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U.S. - SOVIET ARMS ACCORDS ARE NO BAR TO REAGAN'S STRATEGIC DEFENSE INITIATIVE

INTRODUCTION

Ronald Reagan's plans to move forward rapidly with the Strategic Defense Initiative (SDI) have brought cries of concern from orthodox arms control advocates. They claim that SDI's defensive shield would be an "assault on the jewel in the arms control crown,"[1] referring to the 1972 Anti-Ballistic Missile (ABM) Treaty, a major legacy of Kissinger-era détente. ABM Treaty backers insist that even testing the anti-missile systems of SDI would violate the 1972 accord.

As with many legal documents, certain important terms and restrictions in the ABM Treaty are subject to differing interpretations. Although a number of interpretive remarks by U.S. officials support a more restrictive view, the Treaty's text is ambiguous about restrictions on SDI technologies investigated after it was ratified. Furthermore, the Soviets have apparently adopted a very loose interpretation of the ABM Treaty, stretching interpretation of its provisions to the limits of plausibility and beyond.

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1 "Mr. Reagan's New Defense Idea," Washington Post, March 25, 1983, p. A22.

This is the eighth in a series of Heritage Backgrounders examining strategic defenses. The others were: "In Strategic Defense, Moscow is Far Ahead," Backgrounder No. 409, February 21, 1985; "Air Defense: Protecting America's Skies," Backgrounder No. 379, September 13, 1984; "The New Case for Civil Defense," Backgrounder No. 377, August 29, 1984; "Strategic Defense: The Technology That Makes It Possible," Backgrounder No. 375, August 23, 1984; "Space Weapons: The Key to Assured Survival," Backgrounder No. 327, February 2, 1984; "Wanted: A Space Policy to Defend America," Backgrounder No. 311, December 17, 1983; and "Strategic Defense: Avoiding Annihilation," Backgrounder No. 304, November 9, 1983.

Yet as it is envisioned by the Reagan Administration, even under a tight reading of the Treaty's terms, the SDI program does not conflict with ABM Treaty constraints. The Treaty does not restrict research and allows for the development of the advanced technology systems being investigated in SDI. While the ABM Treaty places numerous restrictions on development and deployment of traditional ABM systems and components (that is, those based on the technologies in use when the ABM Treaty was signed), it does not specifically prohibit the development or deployment of missile defenses in general if they do not use the technologies extant in 1972. The ABM Treaty does not, moreover, prohibit deployment of an anti-tactical missile (ATBM) system to protect Western Europe.

Not only does SDI fall within ABM Treaty parameters, it does not violate other arms control agreements. The Limited Test Ban Treaty of 1963, the Outer Space Treaty of 1967, and the Threshold Test Ban Treaty of 1974 all limit certain kinds of nuclear testing or deployment of certain defensive systems, but they do not affect currently projected SDI systems. Even the deployment of the nuclear-pumped X-ray laser is arguably permissible.

Even though SDI as currently conceived does not raise compliance questions regarding the ABM Treaty, the U.S. should reassess on policy grounds its continued long-term adherence to the Treaty. Moscow's commitment to arms control is questionable in light of its persistent violation of the letter and spirit of the ABM and other treaties. In addition, Soviet advances in air defense and anti-tactical missile technologies threaten to erode the utility of specific constraints of the ABM Treaty. The U.S. would be at a severe disadvantage in a situation in which dedicated ballistic missile defense systems were banned, while Moscow was free to expand its air defense and ATBM systems, which possessed significant defensive capabilities. Thus, even aside from SDI, the U.S. would have to carefully consider modifying or withdrawing from the ABM Treaty in the near future.

THE CURRENT AMBIENCE FOR SDI

The legality of SDI is an important consideration for U.S. policy makers because of the significance Americans attach to strict compliance with treaty commitments and to Washington's ability to demand that Moscow abide by its treaty promises. At the same time, the U.S. must not permit the opponents of legitimate strategic programs to slow down research and development by requiring over-compliance. A detailed examination of the ABM Treaty and other arms pacts reveals that current U.S. SDI programs are legal and that many projected program developments will be well within the Treaty's limits.

