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99th Congress
1st Session

COMMITTEE PRINT

No. 14

REVIEW OF ARMS CONTROL AND DISARMAMENT ACTIVITIES
99th CONGRESS, 1st SESSION

R E P O R T

OF THE

SPECIAL PANEL ON ARMS CONTROL AND DISARMAMENT

OF THE

PROCUREMENT AND MILITARY NUCLEAR SYSTEMS SUBCOMMITTEE

together with

ADDITIONAL VIEWS

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
NINETY-NINTH CONGRESS
FIRST SESSION

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January 30, 1986

Honorable Les Aspin
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

I have the honor to transmit herewith the report of the Special Panel on Arms Control and Disarmament of the Subcommittee on Procurement and Military Nuclear Systems entitled "Review of Arms Control and Disarmament Activities, 99th Congress, 1st Session."

The subcommittee met on January 30, 1986, approved the report and recommended that it be printed along with the additional views of Representatives Mavroules and Spratt.

The members of the subcommittee appreciate the opportunity to have been of service to the committee in this undertaking.

Sincerely,

Samuel S. Stratton
Chairman
Subcommittee on Procurement
and Military Nuclear Systems

Enclosure

Approved for printing.

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Honorable Samuel S. Stratton
Chairman
Subcommittee on Procurement
and Military Nuclear Systems
Committee on Armed Services
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

On behalf of the Special Panel on Arms Control and Disarmament, I am honored to transmit herewith an oversight report of the Special Panel on Arms Control and Disarmament in compliance with your March 26, 1985, directive creating the panel. The panel was directed to inquire into the status of arms control and disarmament agreements and negotiations and to make appropriate studies on technical matters such as verification of and compliance with arms control agreements.

This report contains the observations of the panel and covers the panel's activities during the first session of the 99th Congress, including observations with respect to several issues believed to be of interest to the subcommittee and to the full Committee on Armed Services.

The panel plans to continue its arms control oversight activities during the second session of the 99th Congress as outlined in the panel's charter as time permits and to file a final report at the conclusion of the 99th Congress.

I recommend that the report be printed.

Sincerely,

Beverly B. Byron
Chairman
Special Panel on Arms Control
and Disarmament

Enclosure:

Recommended for Printing.

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JURISDICTION

Rule X, clause 3(a), of the Rules of the House of Representatives states:

> The Committee on Armed Services shall have the function of reviewing and studying, on a continuing basis, all laws, programs, and Government activities dealing with or involving international arms control and disarmament . . .

Under the rules of the Committee on Armed Services, the Subcommittee on Procurement and Military Nuclear Systems is assigned jurisdiction of arms control and disarmament matters. On March 26, 1985, the Honorable Samuel S. Stratton, Chairman of the Subcommittee on Procurement and Military Nuclear Systems, appointed the Special Panel on Arms Control and Disarmament pursuant to Committee Rule 4 (see Exhibit I). The panel was directed to inquire into the status of arms control and disarmament agreements and negotiations and to make appropriate studies on technical matters such as verification, balance of forces, violations of current or former arms control agreements, and other matters of concern. The panel has done so through a series of hearings, briefings, and visits to the negotiations that have taken place in Geneva, Switzerland, and Vienna, Austria. The panel's unclassified hearings are contained in committee print H.A.S.C. 99–18. This report complies with the direction given to the panel, makes recommendations to the subcommittee, and covers the panel's activities during the first session of the 99th Congress. The report also includes observations with respect to several issues believed to be of interest to the subcommittee, to the full Committee on Armed Services, and Congress. These issues are discussed in detail in the following sections of this report.

HEARINGS

The panel held 10 days of hearings and participated in additional full committee and subcommittee hearings on arms control and disarmament matters. [The panel's hearings have been printed and are available as H.A.S.C. 99–18]

Topics of the hearings included: Mutual and Balanced Force Reductions (MBRF) negotiations; Conference on Disarmament (CD) activities; nuclear weapons testing and verification, including the Threshold Test Ban Treaty (TTBT), Peaceful Nuclear Explosions Treaty (PNET), and comprehensive test ban (CTB) proposals; current U.S. arms control policy and activities of the Nuclear Nonproliferation Treaty (NPT) review group; negotiations on nuclear and space arms; military implications of arms control; Soviet testing and production of special nuclear materials; current Soviet, U.S.

and NATO arms control proposals; as well as public perspectives on arms control issues.

