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THE STRATEGIC DEFENSE INITIATIVE: PROGRAM FACTS

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THE STRATEGIC DEFENSE INITIATIVE: PROGRAM FACTS

SUMMARY

The Strategic Defense Initiative (SDI) is a long-term technology research program to examine the feasibility of developing defenses against ballistic missile attack. The SDI program is also perhaps the most controversial U.S. defense program because it raises so many fundamental questions about national security, nuclear deterrence, arms control, and U.S.-allied and U.S.-Soviet relations.

The SDI program was officially launched in 1984, although President Reagan gave a major speech in 1983 challenging the Nation to find a way to render nuclear weapons "impotent and obsolete." Since then, SDI has become the largest defense research and development program in the Defense Department.

Each year, Members of Congress are asked questions about the SDI program. The American public is generally interested in all aspects of SDI and its implications for U.S. foreign and defense policy. Members of Congress are also asked each year to vote on the SDI program as part of the Department of Defense spending bill.

ISSUE DEFINITION

This issue brief describes the Strategic Defense Initiative (SDI) program, tracks the program through the current budget and legislative process, and presents arguments from both sides of the current SDI debate. Further references are provided.

BACKGROUND AND ANALYSIS

Background

On Mar. 23, 1983, President Reagan delivered a nationwide address in which he spoke of a long-term national security goal to eliminate "the threat posed by strategic nuclear missiles," and render such weapons "impotent and obsolete." This address became known as the President's "Star Wars" speech and it launched a major, controversial reexamination of U.S. strategic nuclear policy.

Following the address, President Reagan authorized two studies to examine the potential role of strategic defenses against ballistic missile attack. One study team, known as the Defensive Technology Study (or Fletcher Study), concluded that emerging ballistic missile defense (BMD) technologies could enhance U.S. security and recommended that the United States pursue a broad-based BMD research and technology development effort. The study further recommended that the tempo of this research be "technology-limited" (a level sufficient to determine by the mid-1990s whether or not to "develop and deploy...advanced defensive systems"), rather than "funding-limited" (a level comparable to U.S. BMD research efforts in the 1970s). The second study team, known as the Future Strategic Strategy Study (or Hoffman Study), also concluded that BMD should be developed to offer an entirely new concept of strategic nuclear deterrence based on defense against attack, rather than solely relying on retaliation.

As a result of these studies, and Department of Defense recommendations, the Administration established the Strategic Defense Initiative (SDI) program in January 1984. Although the military services had ongoing research programs on various facets of BMD, these efforts were brought together for a more intensive and centralized effort. The SDI Organization (SDIO) is headed by Air Force Lt. Gen. James Abrahamson. As stated, the goals of the SDI program are to provide strategic defense options that would eliminate the threat posed by ballistic missiles, and thereby:

-- support a better basis for deterring aggression;
-- strengthen strategic stability; and
-- increase the U.S. and allied security

Later, the Administration outlined its criteria for evaluating a potential SDI system. In a speech on Feb. 20, 1985, Ambassador Paul Nitze indicated that such a system must be: (1) survivable; and (2) cost-effective at the margin before it could be deployed. In other words, the United States would not deploy an SDI system unless it could survive

an attack against it, and unless the cost of adding more defenses was less than the cost to the Soviets of their adding more offensive systems to overcome U.S. defenses. These criteria were reaffirmed as Administration policy in June 1985. (See "The Strategic Defense Initiative," June 1985, The Department of State. This policy was based on the contents of a classified National Security Decision Directive, No. 172.)

Congress accepted the survivability and cost-effectiveness criteria, stipulating that any strategic defense system developed as a result of the SDI program may not be deployed in whole or in part unless the President certifies that the system meets these criteria. Congress indicated that a cost-effective SDI system would have to be able to maintain its effectiveness against the offense at less cost than it would take the Soviets to develop offensive countermeasures and to add more offensive systems to overcome the SDI system. This was included in the FY86 Defense Authorization Act (P.L. 99-235, sec. 222).