There are four stages in the process of fielding such new weapons systems as SDI: research, development, testing, and deployment.[2]

Research

The current SDI program consists primarily of research. The ABM Treaty contains no constraints whatsoever on any basic or applied research. This means that SDI research is consonant with Treaty requirements.

Development

If a U.S. strategic defense system is to be deployed, full-scale advanced engineering development of specific systems and components will be necessary. There is agreement that the ABM Treaty allows development of fixed land-based systems and components; there is disagreement, however, over whether the U.S. is permitted to develop advanced technology systems and components that are not fixed land-based, such as space-based X-ray lasers, particle beam weapons, and chemical, excimer, and free electron lasers.

It seems clear, however, that development of such advanced systems is permissible under the ABM Treaty because:

1) Article II defines the limited ABM systems narrowly as those based on ABM technologies in existence in 1972 and consisting of ABM interceptor missiles, ABM launchers, and ABM radars.

2) Agreed Statement E discusses potential limitations on advanced technology ballistic missile defense systems in contrast to the traditional ABM systems already developed, thus indicating that development of such advanced systems was anticipated and thus is permitted.

3) Testimony of Treaty negotiators at congressional hearings related to Senate approval of the Treaty supports the inter-

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[2] Testing and development, according to testimony surrounding SALT I, are analytically very closely related. In essence, development begins when testing begins, i.e., when an ABM system or component is tested against a strategic ballistic missile or its components in flight trajectory. Thus testing, in the legal sense of the ABM Treaty, only takes place during development, and there is no development without testing. Testing of U.S. ABM systems and components is restricted by the ABM Treaty to two ranges, at White Sands, New Mexico, and Kwajalein Atoll in the Pacific Ocean. Use of other test ranges for ABM testing must be agreed upon by the Soviets and the U.S. (see Common Understanding B). These restrictions have no impact on current SDI programs. In considering the legal issues of SDI and the ABM Treaty, this paper will make no distinction between the two; both will be considered under the heading of "development."

pretation that development of "exotic" technology systems is permitted. This is true regardless of whether one accepts a restrictive view of "development" (i.e., up to point of field testing) or the looser view reflected in testimony suggesting that development up to the point of deployment is permissible.

The critics' argument that development of advanced technology systems and components is prohibited hinges on Article V, section 1, of the ABM Treaty, which states:

> 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. (Emphasis added.)

Viewed in isolation, this section could appear to prohibit development of a number of mobile SDI technologies.

The key question is the proper definition of the term "ABM system or components." Article II of the ABM Treaty defines an "ABM system or components" as those technologies used in ABM systems at the time of the 1972 Treaty.[3] Article V thus only specifically prohibits the development of mobile systems based on traditional technology. The systems and components for which development is banned in Article V are only those that are based on the traditional, pre-1972 technologies described in Article II.

Development of weapons based on technology not utilized in 1972 ("advanced" or "exotic" technology), such as many of those considered under SDI, are dealt with separately in a third ABM Treaty provision, "Agreed Statement E." This provides that

> In order to insure fulfillment of the obligation not to deploy ABM systems and their components except as provided in Article II of the Treaty, the Parties agreed that in the event ABM systems based on other physical principles and including components capable of substituting for ABM interceptor missiles, ABM launchers or ABM radars are created in the future, specific limitations on such systems and their components would be subject to discussion in accordance with Article XIII and agreement in accordance with Article XIV of the Treaty. (Emphasis added.)

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[3] ABM systems "currently" (i.e., as of 1972) consisted 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.

This section states that activities with respect to advanced technologies, including deployment of systems based on new physical principles "created in the future," are not specifically prohibited. Neither the Article V language, "develop, test, or deploy," nor any part of that phrase is employed in Agreed Statement E. If the architects of the Treaty had intended that all such new advanced technology systems be banned, words prohibiting them plus the phrase "develop, test, or deploy" would surely have been used. They were not, and this omission suggests that Article V's prohibitions are inapplicable to nontraditional ballistic missile defense systems. Agreed Statement E clearly acknowledges that new systems might be created.

