying to expand rather than simply defend its territory.

-- 80% believe the Soviet Union is involved in promoting world terrorism.

-- Of those who favor increasing the defense budget, 31% believe that it should be achieved through cuts in non-defense spending and 18% feel that it should come from a tax increase.

-- While a plurality (48%) of those polled believe that the United States has a stronger military than the Soviet Union, a smaller plurality (44%) feel that the United States has a stronger nuclear force.

-- 88% have the same or greater confidence in the U.S. defense effort as compared to a year ago.

A full analysis of the poll's findings and copies of the complete results are available at the Committee's offices at 905 Sixteenth Street, N.W., Washington, D.C. 20006. Contact: Suzanne M. Crow, Research and Education Associate, (202) 628-2409.

* *

The Committee on the Present Danger is a non-profit, bipartisan research and educational organization of private citizens founded in November 1976 to facilitate a national discussion of U.S. foreign and national security policies and programs directed toward a secure peace with freedom.

- end -

To: The Committee on the Present Danger

From: Mark J. Penn and Douglas Schoen
Penn and Schoen Associates, Inc.

Re: Public Opinion of the U.S. Military

Date: August 25th, 1986

Our poll of 1004 U.S. residents conducted July 21st-23rd, 1986, shows that opinion of the strength and importance of the U.S. military has greatly increased in the last year.

Americans remain skeptical of Soviet intentions, however, as 72% believe that the Soviets are trying to expand their territory rather than defend what they have. And they continue to support the Strategic Defense Initiative in overwheming numbers.

Eighty per cent said that the Soviets are very (23%) or somewhat (57%) involved in world terrorism.

The successful U.S. action in Libya over the past year has apparently served to bolster confidence in the military.

Forty-eight per cent of the sample said that the U.S. now has a stronger military than the Soviet Union, while 36% said the Soviets are stronger.

By 44%-35%, Americans also believe that we have a stronger nuclear arsenal than the Soviets. There are sharp differences by sex on this question, as men are evenly divided on the question while women believe the U.S. arsenal is stronger by wide margins.

The answers on the military strength of the U.S. are sharply different from last year, when a plurality felt that the Soviets had stronger conventional and nuclear arsenals.

Confidence in the U.S. military increased among 35% of the sample, decreased among 9% and stayed the same among 53%. 44% said that having a strong military became more important in the last year, 6% said it became less important and 48% said its importance remained the same.

Twenty-seven per cent said they would like to see defense spending increased, 22% said it should be decreased and 48% said it should remain the same. Among those who wanted more spent on defense, 37% wanted some new way (such as cutting waste) to be found to finance it. Thirty-one per cent thought

social spending should be cut for defense, and 18% favored higher taxes. Only 7% of those who favored more defense spending would want to increase the deficit to pay for it.

Americans continue to support the concept of the SDI strongly. 81% favor development in principle of a system to destroy incoming missles before they reach their targets. And if such a system could be developed, 78% would favor its deployment.

METHODOLOGY

A total of 1004 interviews were conducted during the evenings of July 21st to July 23rd from Penn + Schoen's central telephone banks in New York City.

To ensure all U. S. residents an equal chance of being selected for the survey, a sample of phone numbers from 100 randomly chosen communities across the continental United States was drawn. A computer then replaced the last three digits of the selected phone numbers with randomly drawn digits. The use of the "random-digit dialing" sampling method ensured that individuals with listed and unlisted numbers had an equal probability of being selected.

The sample was balanced by region, age and sex to reflect current national demographics.

Sampling error for the CPD Poll is 3 percentage points in either direction at the 95 percent confidence level.

Penn + Schoen
Associates, Inc.

1501 Third Avenue. New York. N.Y. 10028 • (212) 734-3000

Mark Penn
Douglas Schoen

COMMITTEE ON THE PRESENT DANGER

The following volume contains the general summary and detailed tabular results of a survey conducted by Penn and Schoen Associates, Inc. for the Committee on the Present Danger. A total of 1,004 interviews with adult U.S. citizens were conducted between July 21 and July 23rd, 1986. All interviews were conducted from Penn and Schoen's New York City phone facilities.

Mark Penn

Douglas Schoen

August 15, 1986

"Public Attitudes Toward the U.S. Defense Effort"

GENERAL SUMMARY
COMMITTEE ON THE PRESENT DANGER #977

NO. 1
QUEST: Do you think presently that the Soviets are trying to expand their territory and influence or are they just trying to defend their own territory?

	expand	defend	don't know
ALL	72	22	6

NO. 2
QUEST: Do you think that the Soviets are heavily involved in promoting world terrorism, somewhat involved or not involved?

	heavily invlvd	smwht involved	not involved	don't know
ALL	23	57	14	6

NO. 3
QUEST: Who has a stronger military right now -- the United States or the Soviet Union?

	United States	Soviet Union	don't know
ALL	48	36	16

NO. 4
QUEST: Who has the stronger nuclear force -- the United States or the Soviet Union?