In September, 1985, members of the panel visited the U.S. Delegation to the Negotiation on Nuclear and Space Arms in Geneva, Switzerland, where they met with Ambassadors Max M. Kampelman, head of the delegation and negotiator on defense and space; John G. Tower, negotiator on strategic nuclear arms; and Maynard W. Glitman, negotiator on intermediate-range nuclear forces. Also in September, 1985, the panel visited the MBFR negotiations in Vienna, Austria, where they met with Ambassador Robert D. Blackwell, head of the U.S. Delegation, and with a majority of other NATO MBRF representatives. The panel also met with Ambassador Bruce Chapman, the U.S. representative to the United Nations System Organizations, Vienna, Austria (UNVIE), on the work of the International Atomic Energy Agency (IAEA) on nuclear nonproliferation issues. In addition to its own hearings, the panel reviewed several classified and unclassified reports on arms control issues submitted by the administration, hearings of the Defense Policy Panel of the Committee on Armed Services,[1] hearings of the Committee on Foreign Affairs,[2] and appropriate provisions of the Department of Defense Authorization and Appropriations Acts for fiscal year 1986.[3] In order to make the best use of available time, the panel did not duplicate the work done in other hearings except where necessary to clarify the issues. [see Exhibits II, III, and IV for a detailed listing of the panel's agenda and other arms control related activities of the Committee on Armed Services during calendar year 1985. See Exhibit V for a detailed listing of legislative provisions.]

BACKGROUND

Summary of Events

The following summary of events and the status of negotiations indicates the scope of activities that the panel has considered during the first session of the 99th Congress in carrying out its responsibilities.

On December 8, 1983, the Soviet Union announced the termination of Soviet participation in the ongoing U.S.-Soviet Strategic Arms Reduction Talks (START) in Geneva, Switzerland. This action was a Soviet response to the 1983 NATO decision to begin deployment of Pershing II intermediate-range ballistic missiles and ground-launched cruise missiles within NATO. The 1983 NATO missile deployment decision was in accordance with the 1979

---

[1] U.S. Congress. House. Committee on Armed Services. The MX Missile and the Strategic Defense Initiative—Their Implications on Arms Control Negotiations. February 27, 28; March 12, 13, 14, and 20, 1985. 99th Cong., 1st Sess. H.A.S.C. No. 19-14. Washington, U.S. Government Printing Office, 1985.

U.S. Congress. House. Committee on Armed Services. Avoiding Nuclear War. June 11, 1985. 99th Cong., 1st Sess. H.A.S.C. No. 99-15. Washington, U.S. Government Printing Office, 1985.

[2] U.S. Congress. House. Committee on Foreign Affairs. Proposals to Ban Nuclear Testing. February 26; April 30; May 8, 14 and 15, 1985. 99th Cong., 1st Sess. Washington, U.S. Government Printing Office, 1985.

[3] Department of Defense Authorization Act, 1986, Public Law 99-145; and Department of Defense Appropriations Act, 1986, contained in Public Law 99-190, Further Continuing Appropriations for Fiscal Year 1986.

NATO decision to deploy these weapons unless arms control negotiations resulted in a reduction of the Soviet SS–20 ballistic missile threat by December, 1983. In early 1984, the Soviet Union issued formal statements that neither the START negotiations nor the U.S.-Soviet negotiations dealing with intermediate-range nuclear forces (INF) would be resumed until all Pershing II and ground-launched cruise missiles were removed from Western Europe. As a result, all nuclear arms control negotiations were suspended for more than a year. Joint diplomatic efforts resulted in a November 22, 1984, announcement that a high-level U.S.-Soviet meeting on the resumption of talks would be held in Geneva on January 7–8, 1985. During this meeting, it was agreed to resume nuclear weapons negotiations in Geneva in March, 1985. These talks were designated the Space and Nuclear Arms Control negotiations.

Although the START and INF negotiations remained suspended until January, 1985, other multilateral arms control efforts continued. Notably, negotiations to ban the manufacture and possession of chemical weapons continued within the United Nations 40-nation Committee on Disarmament in Geneva. Multilateral negotiations also continued on Mutual and Balanced Force Reductions (MBFR) in Central Europe. MBFR negotiations, involving 12 members of the NATO and seven members of the Warsaw Pact, entered their 13th year during calendar year 1985.

Developments with respect to the President's Strategic Defense Initiative (SDI) and the U.S. antisatellite (ASAT) program heightened the interest of the Congress and intensified Soviet public relations activities with respect to space arms control issues. Questions were also raised within the Congress and by the Soviet Union concerning the compatibility of the SDI program with the 1972 Anti-Ballistic Missile (ABM) Treaty. The Space and Nuclear Arms Control negotiations in Geneva began addressing these matters in March, 1985.