The ABM Treaty does not define the word "create," but this wording indicates that the development of advanced technology ballistic missile defenses was accepted and expected by the Treaty negotiators. It is well settled in international law that words or phrases otherwise undefined in a treaty are to be understood by their ordinary, normal, or plain meanings.[4] According to Webster's Third New International Dictionary, "create" is defined in a variety of ways including: "produce," "design," "invent," and "to make or bring into existence something new."[5] "Develop" and "test" would appear to fall within the common definitions of "create." Thus, the key Treaty provisions do not preclude development and testing of advanced technology defensive weapons.

The fact that advanced technologies for ballistic missile defense can be developed to the point of deployment is further supported by testimony given at the time of ratification.[6] One such statement was offered by Secretary of State William Rogers in his letter of submittal to the U.S. Senate. He stated that

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4 See, e.g., Article 31, section 1, of the 1969 Vienna Convention on the Law of Treaties. United Nations Conference on the Law of Treaties, Doc. A/CONF. 39/37, May 23, 1969; and J. G. Starke, An Introduction to International Law (London: Butterworth's, 1977), p. 510.

5 Webster's Third New International Dictionary (Springfield, Massachusetts: G. and C. Merriam Company, 1971).

6 Advocates of both narrow and wider interpretations of the Treaty cite such statements in support of their positions. Under international law, unilateral statements by U.S. government officials, offered in testimony or in response to questions are a time subsequent to the signing of a treaty, can be guides to the interpretation of ambiguous treaty terms, but are not in and of themselves conclusive as to the meaning of those terms.

> A potential problem dealt with by the Treaty is that which would be created if an ABM system were developed in the future which did not consist of interceptor missiles, launchers and radars. The Treaty would not permit the deployment of such a system.[7] (Emphasis added.)

Thus, advanced technology systems could be fully developed so long as they were not deployed prior to discussion. In addition, Administration officials specifically testified that lasers could be developed up to the point of deployment. Consider this exchange between Senator Margaret Chase Smith (R-ME) and SALT negotiator Gerard Smith:

> Senator Smith: Mr. Ambassador, you say that the treaty prohibits the development of other ABM systems. Would this affect a development of a laser ABM system by the United States?
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> Mr. Smith: Senator Smith one of the agreed understandings says that if ABM technology is created based on different physical principles, an ABM system or component based on them can only be deployed if the treaty is amended. Work in that direction, development work, research, is not prohibited, but deployment of systems using those new principles in substitution for radars, launchers, or interceptors, would not be permitted unless both parties agree by amending the treaty.[8] (Emphasis added.)

In spite of the many indications that full engineering development of advanced technologies is permitted, Gerard Smith, at one point, added a somewhat more restrictive definition of "development." During his congressional testimony, he stated that development began following

> ...laboratory development and testing. The prohibitions on development contained in the ABM Treaty would start at that part of the development process where field testing is initiated on either a prototype or breadboard model.[9]

Advanced engineering development, in this view, would be restricted but not laboratory or "proof of principle" development and testing.

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7 U.S. Congress, Senate, Committee on Armed Services, Military Implications of the Treaty on the Limitations of Anti-Ballistic Missile Systems and the Interim Agreement on Limitation of Strategic Offensive Arms, 92nd Congress, Second Session, 1972, p. 81.

8 Ibid., p. 416. See also Gerard Smith, Doubletalk (New York: Doubleday and Co., 1980), p. 125.

9 Military Implications, op. cit., p. 377. See also footnote 2.

Thus, even acceptance of this narrower definition does not seriously affect the legality of SDI in its present stage.

Deployment

Deployment of countrywide defenses based on traditional technologies is clearly prohibited by the ABM Treaty and the intent clearly was to ban deployment of all territorial defenses.[10] However, deployment of one fixed land-based traditional technology ABM site is permitted. Furthermore, Agreed Statement E provides that, if advanced technology systems were "created" in the future, "specific limitations on such systems and their components would be subject to discussion...." The use of the words "specific limitations" here implies that the various deployment limitations described in the Treaty applicable to traditional ABM systems, including the apparent prohibition on territorial defenses, do not necessarily apply to the advanced technology weapon systems.