The cost-effectiveness criterion remains in doubt, however. Both Secretary of Defense, Caspar Weinberger, and SDI Director, James Abrahamson, have said that cost-effectiveness should be replaced with a less demanding criterion of affordability, which includes a variety of measurable and nonquantifiable issues, according to the Administration. (See Report to Congress on the Strategic Defense Initiative, June 1986, Department of Defense, pp. IV-2 to IV-3.)

In his Feb. 20, 1985 speech, Nitze also incorporated SDI into Administration arms control policy. This "New Strategic Concept," as it has been called, is three phased. First, the United States would seek deep reductions in the number of nuclear weapons and seek to stabilize the offense-defense relationship for at least 10 years, while SDI research is being pursued. This would be followed by a transition period to include the phased deployment of strategic defenses. Finally, all nuclear weapons would be eliminated. This policy serves as the basis of U.S. strategy at the Geneva arms control talks with the Soviets, and provides the strategic rationale for the SDI program.

The Allied Response to the SDI Program

Initially, U.S. European allies viewed Reagan's "Star Wars" effort with alarm because they had not been consulted prior to the President's speech. They were generally concerned that SDI might contribute to a "decoupling" of U.S. and European security, lead to abandonment of offensive nuclear deterrence, upset U.S.-Soviet relations, and challenge Europe economically as the United States pursued a vigorous advanced technology program with potential applications for the commercial sector. While the allies oppose any BMD research or development program that threatens the 1972 ABM (Anti-Ballistic Missile) Treaty, currently, there seems to be strong support for SDI research conducted within the limits of the Treaty.

In March 1985, the Administration solicited allied participation in the SDI program to gain technical expertise and political support for SDI. Several governments have said that they would not participate in SDI (such

as France, Canada, Denmark, Belgium, the Netherlands, and Norway), and some are critical of the program. These countries have indicated, however, that private industry was free to contract directly with the SDI. Such participation currently includes: France ($3.4 mil.); Canada ($620,000); and Belgium ($94,000).

Other governments have undertaken negotiations with the United States and some of them have signed agreements regarding industrial and government participation in SDI. These are listed below.

-- Great Britain signed a Memorandum of Understanding (MOU) with the United States on Dec. 6, 1985, which outlined a framework for British scientists to participate in SDI research. Currently, about $30 million in SDI contracts have been awarded.

-- West Germany signed a MOU with the United States on Mar. 27, 1986. Currently, about $49.6 million has been awarded.

-- Israel signed an MOU on May 6, 1986, and currently has been awarded about $10.7 million in SDI contracts.

-- Italy signed an MOU on Sept. 19, 1986, and currently has been awarded $2.3 million in SDI contracts.

-- Japan signed an MOU on July 21, 1987, but no contracts have been awarded.

-- The Netherlands signed a Memorandum of Agreement (MOA) on July 21, 1987, and had received about $43,000 in SDI contracts prior to the MOA.

To date, 70 contracts have been awarded to foreign companies for a total of $96.6 million.

Department of Energy's Role in SDI

Attention has focused on the Department of Energy's (DOE) growing role in the SDI program because of its increased level of funding, from $224 million in FY85 to some $550 million projected for FY88. There has also been increased attention to nuclear-driven SDI concepts, such as the X-ray laser in the SDI program. Critics have charged that the Pentagon is militarizing DOE and that SDI is not being developed as a nonnuclear defense system, contrary to President Reagan's claims.

In February 1984, the Secretaries of Defense and Energy approved a joint policy statement clarifying the role of nuclear research in the SDI program. The document emphasizes that although the long-term goal of SDI is an effective nonnuclear defense, there are many reasons for including nuclear research in the SDI program. These are:

-- to determine the feasibility and effectiveness of nuclear-driven systems that the Soviets may develop for use against future U.S. defensive systems and satellites.

-- to understand the technical feasibility and impact that Soviet nuclear driven defensive systems might have on U.S. strategic offensive forces.

-- to explore nuclear-driven technologies, such as the X-ray laser, as possible U.S. options.

In July 1984, DOD and DOE approved a Memorandum of Agreement that provides for coordinating and integrating DOE's involvement in SDI research and for resolving potential disputes between the two agencies. The agreement established a steering committee to those ends, comprised of the SDI Director, the Deputy Secretary of Defense, and the Chairman of the Military Liaison Committee.