	United States	Soviet Union	don't know
ALL	44	35	21

NO. 5
QUEST: In general. do you think that spending on defense should be increased, decreased or kept the same?

	increased	decreased	kept the same	don't know
ALL	27	22	48	4

NO. 6

QUEST: How would you finance the increases in the defense budget -- principally through higher taxes, by making cuts in non-defense spending, by increasing the deficit or another way? (ASKED ONLY OF THOSE WANTED DEFENSE SPENDING INCREASED)

	higher taxes	cut social sp	incr the defct	another way	don't know
ALL	18	31	7	37	7

NO. 7

QUEST: Has your confidence in our defense effort increased in the last year, decreased or stayed the same?

	increased	decreased	styed the same	don't know
ALL	35	9	53	2

NO. 8

QUEST: In your opinion, has the importance of a strong military increased, decreased or remained the same over the last year?

	increased	decreased	styed the same	don't know
ALL	44	6	48	2

NO. 9

QUEST: The Strategic Defense Initiative, or SDI, is a research program to develop a system to destroy incoming nuclear missiles before they reach their targets. Do you favor or oppose the U.S. going ahead with the research and development phases of the SDI?

	favor	oppose	don't know
ALL	81	13	7

NO. 10

QUEST: If such a system could be developed, would you favor or oppose using it in the United States?

	favor	oppose	don't know
ALL	78	13	9

Race." Part 2, which will be sent to you tomorrow for release Monday, Nov. 18, will take the place of The Gallup Poll story regularly scheduled for Thursday, Nov. 21.

The Gallup Poll

Since 1935

FOR RELEASE:
Sunday,
November 17, 1985

'Star Wars' Support Grows, But Many Like Gorbachev's Counterproposal

By George Gallup, Jr.

PRINCETON, N.J. — On the eve of the much-anticipated summit meeting in Geneva, Nov. 19-20, between President Ronald Reagan and Soviet leader Mikhail Gorbachev, a growing majority of Americans familiar with the Administration's "Star Wars" proposal favor the development of such a system.

Of the 6 in 10 who have followed the discussions about "Star Wars" very or fairly closely, 61% want to see the U.S. go ahead with development, up from 52% in January.

Those who favor the development of this system believe it would increase the likelihood of reaching a nuclear arms agreement with the Soviet Union (48% say increase, 36% decrease), and would improve the chances for peace (44%) rather than make the world less safe (29%).

Public opinion on the prospect of "Star Wars" increasing the chances for an arms pact has changed little since January, but a decrease is noted in those who think it would make the world safer — from 50% in January to 44% today.

Major Area of Contention

The issue of "Star Wars" has been a major area of contention between the two superpowers, with Reagan having stated his commitment to this program on many occasions and Gorbachev insisting that the program be abandoned before any meaningful arms agreement can be reached. In early October, Gorbachev proposed that the United States and the Soviet Union agree to cut their strategic missile forces by half and negotiate a total ban on the development and deployment of space-based weapons.

Americans like his proposal (47% favor it, 32% are opposed) and might be willing to back off their support of "Star Wars" if the Soviet Union would, indeed, reduce their missiles by half. But many U.S. citizens remain distrustful of the intentions of the Soviet leaders.

In the current survey, for example, only 14% feel that Gorbachev's recent proposals mean that his nation is really serious about a major nuclear arms reduction agreement, while 60% see them as a propaganda ploy.

Lack of trust has been the basic reason Americans have been wary of entering into any bilateral or unilateral disarmament treaties with the Soviet Union. If assured of verification, the vast majority of U.S. citizens would support such treaties.

This is the first question asked:

How closely have you followed the discussions over the Administration's so-called 'Star Wars' proposal — that is, its proposal to develop a space-based defense against nuclear attack — very closely, fairly closely, or not at all?

The 61% who said they had followed the "Star Wars" discussion either very closely (15%) or fairly closely (46%) were then asked:

Would you like to see the United States go ahead with the development of such a system, or not?

As shown in the table, there has been a substantial increase since January in the proportion of "aware" Americans feeling the U.S. should proceed with the development of "Star Wars:"

Should U.S. Develop 'Star Wars'?
(Based on aware groups)

	October	January
Yes, develop	61%	52%
No, don't develop	28	38
No opinion	11	10
	100%	100%

As in the earlier survey, the issue is sharply polarized on the basis of political party affiliation, with substantially fewer Democrats (50%) and Independents (56%) than Republicans (77%) expressing support for "Star Wars" development. Also, men (70%) continue to be more favorably disposed than women (50%) toward development.

This question was also asked:

In your opinion, would the United States' developing this system increase or decrease the likelihood of reaching a nuclear arms agreement with the Soviet Union?

Effect of 'Star Wars' Development on Reaching Nuclear Arms Agreement
(Based on aware groups)

	October	January
Increase chances for agreement	48%	47%
Decrease chances for agreement	36	32
No difference, no opinion	16	21
	100%	100%

This question was also asked:

In your opinion, would developing this system make the world safer from nuclear destruction, or less safe?