Reinforcing this analysis is the fact that, under Agreed Statement E, all that is required prior to deployment of an advanced technology system is that it be "subject to discussion"[11] in accordance with Article XIII (which establishes the Standing Consultative Commission) and in accordance with ABM Treaty amendment procedure. If the prohibitions in Article V applied to all ABM systems, present and future, there would be no need to discuss new specific limitations.

The logical implication of Agreed Statement E is that advanced technology ABM systems could be deployed but would be subject to entirely new discussions that might lead to limitations. This is, of course, at variance with Smith's understanding concerning the prohibition of deployment as reflected in the congressional testimony cited above. His view, however, is not absolutely dispositive and so this matter remains a subject of debate. But the appropriate focus for the debate is deployment; the terms of the ABM Treaty and the testimony during Senate consideration of the Treaty offer ample support for the view that development is permissible.

U.S. SDI PROGRAMS AND THE ABM TREATY

The SDI involves a number of specific projects. None of the current activities violates the ABM Treaty, even using such

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10 Ambassador Smith has referred to the obligation not to deploy ABM systems as the "heart of the Treaty" and argued further that "the only fair interpretation...is that any exotic system is banned." Quoted in Patrick Tyler, "How Edward Teller learned to Love the Nuclear Pumped X-Ray Laser," Washington Post, April 3, 1984, p. D4.

11 "Discussion" in diplomatic parlance refers to talks with no commitment to reaching an agreement; this falls short of negotiation, wherein parties have agreed to work toward an agreement.

narrow interpretations of development as those provided by Gerard Smith.

Traditional ABM Technologies

Within the SDI program, a number of system components utilizing traditional technical concepts (launchers, missiles, and radar) are being investigated. The most well-known of these is the Homing Overlay Experiment (HOE). On June 10, 1984, the U.S. sucessfully tested a HOE interceptor missile (a modified Minuteman ICBM booster) equipped with a small nonexplosive warhead guided to its target using an on-board infrared sensor, computer, and guidance rockets. It is alleged that the traditional technology of HOE violates the ABM Treaty because:

1) A Minuteman booster was used in the test. This allegedly violates the Treaty provision in Article VI prohibiting each party from giving "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." In this case, however, the Minuteman booster used was extensively modified, and thus in their current configuration, other Minuteman boosters could not be used in an ABM mode. Furthermore, the booster was a test vehicle and not a prototype of a dual capable Minuteman missile.[12]

2) The infrared sensors used in the test are a substitute for (traditional) ABM radars. But according to Agreed Statement E, such items are only subject to specific limitations through negotiation prior to deployment. The Treaty requires discussion prior to deployment regarding specific limits on components that have been "created" and can substitute for ABM components, as in the case of these infrared sensors.

Advanced Technologies--Mobile

The HOE test was also criticized as violating the Treaty restrictions on the development of advanced ABM technology, because the infrared sensors carried on the HOE interceptor warhead (as an advanced technology substitute for ABM radars) allegedly violates Article V, which bans the testing of mobile ABM components.

Similarly, critics suggest that development in the Talon Gold SDI program will be restricted by Article V. The Talon Gold program involves research and preliminary development of a satellite-based infrared sensor (as opposed to the HOE where the

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12 See Clarence Robinson, "BMD Homing Interceptor Destroys Reentry Vehicle," Aviation Week and Space Technology, June 18, 1984, pp. 19-20, for a good description of the technical components of the Homing Overlay Experiment.

sensors are on the intercept vehicle itself) that will provide target acquisition and tracking data. These sensors, in the critics' view, will substitute for ABM radars.

Again, the Treaty does not prohibit development of components based on "other physical principles." But even if such systems or components were subject to Article V that governs the development of advanced technologies, neither Talon Gold nor the HOE sensors have ever reached the development stage, as understood by the Treaty negotiators themselves. No other mobile system or components that fall under the auspices of SDI have approached the development stage, and research on all types of systems is clearly permitted under the terms of the Treaty.