Cost Data

Within DOD, SDI research and development is funded through five program elements (described in the Program Details section below). The SDI program also includes DOD funds for its headquarters management and some military construction. Funds for the SDI also are appropriated for the Department of Energy.

The SDI program was one of the few areas within the FY86 defense budget that was protected by President Reagan from the budget cuts required under the Gramm-Rudman-Hollings Act for FY86 because for that year only the President could reprogram funds to protect a program he wanted. He did not have that discretionary authority for FY87. This means that the $2.75 billion that Congress appropriated for SDI in FY86 was not cut by the Gramm-Rudman-Hollings bill. The Department of Energy's funding for SDI was not protected, however, and it was cut by $15 million for FY86.

DOE's SDI-related research is carried out primarily in the technology base portion of DOE's weapons research, development, and testing (RDT&E) program by the three national nuclear weapons laboratories: Los Alamos, Lawrence Livermore, and Sandia. There are several areas in which DOE is working on SDI, such as nuclear directed energy concepts (e.g., x-ray laser) and SDI-related nuclear power research. DOE is also working on several nonnuclear ballistic missile defense programs, including laser weapon concepts, at these labs. Both nuclear and nonnuclear research are being conducted into survivability and lethality problems (see below). DOE is building a Strategic Defense Facility, to be located at Sandia National Laboratory, to conduct much of the experimental research on advanced defensive and directed energy concepts.

	FY85 Actual	FY86 Actual	FY87 Actual	FY87 Supp. Actual	FY88 Request	FY89 Request
TOTAL SDI*	1,621.1	3,037.1	3,613.0	75.0	5,915.1	6,850.0
Total DOD	1,397.3	2,687.3	3,252.7	75.0	5,346.0	6,300.0
RDT&E**	1,388.2	2,674.2	3,222.5	75.0	5,198.8	6,254.7
SATKA	546.0	847.0	924.6	0.0	1,492.7	1,859.5
DEW	377.6	803.4	843.6	0.0	1,103.7	1,245.8
KEW	256.0	595.8	729.5	0.0	1,074.7	1,199.7
SA/BM	100.3	212.4	386.9	0.0	627.3	787.5
SLKT	108.4	215.6	337.9	75.0	900.4	1,162.2
SDIO HQ.***	9.1	13.1	19.9	---	22.0	27.3
MILCON****	0.0	0.0	10.3	---	125.2	18.0
Total DOE	223.8	349.8	360.3	---	569.1	550.0

* In millions of dollars.

** Allocation of funds within the various program elements has been left to the discretion of SDIO.

*** Management Headquarters, SDI Organization.

**** Military Construction.

NOTE: FY85 is the first year of funding for the SDI as such. Prior to FY85, BMD and associated research and development programs were funded through the various military services and defense agencies.

Program Details

Surveillance, Acquisition, Tracking, and Kill Assessment (SATKA)

This program element examines sensing technologies that would be needed to begin a defensive engagement, manage a battle, and assess the status of forces during a ballistic missile attack. It includes a mixture of some of the most and least mature technologies being developed by the SDIO and will receive a large portion of SDI funding in the next four years.

Directed Energy Weapons (DEW)

This program element explores technologies for: high-power laser and particle beam generation; optics and sensors for correcting and controlling high-power beams; large, lightweight mirrors and lightweight magnets for focusing the beam on target; and fire control to take

advantage of the unique features of directed energy weapons such as the ability to measure and control the energy delivered to a target. It examines four possible approaches to boost and post-boost ballistic missile defense (BMD): space-based lasers; ground-based lasers with orbiting relay mirrors; space-based neutral particle beams; and charged particle beams for use in the atmosphere.

Kinetic Energy Weapons (KEW)

This program element explores the potential use of conventional rocketing and smart "hit-to-kill" weapons to render a ballistic missile or its warhead ineffective in any phase of its flight through impact rather than by explosion. It includes some of the more mature technologies being developed under the SDI for near-term and early deployment options.

Survivability, Lethality, and Key Technologies (SLKT)

This program element examines technologies for protecting an entire BMD system from a determined attack by the offense and predicting the minimum energy required to destroy Soviet systems in all conceivable engagement scenarios.