Increased Congressional interest in various forms of control of nuclear weapons testing was demonstrated by the introduction in the House of Representatives of numerous proposals to legislate a test ban (such as H.R. 3100 and H.R. 3442), and the report by the Committee on Foreign Affairs of H.J. Res. 3, a bill urging the President to support the ratification of the 1974 Threshold Test Ban Treaty and the 1976 Peaceful Nuclear Explosions Treaty. That bill also would urge the President to begin negotiations with the Soviet Union aimed at achieving a comprehensive test ban treaty. [See Exhibits VI, VII, and VIII of the Appendix for the texts of H.R. 3100, H.R. 3442, and H.J. Res. 3, respectively.]

A policy of U.S. interim restraint and continued observance of arms control agreements with the Soviet Union (nothwithstanding evidence of Soviet violations) was reaffirmed by the President, who, on July 10, 1985, announced that the United States would observe the limitations of SALT II and other treaties so long as, and to the extent that, the Soviet Union also observed those limitations. As a result, the President announced plans to retire and partially disassemble an operational Poseidon ballistic missile submarine concurrent with the beginning of sea trails of the U.S.S. *Alaska,* a Trident ballistic missile submarine. In addition, the administration continued to assure the Congress and others that the U.S. SDI program

would proceed and remain in full compliance with the ABM Treaty.

Related to the administration's policy of interim restraint, the President submitted classified and unclassified reports to the Congress in February and December, 1985, containing detailed analyses of Soviet noncompliance with several arms control agreements. These reports, submitted in response to the Department of Defense Authorization Acts, 1985 and 1986 (Public Law 98-525 and Public Law 99-145, respectively), charged the Soviet Union with numerous violations of nuclear weapons test ban treaties, SALT II, and numerous violations of the ABM Treaty.

Congressional concerns about Soviet noncompliance with arms control agreements were reflected in several sections of the Department of Defense Authorization Act, 1986. Section 1001 expressed the sense of Congress that U.S. concerns over Soviet noncompliance should be resolved through diplomatic channels and that the United States refrain from undercutting existing agreements to the extent that the Soviet Union does not undercut those agreements. Section 1001, however, specifically does not endorse unilateral compliance with agreements by the United States, prohibit "proportionate responses" by the United States to Soviet undercutting of agreements, or prohibit development, flight testing, or deployment of the small intercontinental ballistic missile previously authorized by the Congress. Section 1002 requires the President to submit a report to the Congress on Soviet compliance with arms control commitments no later than December 1 of each year beginning with 1985. Finally, section 1003 requires the President to establish an interagency study on cooperative measures for verification of arms control agreements and to report the results of this study to Congress no later than May 1, 1986.

In addition to the foregoing provisions, Public Law 99-145 included provisions (section 222-226) placing restrictions on, and requiring studies and reports on, the Strategic Defense Initiative program to insure continued U.S. compliance with the ABM Treaty; restricting the testing of antisatellite weapons (section 208); assigning a high priority to the small intercontinental ballistic missile program (section 209); and (section 1411) placing conditions on the expenditure of funds for binary chemical munitions. [see Exhibit V for a detailed listing]

The Department of Defense Appropriations Act, 1986 (Public Law 99-190) included provisions restricting the expenditure of funds for binary chemical weapons (section 8093) and prohibiting the use of funds for testing antisatellite weapons against an object in space (section 8097).

As the first session of the 99th Congress ended, there were indications of progress in arms control negotiations. In Geneva, the Soviet Union has tabled a counterproposal to a U.S. proposal providing for reductions in the numbers of strategic nuclear weapons. The United States had also tabled a new proposal in Geneva to limit the numbers of intermediate-range nuclear weapons such as the SS-20, Pershing II and ground-launched cruise missiles in Europe and Asia. In addition, NATO negotiators at the MBFR talks in Vienna had offered a modified proposal.

Indications of possible future arms control progress were also contained in the results of the summit meeting between President Reagan and General Secretary Gorbachev in Geneva during the period November 19–21, 1985. The joint statement issued by President Reagan and Secretary Gorbachev on November 21, 1985, indicated that negotiations on nuclear and space arms will be accelerated as well as efforts to reach an interim agreement on INF. Joint studies of risk reduction centers will be undertaken and efforts will be made to strengthen the Nuclear Nonproliferation Treaty. At the summit meeting, the two sides reaffirmed their support of a general and complete prohibition on chemical weapons and the destruction of existing stockpiles. Other highlights of the summit included the settlement of several problems that are sources of friction not involving arms control, and an agreement for additional summit meetings in future years.