Advanced Technologies--Fixed Land-Based

The U.S. is currently researching a variety of advanced technologies, such as short wavelength lasers, free electron lasers, and charged particle beams, which could be deployed as part of a fixed land-based defense system. (Some also could be used for space-based systems.) Such research and even the development stage are not clearly restricted by the ABM Treaty. During the Senate hearings on the ABM Treaty, in fact, specific questions were raised concerning the possible prohibition of research and development of lasers as weapons. John Foster (former director of Defense, Research, and Engineering) and Gerard Smith both confirmed that the U.S. could engage in research and development of lasers for ballistic missile defense.[13]

Future SDI Activities and the ABM Treaty

Only if a very restrictive interpretation of Article V or Agreed Statement E were adopted would some SDI-related activities be prohibited by the Treaty. Yet even then, the U.S. could negotiate amendments to the treaty that would permit those activities, should early research and development seem promising enough to pursue. These include such technologies as space-based lasers or particle beam weapons, infrared detection devices (that might substitute for or complement active radars), and aiming and pointing devices such as those being explored in the Talon Gold program.

Some ABM systems based at least in part on traditional ABM technology (launchers, missiles, and radars) would clearly require significant Treaty amendment. The deployment of mobile land-based systems or fixed land-based systems in excess of 100 interceptors, which could evolve from current Army ballistic missile defense experiments such as HOE and endoatmospheric hypervelocity interceptor missiles, would require amendment.

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[13] See, e.g., Military Implications, op. cit, pp. 222, 295, 306.

If appropriate amendments cannot be negotiated with the Soviets, the U.S. has the legal option of withdrawal from the ABM Treaty. Article XV of the Treaty guarantees both parties the right to withdraw from the Treaty, with six months notice, if supreme national interests are involved.

As Donald Brennan, a former director of the Hudson Institute, has noted: "If the time comes when continuation of the Treaty is clearly against our interests, which could happen relatively soon, it would be absurd to continue the Treaty, whether or not the Soviets would agree to its modification or termination. Except when it would clearly serve their own interests, the Soviets are most unlikely to be cooperative in improving our security even by means that would not correspondingly harm theirs."[14]

As justification for treaty withdrawal, the U.S. could either treat the ABM agreement as having been breached already, citing Moscow's numerous violations of the accord,[15] or rely simply on the threat posed by Soviet offensive forces as the extraordinary circumstances. The U.S. then could rely upon Article XV to begin withdrawal from the treaty.

Amendment possibilities include delineating specific limitations on weapons based on specific new physical principles, permitting ICBM site defense in greater numbers than are allowed by the Treaty currently, and placing further limitations on offensive weapons.[16]

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14 Donald G. Brennan, "BMD Policy Issues for the 1980s," in U.S. Strategic Nuclear Policy and Ballistic Missile Defense (Cambridge, Massachusetts: Institute for Foreign Policy Analysis, 1980), pp. 31-32.

15 For a complete description of the Soviet strategic defense program, including Soviet violations of the ABM Treaty, see David Rivkin and Manfred Hamm, "In Strategic Defense, Moscow is Far Ahead," Heritage Foundation Backgrounder No. 409, February 21, 1985. Under customary international law, if one party materially breaches a treaty, the other party may withdraw.

16 For a discussion of amendment possibilities, see George Schneiter, "The ABM Treaty Today," in Ballistic Missile Defense, Ashton B. Carter and David N. Schwartz, eds. (Washington, D.C.: Brookings Institution, 1984), pp. 244-250. If satisfactory amendments cannot be worked out, the U.S. right to withdraw is guaranteed in Article XV, Section 2, which provides:

> Each Party shall...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....

THE ABM TREATY, STRATEGIC DEFENSE, AND U.S. ALLIES

There has been some suggestion by American experts that ballistic missile defense bases might be placed in Western Europe or that West Europeans could be asked to contribute to strategic defense development. None of these actions would constitute violations of the ABM Treaty.

Two provisions of the Treaty pertain directly to strategic defense and U.S. allies. Article IX states that each Party:

(1) "undertakes not to transfer to other States," and (2) "not to deploy outside its national territory," ABM systems or their components limited by the Treaty. At most, these provisions suggest some constraints on the degree to which the U.S. can share traditional stategic defense technology with its allies.