Systems Concepts and Battle Management (SC/BM)

This program element develops the technologies needed for a highly responsive, very reliable, survivable, endurable, and cost-effective battle management/command, control, and communication (C3) system. It will also use modeling and simulation techniques to determine the technological risk and cost of developing such a system.

Key Issues

(1) Should the United States fund the Strategic Defense Initiative (SDI) at the level planned by the Reagan Administration, namely $26 billion for FY85-FY89, particularly in light of current budgetary constraints?

YES. The SDI program is vital to the security of the United States. There are many reasons why the Reagan Administration's SDI program should be supported and fully funded by the Congress. These reasons are outlined below.

Strategic. The Soviet Union has been pursuing an extensive strategic defense effort of its own that is characterized by large investments. Soviet strategic defense programs seek to provide the USSR with the capability to break out of the 1972 ABM Treaty and deploy a nationwide ABM system rapidly, which would place the United States in a position of strategic inferiority and threaten U.S. national security. The important elements of the Soviet program are (1) development, testing, and deployment of traditional ABM systems and components (and air defense systems) that could be expanded quickly for nationwide ABM defense purposes; (2) development of directed-energy weapon systems at power levels that can be used for strategic ballistic missile defense and to attack space targets; and (3) development of a military-dominated space

program with an operational anti-satellite (ASAT) system and potential space-based ABM capability. The U.S. SDI program thus serves as a hedge against Soviet breakout of the ABM Treaty.

The SDI program is also critical to ensure the continued deterrent role of the U.S. intercontinental ballistic missile (ICBM) force. It was hoped, after the SALT process began, that the USSR would have constrained the development of its offensive nuclear forces. Instead, the Soviet Union has continued to improve its ballistic missile force by providing additional prompt, hard-target kill capability, thereby increasing the Soviet threat to U.S. ICBMs. In fact, it is estimated that less than 10% of our ICBMs would survive a Soviet surprise attack. In addition to protecting the American people, the SDI program is needed to develop the means to defend U.S. military forces, too, particularly ICBMS.

Furthermore, the United States cannot presently defend itself if a nuclear-armed missile were accidentally launched. Neither could the United States defend itself if any country developed and launched a nuclear missile. The growing problem of the spread of nuclear weapons around the world requires that we develop the means to protect the United States from the irrational actions of others.

President Reagan's SDI goal is to develop the technical means to defend the United States and its allies. Defensive systems developed under the SDI, such as anti-tactical ballistic missiles (ATBM), promise to strengthen the defense of allies and NATO against nuclear attack. Defensive systems in Europe also promise to reinforce the ties between the defense of Europe and the strategic deterrent of the United States. Indeed, many key allies are involved with the U.S. SDI program and seek to develop the means of defending against Soviet intermediate-range nuclear missiles.

Political and Moral. It must be remembered that U.S. acceptance of the ABM Treaty in 1972 was conditional. The ABM Treaty assumed follow-on arms control agreements to reduce substantially the numbers of offensive nuclear weapons, so that with acceptance of defensive restraints offensive nuclear capabilities would not be able to threaten a successful "first-strike." In fact, the United States declared in the ABM Treaty that "if an agreement were not achieved within five years, U.S. supreme interests could be jeopardized. Should that occur, it would constitute a basis for withdrawal from the ABM Treaty." (U.S. Unilateral Statement, May 9, 1972.) The conditionality of the ABM Treaty must be understood in the context of today. U.S. ICBMs are vulnerable to Soviet attack largely as a result of the failure of arms control to constrain Soviet offensive strategic nuclear weapons development. SDI is therefore necessary to resolve a strategic problem that arms control has failed to resolve.

The SDI could provide the United States with a way out of the immoral and irrational position in which we now find ourselves: the only way we can prevent nuclear war and the destruction of this nation is by threatening to destroy the USSR if they attack us or our NATO allies. The SDI promises to change the role of nuclear weapons in the world by rendering them "impotent and obsolete." Instead of a strategy that is based upon retaliation, SDI would allow the United States to rely on a

strategy based upon defenses. In other words, in a world of strategic defenses, neither side would be confident of a successful attack against the other because strategic defenses would be able to destroy attacking nuclear missiles.