Detailed discussion of the major issues that the panel believes will be of interest to the Committee on Armed Services during the second session of the 99th Congress, along with the panel's findings, opinions, and recommendations, are contained in the following sections of this report.

The Purpose of Arms Control

> *Arms control is an important part of an adequate defense program, but it certainly cannot substitute for one, or even be the main reliance of national security.*[4]

Unfortunately, the central purpose of arms control is, more often than not, lost in the rhetoric of the arms control debate. Political arguments that arms control will result in disarmament, stop the arms race, end the threat of nuclear war, or even save money, exaggerate both the purpose and the promise of arms control. Debates on the minutia of weapon systems, force levels, damage probabilities and other details tend to obscure the purpose of arms control as an adjunct to defense and deterrence and as a tool for enhancing national security.

Our national goal should be to maintain peace through a *balance* of arms control agreements, military forces and military alliances designed to deter war—conventional or nuclear. Of necessity, this long-term goal must evolve and endure throughout numerous changes in political leadership and periods of tension if it is to be accomplished. Although we would prefer to accomplish more through arms control agreements and less through military forces, this choice cannot be made by the United States alone.

In the absence of some radical change in the forms of government of the United States and its allies, arms control, defense, and alliances are matters that will continue to be influenced by short-term domestic and international political pressures; pressures that that are either not present or not decisive within the Soviet Union. These pressures were demonstrated during the public debates on SALT I and SALT II, the Euromissile debate, START, INF, and continue today. Although pressures based on political expediency

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[4] Kahn, Herman. Thinking About the Unthinkable in the 1980s. New York, Simon and Schuster, 1984, p. 190.

are unavoidable, they are not necessarily conducive to sound, lasting and stabilizing arms control measures. For example, a rush to complete negotiations before election deadlines or concessions made to avoid criticism, may result in inequitable, unverifiable and destabilizing agreements that defeat the purposes of arms control.

The panel has spent numerous hours discussing U.S. objectives with the current U.S. negotiating teams conducting START, INF, space and nuclear arms, and chemical weapons negotiations. The objectives of our current negotiators appear to be somewhat identical to the advice offered by Ambassador Ralph Earle II, who was a leading member of the SALT II delegation in Geneva from 1973 to 1979. Ambassador Earle said: [5]

> . . . What do we want from arms control? Our objective is to enhance our national security. We ought to be and feel safer with it than without it. More specifically, this means that an arms control agreement should
>
> —Limit the Soviet threat to the United States and our forces;
>
> —Improve the survivability of U.S. forces if possible. At a minumum, arms control should not prohibit or inhibit the United States from steps required to maintain a survivable strategic deterrent;
>
> —Improve our ability to monitor Soviet forces. Our uncertainties about Soviet forces and programs should be reduced as a result of arms control.
>
> The United States should emerge from negotiations as a successful competitor and negotiator. This means that an agreement
>
> —Must be and be seen as equal;
>
> —Must be clear and without loopholes . . .

These goals subsume all the arguments for adequate defenses, cohesive alliances, first strike capabilities, verification capabilities, deterrence and equitable arms control agreements. These are the residual elements that must remain *after* arms control agreements are negotiated and put into force. The panel endorses these objectives and will refer to them in discussing specific issues.

CONCLUSIONS OF THE PANEL

Arms and Arms Control

We have military forces to provide national security. Our national security goals are to assure survival and to support important foreign policy goals. We have hoped to assure survival through a policy of deterrence—an assurance that is far from absolute. Because we must also survive economically, there are conflicting demands for resources—resources that are very large though not unlimited. To accommodate both U.S. military and economic requirements, it has been necessary to assume national security risks that could, in a worst case, lead to both military defeat and economic ruin.

To the extent that arms control can limit the probability of war—conventional or nuclear—or reduce destruction if war should occur, it enhances and supports national security. Our military forces and arms control efforts must be structured to meet those fundamental criteria. Our military forces must not be perceived so weak as to invite attack, nor should our arms control efforts or unilateral steps taken in hopes of comparable Soviet restraint lead to

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[5] Arms Control in Transition: Proceedings of the Livermore Arms Control Conference. Edited by Warren Heckrotte and George C. Smith. Boulder, Colorado, Westview Press, 1983, p. 4.

unilateral disarmament or create imbalances in our national defense. Although we may hope that such demonstrations of good faith reduce the risk of war, they could in come cases also lead to war or the abandoment of our principal national objectives.