European contributions contemplated thus far have been limited to financial participation and providing ground bases for anti-tactical ballistic missile (ATBM) defenses (i.e., defense against ballistic missiles with ranges less than strategic, such as the Soviet SS-20 and SS-21). The ABM Treaty does not bar financial burden sharings for SDI-related activities by nations other than the U.S. or the USSR. Nor are there any restrictions on ATBM defenses (in contrast to ICBM defense in Europe) or basing. West Germany and France, moreover, conduct SDI-type research programs, and unconstrained by the ABM Treaty, which they never signed, could construct any kind of ballistic missile defense they choose on their own initiative.[17]

TECHNICAL AMBIGUITY AND THE ABM TREATY

As air defenses, defenses against nonstrategic ballistic missiles, and anti-satellite weapons become more effective, they will almost inevitably achieve some significant capability to destroy strategic ballistic missiles and their warheads. This would violate the purpose of the ABM Treaty, and if undertaken unilaterally by the Soviets, would adversely affect Westen security and undermine deterrence. Rapid development of new technologies thus makes reconsideration of the terms and definitions of the ABM Treaty almost inevitable.

Air Defense

Technical advances already have raised questions about the possibility of providing anti-aircraft interceptor missiles with the capability to intercept short- and medium-range ballistic

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[17] Air Vice Marshal Stewart Menaul, The Technology of Ballistic Missile Defense (London: Aim of Industry, 1984), Introduction; and "France is Working on Star Wars Weapons," Cleveland Plain Dealer, April 9, 1984, p. 6.

missiles. While this is arguably legal under the ABM Treaty, such a system: (a) would be very difficult to distinguish from an ABM system, rendering verification of compliance virtually impossible; and (b) could be upgraded in the future so that it could have a substantial capability to intercept strategic ballistic missiles.

In fact, the Soviets are already endowing their air defense radars, interceptor missiles, and launchers with these capabilities. The Soviet SA-5, SA-10, and SA-12 surface-to-air missiles all apparently can destroy short- and medium- range ballistic missile warheads--and probably some strategic ballistic missiles warheads as well.

Anti-Satellite Weapons

The U.S. anti-satellite (ASAT) program raises similar questions. The U.S. ASAT system being developed uses a small missile that carries a Miniature Homing Vehicle (MHV), which detects a satellite, maneuvers itself into the path of the satellite, and destroys it through direct impact. The MHV is a direct outgrowth of ballistic missile defense technology investigated through the 1970s. Laser research and development, being pursued in the SDI and also by the Soviets, also could yield systems with ASAT and ballistic missile defense applications.

Strategic defense deployment, in the form of an ASAT system, is not prohibited by the ABM Treaty. Gerard Smith assured Congress:

> It is my understanding that the treaty says nothing about ASAT systems. I think we could go to a full ASAT deployment and not violate the treaty. I think it is unfortunate. I think it may be considered a loophole.[18]

ASAT systems, while clearly permissible under the Treaty, would erode the constraints of the ABM Treaty. Yet, contrary to what some critics allege, the U.S. cannot remove this problem by unilaterally halting its ASAT program. For a number of years the Soviets have been pursuing an active ASAT program of their own.

Ambiguity and the ABM Treaty

Many SDI critics have argued that the actual capability (rather than whether it has been designed to perform ABM missions) must be the benchmark of compliance with the ABM Treaty. Article VI of the Treaty commits each party

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[18] U.S. Congress, Senate, Committee on Armed Services, Department of Defense Authorization for Appropriations for Fiscal Year 1985, part 6, The Strategic Defense Initiative, 98th Congress, Second Session, 1984, p. 3066.

> 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....

Thus, claim SDI opponents, any system or component, such as air defense or ASAT, that achieves some ABM capabilities violates the ABM Treaty.

This contradicts the U.S. understanding of the Treaty. "Unilateral Statement B," submitted by the U.S. delegation shortly after the signing of the Treaty, states that testing of non-ABM components for non-ABM purposes is not restricted by Article VI. Without this understanding the ABM Treaty arguably could restrict a wide range of weapons systems, such as those designed for air defense or ASAT missions, in a way never intended by Treaty negotiators. The tension between intended and actual capabilities is thus already apparent in the Treaty itself and will grow as capabilities grow.