Effect of 'Star Wars' Development On Chances for World Peace
(Based on aware groups)

	October	January
Make world safer	44%	50%
Make world less safe	29	32
No difference, no opinion	27	18
	100%	100%

Soviet leader Gorbachev has proposed that the United States and the Soviet Union agree to cut their strategic missile forces by 50% and to negotiate a total ban on the development and deployment of space-based weapons. Do you favor or oppose this proposal?

Soviet Arms Proposal

	Favor	Oppose	No opinion
NATIONAL	47%	32%	21%
Republicans	42	41	17
Democrats	52	25	23
Independents	47	31	22

Do you feel that Gorbachev's recent proposals mean that the Soviet Union now is really serious about a major nuclear arms reduction agreement — or are his proposals mainly intended to influence world opinion in his nation's favor?

Soviet Intentions

	Really serious	Influence world opinion	Both (Vol.)	No opinion
	%	%	%	%
NATIONAL	14	60	6	20
Republicans	12	68	6	14
Democrats	16	54	7	23
Independents	12	61	8	19

The findings are based on in-person interviews with 1,540 adults, 18 and older, including 987 who have followed the "Star Wars" discussions very or fairly closely. The interviews were conducted in more than 300 scientifically selected localities across the nation during the period October 11-14.

For results based on the full sample, one can say with 95% confidence that the error attributable to sampling and other random effects could be 3% in either direction. For results based on the aware group, the sampling error could be plus or minus 4 points.

In addition to sampling error, the reader should bear in mind that question wording and practical difficulties encountered in conducting surveys can introduce error or bias into the findings of opinion polls. *These statements conform to the standards of disclosure of the National Council on Public Polls.*

Coming Tomorrow
(For release Monday, Nov. 18)

- Americans' perceptions of which nation has the edge in nuclear weapons.
- Which constitutes a bigger threat to peace — continuation of the arms race or falling behind the Soviets?

Since 1935

The Gallup Poll

FOR RELEASE:
Sunday,
February 24, 1985

'Informed' Americans Back Reagan On 'Star Wars' Proposal

By George Gallup, Jr.

PRINCETON, N.J. — A majority of Americans who have followed the discussions over the Administration's "Star Wars" proposal favor the development of such a system, with the belief that it would increase the likelihood of reaching a nuclear arms agreement with the Soviet Union and improve the chances for peace.

Two-thirds of Americans (67%) say they have followed the discussions over the "Star Wars" proposal "very" or "fairly" closely. Of this group, 52% would like to see the U.S. go ahead with development, while 38% are opposed.

Of those who back the Administration's proposal, 7 in 10 (68%) say it would enhance the United States' position at the nuclear disarmament talks with the Soviet Union, and 8 in 10 (80%) say such a system will make the world safer.

Conversely, 57% of those opposed to development feel it would *decrease* the likelihood of a nuclear arms pact, and 69% believe development would make the world *less safe* from nuclear destruction.

The Administration's Strategic Defense Initiative, popularly known as "Star Wars" since President Reagan announced the plan in 1983, is a space-based defense against nuclear weaons. The Administration argues that the time has come to move away from reliance on weapons of mass destruction to a defensive system in order to deter a nuclear war. Critics contend that it would intensify the arms race, that development costs would be enormous, and question the feasibility of the entire "Star Wars" concept.

This is the first question asked:

How closely have you followed the discussions over the Administration's so-called 'Star Wars' proposal — that is, its proposal to develop a space-based defense against nuclear attack — very closely, fairly closely, or not at all?

A total of 16% said they had followed the discussions "very closely" while an additional 51% said "fairly closely." Three in 10 (30%) said "not at all closely."

The issue is sharply polarized on the basis of political party affiliation and sex, as shown in responses to the following question:

Would you like to see the United States go ahead with the development of such a system, or not?

Should U.S. Develop 'Star Wars'?
(Based on aware group)

	Yes, develop	No, don't develop	No opinion
	%	%	%
NATIONAL	52	38	10
Republicans	68	21	11
Democrats	39	52	9
Independents	48	43	9
Men	60	34	6
Women	43	43	14

This question was also asked:

In your opinion, would the United States' developing this system increase or decrease the likelihood of reaching a nuclear arms agreement with the Soviet Union?

Effect Of 'Star Wars' Development On Reaching Nuclear Arms Agreement
(Based on aware group)

Increase chances for agreement	47%
Decrease chances for agreement	32
No difference (Volunteered)	13
No opinion	8
	100%

This question was also asked:

In your opinion, would developing this system make the world safer from nuclear destruction, or less safe?