Technological. Times have simply changed since the early 1970s. At that time, the United States did not have the technological capability to develop and deploy ABM systems that did not rely on nuclear explosions to destroy attacking warheads. Also, there was public reluctance to deploy nuclear armed interceptor missiles. Today, the United States has proven that it has the ability to destroy enemy warheads effectively using non-nuclear means. President Reagan has continued to emphasize that the SDI program seeks to develop non-nuclear defense systems and this should be supported.

Another way in which times have changed since the signing of the ABM Treaty in 1972 is that technological advances have exceeded the ability of the ABM Treaty to constrain development of ABM systems. There are many technologies that are not prohibited by the ABM Treaty -- such as ASATs, surface-to-air missiles, and ATBMs -- but are directly related to the development of effective ballistic missile defenses. Because technology research cannot be constrained it is unwise to continue to abide by the ABM Treaty that prevents full-scale development of the SDI program.

NO. The SDI program threatens to damage U.S. national security interests and its relationship to its allies in many ways and should therefore be restricted. These reasons for limiting the SDI program are outlined below.

Strategic. The Soviets are certainly doing what they are permitted to do regarding the development of defenses, but the effectiveness of Soviet defenses is exaggerated. Their ABM system deployed around Moscow, for example, does not worry strategic analysts who know that the Soviet ABM system could not protect Moscow in the event of a nuclear conflict. Although the United States should continue strategic defense research to hedge against potential Soviet advantages in developing ABM technologies or break out of the ABM Treaty, the funding levels proposed by the Administration are excessive for this purpose. The SDI program can continue at greatly reduced levels of funding, without harming U.S. interests.

Despite Soviet development of offensive and defensive forces, the national security of the United States is not threatened. The United States has, and will for the foreseeable future have, the capability to inflict unacceptable damage on the Soviet Union should it attack the United States. The United States continues to maintain scientific and technical advantages over the USSR in key areas of offensive and defensive technology research. Reduced levels of SDI funding will allow us to maintain those technological advantages and adequately fund other military research and development programs necessary to our security that will be harmed if SDI is funded at current proposed levels.

It would be dangerous for the United States to develop and deploy an SDI system because it would appear that we were seeking to acquire a warfighting capability or nuclear superiority over the USSR. The Soviets have indicated over and over again that they would not tolerate such a move by the United States to place the USSR in a position of strategic inferiority. The Soviets could be expected to increase their efforts to develop defensive systems and improve their offensive strategic nuclear weapons. Both the United States and the Soviet Union would then embark on an offensive-defense arms race that neither could afford or win, and which would likely end in disaster for both.

U.S. development or deployment of SDI systems would have an adverse effect on U.S. allies and NATO, who already fear that the United States is not fully committed to the defense of Europe. Europeans fear that SDI will reduce the credibility of the American guarantee to defend Western Europe and thus make a conventional war in Europe more likely. Europeans also fear that Soviet strategic defenses, which would deployed in response to U.S. deployment, would make the independent nuclear deterrent forces of Britain and France "impotent and obsolete."

Political and Moral. The SDI poses a clear threat to the future of arms control and constrains in the superpower strategic relationship. SDI will lead to either the gradual erosion of or complete abrogation of the ABM Treaty, a treaty that has not only prevented a defensive arms race but also severed the offensive-defensive link that results in a never-ending cycle of weapons development, deployment, and eventual use. SDI also blocks any possibility of achieving a strategic nuclear arms reduction agreement with the USSR. Fearing that SDI will eventually lead to the deployment of ABM systems, the Soviet Union will want to develop offensive strategic weapons to defeat such defensive systems and will therefore have no incentive to agree to reductions in offensive arms.

One cannot say that a strategy based on the threat of assured retaliation is immoral because the threat of widespread destruction has deterred the USSR from attacking the United States and its allies for more than four decades. It would be foolish at best to discard deterrence for SDI without proof that SDI will lead to a more secure world.