Yet if weapons and components with ABM capabilities that are intended for other military uses can be easily deployed, the ABM Treaty is obviously of very limited relevance in limiting ABM capabilities. Moreover, given the vast differences between U.S. and Soviet compliance standards, it would be advantageous for Moscow if systems with a residual capability were freely deployed.

This growing ambiguity obviously clouds the future of the ABM Treaty. As the Treaty becomes less relevant in limiting the ABM capabilities and verification of compliance with the Treaty becomes more and more difficult, the Treaty becomes less credible.

OTHER ARMS CONTROL PACTS

Outer Space Treaty of 1967. This treaty commits the signatories, including the U.S. and the USSR, not to place in orbit any objects carrying nuclear weapons or any other weapons of mass destruction or to install such weapons on celestial bodies or station such weapons in outer space in any other manner. Questions have been raised about the legality of one technology being investigated in the SDI, the nuclear pumped X-ray laser, which could be deployed in space, or "popped up" into space after warning of an attack. Deployment of the X-ray laser, however, would probably be legal. For one thing, the nuclear device in an X-ray laser cannot be used as a weapon of mass destruction because it could not withstand reentry into the atmosphere. For another, the nuclear explosion that produces X-rays serves exclusively as a power source and not as a means of destruction, which means it is similar in that respect to Soviet nuclear-powered satellites. As such, the X-ray laser is not a weapon of mass destruction.

Threshold Test Ban Treaty (TTBT). In 1974, the U.S. and the Soviet Union negotiated and signed the TTBT, limiting underground

nuclear testing to a maximum yield of 150 kilotons. The two nations agreed to abide by its terms, even though the Senate has never ratified it. Moscow may have violated the accord on a number of occasions.[19]

One component of an SDI system could be long-range interceptor missiles that utilize nuclear warheads. Improvements in the design and effectiveness of these warheads would require testing. TTBT ceilings on nuclear tests make future deployment of this type of system problematic and potentially eliminate one layer of a multi-tiered, multi-technology anti-missile defense. This constraint will be of less concern if the U.S. can develop non-nuclear kill warheads.

The TTBT also potentially affects the development of the X-ray laser. The size of the nuclear explosion needed for an X-ray laser is larger than 150 kilotons. New warheads designed to produce more X-rays probably could not be tested under TTBT limits.

The Limited Test Ban Treaty (LTBT). The LTBT prohibits nuclear testing "in the atmosphere; beyond its limits, including outer space; or under water...." Testing of the power source of an X-ray laser or nuclear warheads for an ABM system anywhere but underground would violate this treaty. The LTBT makes advanced development of X-ray lasers and nuclear kill ABMs very difficult, if not impossible, because it would not permit the U.S. to test new design improvements in the nuclear explosives required for these weapons.

CONCLUSION: THE FUTURE OF THE ABM TREATY

The U.S. must recognize several facts regarding the ABM Treaty.

1) The Treaty has not prompted Moscow to abandon development of military means to provide an active defense of the USSR nor has it significantly constrained development of a nationwide Soviet ballistic missile defense system. This is apparent in the Soviet deployment of ambiguous air defense/ballistic missile defense missiles (the SA-5, SA-10, and SA-12), which allow the Soviets to deploy systems with some ABM capability while claiming ABM Treaty compliance.

2) The Treaty has constrained the U.S. which, prior to the Reagan Administration's advocacy of the SDI, had reduced dramatically its research and development spending on anti-missile defenses.[20]

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19 See Brian Green, "A Flawed Test Ban Treaty," Heritage Foundation Backgrounder No. 340, March 27, 1984.

20 From $2.1 billion in 1971 to $100 million in 1977 (constant 1977 dollars). John Collins, in U.S. Congress, Senate, U.S. and Soviet City Defense: Considerations for Congress, prepared by the Congressional Research

3) While attempts at controlling offensive arms, as in SALT I and SALT II, have failed to restrain the Soviet threat to U.S. retaliatory forces,[21] the ABM Treaty has prevented the U.S. from actively defending those forces. U.S. security thus has been diminished.