Effect Of 'Star Wars' Development On Chances For World Peace
(Based on aware group)

Make world safer	50%
Make world less safe	32
No difference (Volunteered)	11
No opinion	7
	100%

The following table shows the relationship between views on development of the plan and opinion on its effect on the arms talks and the chances for peace:

	Should U.S. Develop 'Star Wars'?	
Effect on Reaching Arms Agreement:	**Yes**	**No**
Increase chances	68%	19%
Decrease chances	17	57
No difference (Volunteered)	11	15
No opinion	4	9
	100%	100%
Effect on World Peace:		
Make world safer	80%	13%
Make world less safe	9	69
No difference (Volunteered)	8	12
No opinion	3	6
	100%	100%

The findings are based on in-person interviews with 1,528 adults, 18 and older, including 1,050 who have followed the "Star Wars" discussions very or fairly closely. The interviews were conducted in more than 300 scientifically selected localities across the nation during the period Jan. 25-28.

For results based on the full sample, one can say with 95% confidence that the error attributable to sampling and other random effects could be 3 percentage points in either direction. For results based on the "aware group," the sampling error could be plus or minus 4 points.

A Star Is Born

Strategic Defense Has Unconditional Support

A *Policy Review*/Sindlinger Poll

After two decades of political disharmony, Americans are reaching a new consensus on some of the most important defense issues facing the United States since the birth of the bomb. Americans overwhelmingly support President Reagan's proposed Strategic Defense Initiative (SDI), also known as "Star Wars." Eighty-five percent favor developing a missile defense "even if it cannot protect everyone," and 69 percent even if it means "withdrawing from our existing arms control agreements" with the Soviets. Nearly three-quarters of Americans believe that a Star Wars system would "make the U.S. more secure."

As a solution to the current Soviet advantage in land-based missiles, more Americans favor developing the President's Strategic Defense system to a U.S. missile buildup or to a U.S./Soviet nuclear freeze.

These are the results of the *Policy Review*/Sindlinger Poll conducted between May 7 and May 27. Sindlinger & Company, Inc. of Media/ Wallingford, PA surveyed 2,318 Americans in proportion to the population of the 48 contiguous states. Ninety-five percent of the original sample was interviewed.

The opinion poll also revealed that a very large number of Americans are not aware of a number of critical strategic advantages enjoyed by the Soviets. For example, 43 percent do not realize that the United States cannot protect itself from a Soviet nuclear attack, and two-thirds do not realize that Moscow is ahead of the United States in developing a Star Wars system.

The poll found that Americans strongly disapprove of current U.S. nuclear strategy, which relies on the threat of massive retaliation to deter a Soviet nuclear attack, while leaving the U.S. defenseless against a Soviet nuclear attack. Sixty-one percent believe that the current U.S. nuclear strategy is "dangerous and does not sufficiently defend" the United States and 74 percent believe it "needs to be changed." If a missile defense can be made to work, 77 percent favor developing and deploying it over continued reliance on our current nuclear strategy.

In findings significant for the U.S.-Soviet arms talks and the status of the 1979 SALT II treaty, 90 percent favor continued arms talks with Moscow. Yet 68 percent of Americans believe that the Soviet Union "cannot be trusted" most of the time. In the event of Soviet cheating on arms control treaties, 92 percent believe the Reagan Administration should publicize the Soviet violations and 62 percent would favor an increase in U.S. defense preparations. Some 85 percent of Americans would not consider it a foreign policy failure were no agreement reached at the Geneva talks. As for SALT II, which expires at the end of this year, 51 percent oppose U.S. compliance beyond that date; only 43 percent favor U.S. compliance.

Americans appear to support the arms control process, as long as it does not weaken U.S. security. For example, 69 percent believe the United States should build the President's Strategic Defense system even if it involved "withdrawing from our existing arms control agreements" with the Soviet Union.

The poll found that American females are consistently more hawkish than their male counterparts. For example, when the Soviet Union violates its arms control treaties, only eight percent of American men would favor discontinuing further arms control talks, compared to 26 percent of American women. Similarly, while 96 percent of American men agree that the United States should engage in arms control talks with the Soviets, only 85 percent of American women do.