The real problem, however, in the Administration"s seeking to discredit deterrence and the ABM Treaty is that such emphasis erodes confidence in deterrence and arms control and threatens to undermine future strategic modernization efforts. Hence, in the future, political support among Americans for much needed strategic modernization programs is likely to be low. The orientation of the SDI program promises to disrupt the national consensus for U.S. national security.

Technological. It will be inordinately expensive to develop an SDI system when compared to far less expensive alternatives, such as arms control and modernization programs. Even if we were to assume to bear the cost of an SDI system, that system could never be tested realistically and we could never have confidence that it would actually work under wartime conditions. An SDI system would also be easy to overcome through a variety of inexpensive countermeasures.

SDI promises more than it can deliver. For SDI to be effective it would require near perfection in the technologies to be developed in order to assure that populations can be protected against nuclear attack by a determined adversary. Technology has never been perfectible nor has it resolved basic political problems between nations.

(2) What Should Be the Focus of the SDI Program and at What Level Should It Be Funded?

Congress is beginning to sharpen the Administration's SDI focus, but it remains highly uncertain which direction this focus will take. The SDI debate in 1987 is likely to examine closely alternative research goals and deployment options. If Congress substantially cuts the SDI budget request, resource constraints are likely to develop as alternative SDI objectives are pursued.

Part of the SDI debate concerns the appropriate level of research. Some Members believe that the level of funding for strategic defense programs prior to the organization of the SDI program in 1984 was adequate to meet U.S. national security requirements, including the need to conduct research as a possible hedge against Soviet strategic defense developments. Others believe that the United States must spend more than it was spending prior to SDI in order to ensure that the United States will not face a significant technological surprise by Soviet strategic defense programs or to keep the program in the research stage so it will not be deployed. Other Members, however, and President Reagan believe that the United States should conduct an intensive research and development program in order to provide sufficient data by the early to mid-1990s to determine whether to deploy comprehensive strategic defenses of the United States and its allies. Each of these approaches to SDI research requires different levels of funding and program focus.

Another part of the SDI debate in 1987 concerns deployment of strategic defenses over the next five to ten years. Some Members believe that U.S. land-based strategic forces are vulnerable to Soviet nuclear attack and that a variety of attempts to resolve this problem (such as arms control and changes in nuclear doctrine or force posture) have proven unsuccessful or are undesirable. Some of these Members argue that the United States must soon deploy defenses of its land-based strategic forces as permitted under the ABM Treaty. Other Members feel it is imperative that the United States begin immediately to deploy the first phases of a multi-layered SDI system, which would be designed to defend the U.S. population as well as military facilities. This approach may not be compatible with the ABM Treaty. Still others believe it necessary and possible to begin deploying defenses of U.S. allies in Europe and elsewhere. Finally, some Members do not believe that SDI should be deployed at all because that will lead to the end of constraints on U.S. and Soviet strategic offensive and defensive forces. Each of these deployment, or nondeployment, alternatives would require very different levels of funding and program focus.

(3) Should nuclear weapons research play a key role in the SDI program?

YES. It is important for the United States to understand the potential of Soviet nuclear-related strategic defense research and how nuclear strategic defenses might be used against U.S. SDI systems and satellites. It is also important to understand the implications of Soviet nuclear-driven technologies for U.S. offensive strategic nuclear forces. Finally, there is tremendous potential in U.S. nuclear-driven technologies -- such as the X-ray laser -- as key to a highly effective SDI system that could lead to the elimination of all nuclear weapons.

NO. President Reagan has consistently told the American public and our allies that the SDI program is non-nuclear. But this is not the case because increasingly the Department of Energy nuclear weapons program is playing a more pronounced role in the Strategic Defense Initiative. The testing and deployment of defensive nuclear weapons in space is clearly prohibited by treaty. These prohibitions prevent the Soviets from making any use of their research in this area. Therefore, the emphasis on Soviet developments in nuclear-related defensive technologies is excessive and should be curtailed or a new nuclear weapons arms race will ensue.

LEGISLATION

FY85. The Administration requested $1.78 billion for SDI research in FY85 and Congress appropriated $1.4 billion. Both the defense authorization (P.L. 98-525) and appropriation (P.L. 98-473) bills required the Administration to submit an annual report on the SDI program to Congress. Both bills earmarked $10 million for adapting free electron laser (FEL) technology for medical research.