If the Soviets continue their current policies, U.S. options concerning the ABM Treaty are limited. Withdrawal from the Treaty is one possibility. Arms control should serve overall U.S. national security interests. Arms control should not be an end in itself but a means of improving U.S. security. The U.S. could use either Moscow's repeated violations of the Treaty as proof of Soviet abrogation or the threat posed to supreme U.S. interests by the unremitting Soviet offensive buildup as grounds for legal U.S. withdrawal.

A second option is to seek renegotiation of the ABM Treaty. This could clarify the kinds of activities specifically permitted by the Treaty and allow the U.S. and Soviets to pursue their preferred ballistic missile defense options. Negotiations on space weapons could touch on many of these issues. The U.S. should not give up the right to pursue the research and development of strategic defense technologies.

A final option is to continue to abide by the Treaty as it is today. As currently conceived, SDI is perfectly consistent with the ABM Treaty, and the U.S. could reasonably pursue its ballistic missile defense goals within the confines of the Treaty until it is in a position to decide among the technical alternatives. At the same time, the U.S. could develop and deploy ABM systems permitted by the ABM Treaty. One possibility would be to develop and deploy site defenses that could be used to defend the MX missile at Cheyenne, Wyoming. This would improve the survivability of U.S. retaliatory forces and reduce some of the strategic defensive asymmetries that have developed during the life of the

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Service, 94th Congress, Second Session (Washington, D.C.: U.S. Government Printing Office, 1976), p. 11. Nevertheless, many technologies were researched at very low levels of funding, including virtually all those being investigated in SDI. The critics who now claim SDI is in violation of various arms control treaties, were suspiciously quiet when SDI technologies were being investigated throughout the 1970s and early 1980s.

21 In 1979, Harold Brown, then Secretary of Defense, predicted that: "The combination of accurate guidance and the large number of warheads expected in the early 1980s will give their ICBM force the ability to destroy our silos with a relatively small fraction of their ICBMs." U.S. Congress, Senate, Committee on Foreign Relations, The SALT II Treaty, 96th Congress, First Session, 1979, pp. 303-304. His prediction was accurate. The expansion of Soviet strategic offensive forces and the impact of that expansion are detailed in Caspar Weinberger, Annual Report to the Congress, Fiscal Year 1986, January 30, 1985, pp. 48-50.

ABM Treaty. The U.S. can also deploy an ATBM system to defend key NATO assets.

All three options--withdrawal, renegotiation, or continued compliance--must be weighed at any given moment on the basis of an informed assessment of the status of Soviet ballistic missile defense, Soviet treaty compliance, and the strategic offensive balance.

Prepared for The Heritage Foundation*

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*This study was researched and written by a scholar, currently employed in the Administration, who requests anonymity. Inquiries regarding the study should be addressed to Brian Green at The Heritage Foundation.

APPENDIX A

RELEVANT TREATY SECTIONS

- Article I: prohibits the deployment of ABM systems for territorial defense or "a base for such a defense."

- Article II: defines an ABM system as "a system to counter strategic ballistic missiles or their elements in flight trajectory" consisting of interceptor missiles, launchers, radars and other components. Particular characteristics were elaborated in Article 5 and Agreed Interpretations B, D, and E.

- Article III: (as amended by Article 1 of the 1974 Protocol) permits each party to have one fixed land-based ABM system.

- Article V, section 1: pledges each party "not to develop, test, or deploy ABM systems or components which are sea based, air based, space based or mobile land based."

- Article VI: each party pledges "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.

- Article VII: permits modernization and replacement of ABM systems or their components.

- Agreed Statement E: states that "...the Parties agree that in the event ABM systems based on other physical principles and including components capable of substituting for ABM interceptor missiles, ABM launchers, or ABM radars are created in the future, specific limitations on such systems and their components would be subject to discussion in accordance with Article XIII (dealing with the Standing Consultative Commission) and agreement in accordance with Article XIV (dealing with amendments) of the Treaty."