Part I. Arms Control

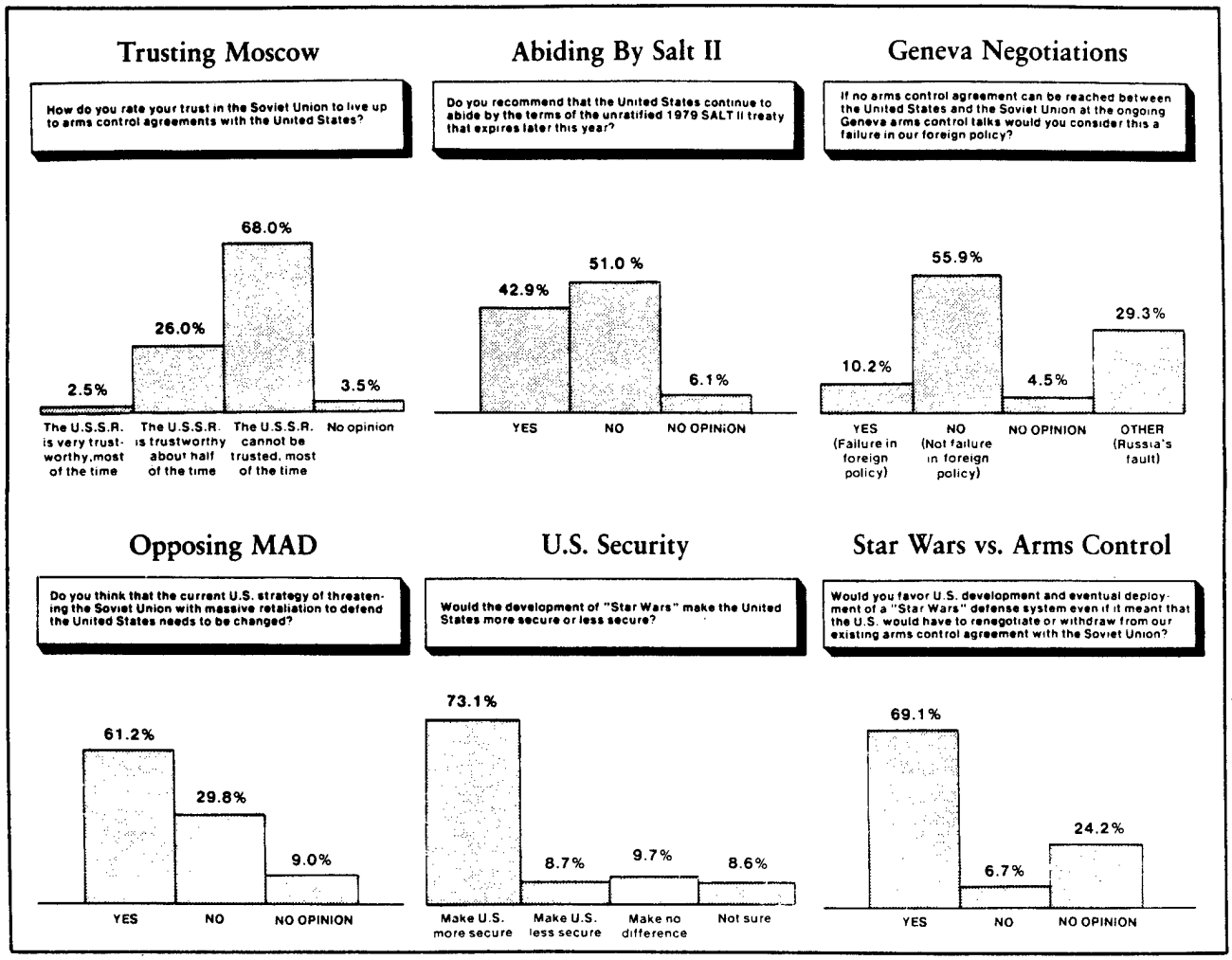
1) How do you rate your trust in the Soviet Union to live up to arms control agreements with the United States?

The Soviet Union is very trustworthy most of the time	2.5
The Soviet Union is trustworthy about half of the time	26.0
The Soviet Union cannot be trusted most of the time	68.0
No opinion	3.5

2) Do you agree that the United States should currently be engaged in arms control talks with the Soviet Union?

Agree	90.1
Disagree	7.1
No opinion	2.8

3) In the future, if the Soviet Union violates arms control treaties it has signed with the United States, do you believe we should . . .



Graphs for *Policy Review* by Karen Portik.

A. immediately withdraw from the treaty?

Yes	37.5
No	54.0
No opinion	8.4

B. increase our defense preparation?

Yes	61.5
No	29.2
No opinion	9.3

C. publicize the Soviet violations?

Yes	92.3
No	4.1
No opinion	3.6

D. discontinue further arms control talks with the Soviets?

Yes	17.6
No	79.6
No opinion	2.9

E. continue to abide by the treaty?

Yes	64.1
No	30.5
No opinion	5.4

4) Although the United States never ratified the 1979 Salt II arms control agreement with the Soviet Union, our nation has abided by the terms of the treaty for the past five years. This treaty expires later this year, and it is known that the Soviet Union has violated the treaty in five key areas. Do you recommend that the United States should continue to abide by the terms of the treaty?

Yes	42.9
No	51.0
No opinion	6.1

5) If no arms control agreement can be reached between the United States and the Soviet Union at the ongoing Geneva arms control talks, would you consider this a failure in our foreign policy?

Yes	10.2
No	55.9
No opinion	4.5
Other (Soviets Union's fault)	29.3

Part II: "Star Wars"

1) Can the United States protect itself now from incoming nuclear missiles?

Yes	8.9
No	57.1
Not sure	17.6
Hope so	16.4

2) Current U.S. policy is to deter a Soviet nuclear attack by threatening massive retaliation against the Soviet Union, while at the same time leaving the United States defenseless against a Soviet nuclear attack. This strategy is often referred to as MAD (which stands for Mutual Assured Destruction), or as the "balance of terror." Which one of the following statements do you feel most comfortable with?