FY86. The Administration requested $4.0 billion for SDI in FY86 and Congress appropriated $3.04 billion. The defense authorization bill (P.L. 99-235) earmarked $12.5 million for FEL medical research and required reports on (1) potential Soviet countermeasures, and (2) the early application of ABM technologies. P.L. 99-235 also expressed the sense of Congress that SDI research should comply with existing arms control treaties and that the consultation and cooperation of U.S. allies should be pursued. Also, Congress directed that no SDI system should be deployed without Presidential certification that such a system was survivable and cost-effective at the margin.

The defense appropriation bill (P.L. 99-190) earmarked $0.7 million for OTA to conduct a study of SDI computer software requirements and survivability and prohibited DOD from setting aside funding for foreign SDI research (although allied SDI participation is encouraged).

FY87. The Administration requested $5.3 billion for the SDI program in FY87 and Congress appropriated $3.5 billion. The defense authorization bill (P.L. 99-661) earmarked: $15 million for FEL research for medical purposes; $50 million for joint development (on a matching fund basis) of an ATBM system with U.S. allies; and $26 million for transfer to the Air Force for development of the National Aerospace Plane. Also, funds for the SDI Institute were withheld until receipts of reports from DOD and

GAO, and until specific congressional authorization. Congress further required reports on: (1) projected costs of an SDI system; (2) near-term SDI technologies; and (3) the effect of the broad interpretation of the ABM Treaty on the SDI program. Congress again declared its support of the President's objective at the Geneva arms control talks "to reverse the erosion" of the ABM Treaty.

The FY87 Continuing Resolution (P.L. 99-500) appropriated $5.3 billion for SDI. It earmarked $15 million for FEL medical research, transferred $10 million for the aerospace plane; and stipulated that no more than $8 million for SDIO management could be expended until receipt of the classified SDI report to Congress.

FY87 Supplemental Appropriations. The FY87 supplemental appropriations bill was approved on June 27 in the House-Senate conference. The bill includes $75 million for the development of a heavy or advanced launch system; the Reagan Administration has sought this rocket launcher for SDI. Nevertheless, the bill prohibits use of this money for "research, development, test, and evaluation intended to facilitate early deployment" of a BMD system.

FY88. In FY88, the Administration requested $5.9 billion.

The House Armed Services Committee recommended funding the SDI program at $3.8 billion. This was subsequently amended by Committee Chairman Aspin who offered an amended authorization bill that reflected the subcommittees' efforts to reconcile programs under their jurisdictions with the budget resolution. The Aspin substitute amendment recommended funding the SDI program at $3.6 billion. Of these funds, $300 million was to be transferred to the Air Force for the Boost Surveillance Tracking Satellite and the Advanced Launch System. The House-passed FY88 DOD authorization bill included $3.13 billion for SDI ($2.85 billion for DOD and $0.28 billion for DOE). It prohibits any SDI deployment unless specifically authorized, prohibits new SDI contracts from going to foreign firms if an American firm can perform the work at equal or less cost, bars the transfer of SDI technology to the USSR without Presidential certification and congressional concurrence, and reaffirms the importance of defense against ballistic missile attack. The bill further expresses the need for a plan for the SDI program that can be supported by Congress and the Administration. Finally, the annual SDI report to Congress is to include a review of progress toward SDI deployment.

The House passed a $16.1 billion energy and water appropriations measure for FY88, which cut DOE nuclear directed-energy weapons funding to $279 million. The House also passed the FY88 military construction appropriations bill, which included $1 million for SDI-related construction projects and no funds for the National Test Facility (SDIO had requested $100 million for the facility).

The Senate Armed Services Committee authorized $4.5 billion for SDI. An amendment is included that would prohibit the expenditure of funds for testing or development of mobile space-based ABMs unless the President submits a report to the Congress and Congress passes a joint resolution repealing the prohibition. This provision has prompted President Reagan

to say he will veto the defense bill if the provision is included, and has caused a filibuster of the FY88 DOD bill.

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