A. The current strategy does not need to be changed.

No need to change	11.7
Needs to be changed	74.4
No opinion	13.9

B. The current strategy is dangerous and does not sufficiently defend the United States.

Yes	61.2
No	29.8
No opinion	9.0

3) If "Star Wars" can be made to work, and there is a choice between the current mutual assured destruction ("balance of terror") strategy or the new plan of "Star Wars," which would be your number one choice?

A. Keep the current strategy?

Yes	10.2
No	80.0
No opinion	9.8

B. Or develop and deploy "Star Wars?"

Yes	77.0
No	10.0
No opinion	13.0

4) Under what conditions would you support the President's Strategic Defense proposal?

A. If it could destroy almost all incoming missiles?

Yes	84.4
No	10.7
Not sure	4.9

B. If it could destroy at least half of incoming missiles?

Yes	71.9
No	19.4
Not sure	8.7

C. If it defends only U.S. retaliatory missiles?

Yes	61.5
No	26.8
Not sure	11.7

5) Would the development of "Star Wars" (the President's Strategic Defense strategy) make the United States more secure or less secure?

More secure	73.1
Less secure	8.7
No difference	9.7
Not sure	8.6

6) Currently the civilian population of the United States has no complete defense against any enemy nuclear attack. Even if a perfect defense cannot be developed, would you favor and support developing a system which protects most of our population, even if it cannot protect everyone?

Yes	84.7
No	2.4
Not sure	12.9

7) According to the best information available, the Soviet Union now has 1,398 land-based missiles which could reach the United States. On the other hand, we have 1,030 land-based missiles which could reach the Soviet Union. Which of these conditions would make you more secure?

A. The U.S. and the U.S.S.R. agreed to freeze their nuclear arsenals at present levels?

Yes	47.5
No	49.7
No opinion	2.7

B. The U.S. built the President's strategic defense system?

Yes	64.8
No	16.3
No opinion	18.9

C. The U.S. built more missiles to equal the Soviet Union?

Yes	36.4
No	24.5
No opinion	39.1

8) Some people say that in the development of any strategic defense system that could destroy incoming missiles, the Soviet Union is far ahead of the United States, while other people are saying that the United States is far ahead of the Soviet Union. What do you think?

Soviet Union ahead	33.6
Soviet Union behind	26.3
Both the same	17.0
Not sure	23.1

9) Would you favor development and an eventual deployment of a "Star Wars" defense system for the United States, even if it meant that the U.S. would have to renegotiate or withdraw from our existing arms control agreements with the Soviet Union?

Yes	69.1
No	6.7
No opinion	24.2

MEDIA GENERAL POLL

June, 1986

Methodology

This Media General/Associated Press public opinion poll was conducted by Media General Research among a representative sample of 1,365 adults across the nation living in telephone households.

Interviews were conducted between June 20 and June 28, 1986, during the hours when men and working women could also be reached. Up to three call-backs were made to reach the appropriate respondent.

The telephone sample was drawn using a random method by Survey Sampling, Inc., of Westport, Connecticut. It included listed and non-listed telephone households.

The data projects to an estimated 161 million adults in telephone households.

And now some questions about the defense systems of the U. S. military.

29. How would you rate the United States' ability to defend itself against a nuclear attack--excellent, good, fair, or poor?

39-1(20) Excellent
2(38) Good
3(21) Fair
4(12) Poor
5(8) Don't know
6(1) No answer

Base: 162

30. What do you think is the most important element in the U. S. defense against an attack by Soviet nuclear missiles?

40-43 (SEE TABLE I)

99( ) NA

31. As you may or may not know, President Reagan has proposed a plan to conduct research to possibly base an anti-missile defense in space, the so-called Star Wars plan. Now, regarding Star Wars, which of the following statements most closely reflects your views? *(ROTATE)* *(CHECK ONLY ONE)*

44-1(52) "I approve of this plan because I think it is needed to counter a Soviet threat" or
2(34) "I disapprove of the plan because it is likely to spark a new stage in the arms race."
3(14) DK/NA

Base: 1,365

32. Some people say that Star Wars research should be stopped because it is impossible to develop and therefore not worthwhile, while others say the research is worthwhile. How do you feel? Do you think the research should continue, or not?

45-1(62) Should continue
2(26) Should not continue
3(11) Don't know
4(1) No answer

Base: 1,365

33. Currently, who do you think has the greater strength in nuclear weapons, the United States or the Soviet Union, or are they about equal?

46-1(21) U. S. greater
2(25) Soviet Union greater
3(41) About equal
4(12) Don't know
5(1) No answer

Base: 1,365

34. Do you think it's important for the U. S. national defense to have more nuclear missiles than the Soviet Union, or not?

47-1(34) Yes
2(55) No
3(11) DK/NA

Base: 1,365

35. If the U. S. continues to put more money into national defense, would you prefer to see more money put into the Star Wars defense system or into more conventional defense systems?

48-1(31) More to Star Wars
2(51) More to conventional systems
3(13) Don't know
4(5) No answer

Base: 1,365

GLOSSARY OF SDI DEFINITIONS

Acquisition	The process of searching for and detecting a potentially threatening object in space. An acquisition sensor is designed to search a large area of space and to distinguish potential targets from other objects against the background of space.
Algorithm	Rules and procedures for solving a problem.
Anti-Ballistic Missile (ABM) System	A missile designed to intercept and destroy a strategic offensive ballistic missile or its reentry vehicle.
Anti-Satellite (ASAT) Weapon	A weapon designed for or capable of destroying satellites in space. The weapon may be launched from the ground, from an aircraft, or be based in space. The target may be destroyed by either a nuclear or conventional explosion, by collision at high speed, or by a directed-energy beam.
Architecture	Description of all functional activities to be performed to achieve the desired level of defense, the system elements needed to perform the functions, and the allocation of performance levels among those system elements.
Ballistic Missile	A pilotless vehicle propelled into space by rocket engines. Thrust is terminated at a pre-designated time after which the missile's reentry vehicles are released and follow free-falling trajectories toward their targets under the influence of gravity. Much of a reentry vehicle's trajectory will be above the atmosphere.
Battle Management	Includes assets to perform the computations to direct target selection and fire control, perform kill assessments, provide command and control, facilitate communication, and assist a variety of military users in the accurate determination of their positions.
Boost Phase	The first phase of a ballistic missile trajectory during which it is being powered by its engines. During this phase, which usually lasts between 3-5 minutes for an ICBM, the missile reaches an altitude of about 200 km whereupon powered flight ends and the missile

Boost Phase (Cont.)	begins to dispense its reentry vehicles. The other phases of missile flight, including mid-course and reentry, take up the remainder of an intercontinental ballistic missile's flight time of 25-30 minutes.
Booster	The rocket that "boosts" the payload to accelerate it from the earth's surface into a ballistic trajectory, during which no additional force is applied to the payload.
Brightness	As used in SDI, brightness is the measure of source intensity. To determine the amount of energy per unit area on a target, both source brightness and source-target separation distance must be specified.
Bus	The warheads on a single missile are carried on a platform of "bus" (also referred to as a post-boost vehicle).
Chaff	Strips of frequency-cut metal foil, wire, or metallized glass fiber used to reflect electromagnetic energy, usually dropped from an aircraft or expelled from shells or rockets as a radar countermeasure.
Chemical Laser	A laser in which chemical action is used to produce pulses of intense light.
Communication	Includes communication between two or more ground sites, between satellites, or between a satellite and a ground site.
Decoy	A device constructed to look and behave like a nuclear-weapon carrying warhead which is far less costly, much less massive, and can be deployed in large numbers to complicate defenses.
Directed-Energy	Energy in the form of atomic particles, pellets, or electromagnetic beams that can be sent long distances at, or nearly at, the speed of light.
Directed-Energy Weapon	A weapon that employs a tightly focused and precisely directed beam of very intense energy, either in the form of light (a laser) or of atomic particles traveling at velocities close to the speed of light (a particle beam weapon). (See also Laser and Particle Beam Weapon.)

Discrimination	The process of observing a set of attacking objects and determining which are decoys or other non-threatening objects.
Electromagnetic Gun	A gun in which the projectile is accelerated by electromagnetic forces rather than by an explosion, as in a conventional gun.
Endoatmospheric	Within the earth's atmosphere, generally considered altitudes below 100 km.
Engagement Time	The amount of time that a weapon platform takes to negate a given target. This includes not only firing at the target but all other necessary weapon functions involved that are unique to that particular target.
Excimer Laser	A laser in which emission is stimulated when a gas is shocked with electrical energy and the excited medium emits light when returning to a ground state.
Exoatmospheric	Outside the earth's atmosphere, generally considered altitudes above 100 km.
Fluence	The amount of energy per unit area on target. (It should be specified whether this is incident or absorbed fluence.)
Gamma Ray	Electromagnetic radiation resulting from nuclear transitions. Although incorrect, high-energy radiation, particular bremsstrahlung, is sometimes referred to as gamma radiation.
Hardening	Measures which may be employed to render military assets less vulnerable.
Hypervelocity Gun	A gun that can accelerate projectiles to 5 km per second or more; for example, an electromagnetic or rail gun.
Imaging	The process of identifying an object by obtaining a high-quality image of it.
Interception	The act of destroying a target.
Intercontinental Ballistic Missile (ICBM)	A ballistic missile with a range of 3,000 to 8,000 nautical miles. The term ICBM is used only for land-based systems to differentiate them from submarine-launched ballistic missiles, which are also considered strategic, though not necessarily intercontinental.

Intermediate-Range Ballistic Missile (IRBM)	A land-based ballistic missile with a range 2,500 to 3,000 nautical miles. The range is less than that of an ICBM but greater than that of a short- or medium-range ballistic missile. Types of IRBMs currently deployed include the Soviet SS-20.
Kinetic Energy	The energy from the momentum of an object, i.e., an object in motion.
Kinetic-Energy Weapon	A weapon that uses a non-explosive projectile moving at very high speed to destroy a target on impact. The projectile may include homing sensors and onboard rockets to improve its accuracy, or it may follow a preset trajectory (as with a shell launched from a gun). The projectile may be launched from a rocket, conventional gun, or rail gun.
Laser	(Light Amplification by the Stimulated Emission of Radiation) A device for producing an intense beam of coherent light. The beam of light is amplified when photons (quanta of light) strike atoms or molecules. These atoms or molecules are thereby stimulated to emit new photons (in a cascade or chain reaction) which have the same wavelength and are moving in phase and in the same direction as the original photon. A laser weapon may destroy a target by heating, melting, or vaporizing its surface.
Layered Defense	A defense that consists of several sets of weapons that operate at different phases in the trajectory of a ballistic missile. Thus, there could be a first layer (e.g., boost-phase) of defense with remaining targets passed on to succeeding layers. (e.g. mid-course, terminal)
Leakage	The percentage of warheads that get through a defensive system intact and operational.
Lethality	Refers to the amount of energy, or other beam characteristic, required to eliminate the military usefulness of enemy targets by causing serious degradation (mission kill) or destruction (observable kill) of a target system.
Midcourse Phase	That portion of the trajectory of a ballistic missile between the boost phase and the re-entry phase. During this phase of the missile trajectory the missile releases its warheads

Midcourse Phase (Cont.)	and decoys and is no longer a single object, but a swarm of RVs, decoys, and debris falling freely along pre-set trajectories in space.
Multiple Independently-Targetable Reentry Vehicle (MIRV)	A package of two or more reentry vehicles which can be carried by a single ballistic missile and guided to separate targets. MIRVed missiles employ a warhead dispensing mechanism, called a post-boost vehicle (PBV or "bus"), to target and release the warheads.
Neutral Particle Beam	An energetic beam of neutral atoms (no net electric charge). A particle accelerator moves the particles to nearly the speed of light.
Nonnuclear Kill	A kill that does not involve a nuclear detonation.
Nuclear Directed Energy Weapon	Directed energy weapons where the source of energy is a specially designed nuclear explosive.
Particle Beam	A stream of atoms or subatomic particles (electrons, protons, or neutrons) accelerated to nearly the speed of light.
Particle Beam Weapon	A weapon that relies on the technology of particle accelerators (atom-smashers) to emit beams of charged or neutral particles which travel at the speed of light. Such a beam could theoretically destroy a target by several means, e.g. electronics upset, electronics damage, softening/melting of materials, sensor damage, and initiation of high explosives. (Stable propagation of particle beams in the atmosphere has never been demonstrated.)
Passive Sensor	A sensor that only detects radiation naturally emitted (infrared radiation) or reflected (sunlight) from a target.
Pointing & Tracking	Once a target is detected, it must be followed or "tracked." When the target is successfully tracked, a weapon is pointed at the target. Tracking and pointing are frequently integrated operations.
Post-Boost Phase	The portion of a rocket trajectory following boost and preceeding reentry.

Post-Boost Vehicle	The portion of a rocket payload that carries the multiple warheads and has maneuvering capability to place each warhead on its final trajectory to a target (also referred to as a "bus").
Rail Gun	A weapon using electromagnetic launching to fire hypervelocity projectiles. Such projectile launchers will have very high muzzle velocities, thereby reducing the lead angle required to shoot down fast objects, lessening windage effects, and flattening trajectories in the atmosphere.
Reentry Vehicle (RV)	The part of a ballistic missile that carries the nuclear warhead to its target. The reentry vehicle is designed to reenter the earth's atmosphere in the terminal portion of its trajectory and proceed to its target.
Responsive Threat	A threat which has been upgraded in quality or quantity or with added protective countermeasures in response to a projected capability of defeating (all or part of) the threat.
Signature	The characteristic pattern of the target displayed by detection and identification equipment.
Surveillance	This includes tactical observations, strategic warning, and meteorological assessments, by optical, infrared, radar, and radiometric sensors on space-borne and terrestrial platforms.
Survivability	The capability of a system to avoid or withstand man-made hostile environments without suffering an irreversible impairment of its ability to accomplish its designated mission.
Terminal Phase	The final phase of a ballisitc missile trajectory, during which warheads and penetration aids reenter the atmosphere. This phase follows the end of the midcourse phase and continues until impact or arrival of the missile in the vicinity of the target.
Vulnerability	The characteristics of a space system which cause it to suffer a definite degradation (reduced capability to perform the designated mission) as a result of having been subjected to hostile environments. Vulnerability usually addresses a single space-system segment or element thereof. Of particular interest is the lowest level at which degradation effects, if any, are acceptable.

X-Rays

Electromagnetic radiation which results from either the release of energy from electrons changing orbits about the nucleus (discrete) or the inelastic collision of charged particles with the electromagnetic field of the nucleus.