Deterrence

Deterrence is the bedrock of U.S. national security and arms control policies. Deterrence is the rationale behind the NATO and other mutual defense alliances as well as our strategic and tactical nuclear forces. Deterrence seeks to make the costs of initiating a war prohibitive and the probability of attaining the objectives of a war unlikely. Notwithstanding advancements in technology, or arms control agreements, it "will not be feasible," as former Secretary of Defense Harold Brown has stated, "to replace the strategy of deterrence based on the threat of retaliation for the foreseeable future—many decades, perhaps forever—and even then only if there is an unforeseeable change in the political complexion of the world."[6]

Although it is desirable to maintain deterrence at the lowest prudent levels by mutual and equitable cooperative measures, arms control measures should not prohibit or inhibit the United States from steps required to maintain *survivable, credible* strategic and conventional deterrent forces.

Space and Nuclear Arms

The United States and the Soviet Union are engaged in the most complicated, exacting and technically involved negotiations in the history of arms control negotiations. Unlike previous efforts to limit readily locatable and countable units of equipment, the space and nuclear arms negotiations must deal with a multitude of sophisticated mobile and deceptive related offensive and defensive systems. Moreover, important aspects of those negotiations involve attempts to control laboratory research and the application of advancing technology to weapon systems. From the above effort, U.S. negotiators are expected to arrive at formal agreements that will result in: substantial reductions in strategic and intermediate-range nuclear weapons; unequal limits on different types of weapons delivery systems that have offsetting advantages and disadvantages; reductions in throw-weight and destructive power of weapons systems and warheads; systems that are to be permitted in space; how to treat dual-purpose delivery systems; the determination of what types of research and development are to be permitted; the role of strategic defenses; and an almost endless list of solutions to subsidiary questions. All of these agreements are expected to be equitable and controled by novel or advanced verification and monitoring methods.

Based on the seven years required to negotiate SALT II, which ultimately failed to achieve a political consensus in the United States, a comprehensive agreement on all of the subjects involved

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[6] U.S. Congress. House. Committee on Armed Services. The MX Missile and the Strategic Defense Initiative—Their Implications on Arms Control Negotiations. H.A.S.C. 99-14. Washington, U.S. Government Printing Office, 1985, p. 48.

cannot be expected within only a few years, some may require decades. Interim agreements, "freezing" the status quo, involve the unacceptable risks of giving the Soviet Union a veto power over U.S. military programs either by their walking out of, or by prolonging, negotiations indefinitely.

An alternative to interim agreements would be to "break out" individual weapons systems and attempt to arrive at a series of subagreements. Although this method might assist the negotiating process, it would also involve the risk of not achieving the primary concerns of the United States, i.e. substantial and verifiable reductions in Soviet ICBM's considered to be the most destabilizing offensive systems. A piecemeal approach might also remove any leverage to achieve the necessary monitoring and verification agreements that the United States considers necessary for those purposes.

The panel does not believe that the proposals tabled in Geneva by the United States or by the Soviet Union with respect to space and nuclear arms are, within themselves, a basis for a negotiated agreement. Elements within those proposals, along with certain elements of SALT II, are sufficient to provide a basis for further negotiations. At this point, however, there are certain elements in the proposals of both sides that may be considered crucial but nonnegotiable because they involve weapons systems, in being or planned, that are considered indispensable to either the United States or the Soviet Union.

Several serious problems must be solved, or finessed, if successful agreements are to be reached. Not the least of these are: existing and future verfication problems; linkage of United States, United Kingdom, and French nuclear systems; linkage of negotiations to SDI research; weapon system modernization; and resolution of what would constitute equitable deep reductions. These and other problems will not be solved quickly nor will they be resolved without mutual risks and sacrifices of some of the positions held by both sides for many years. Whether the risks and sacrifices are worth the ultimate value of future agreements must await the outcome of negotiations. Until accommodations can be made concerning those issues, and important verification issues are settled, the outcome of the space and nuclear weapons negotiations remains uncertain.

Strategic Defense Issues

The panel believes that strategic ballistic missile defense as envisioned in the Strategic Defense Initiative (SDI) can serve several useful purposes. First, the United States should determine what new technologies could be effectively and affordably applied by the United States or by the Soviet Union toward a defense against ballistic missiles. Second, in view of the existing Soviet threat to U.S. retaliatory forces, new technologies could in the future improve the survivability of the U.S. strategic deterrent. Third, there is the possibility that SDI research and development could, in the long term, result in mutual shifts of deterrent strategies from nuclear retaliation to defense.

The short-term arms control issues with respect to SDI involve the nature of research and development permitted by the Anti-Ballistic Missile (ABM) Treaty. The Soviet Union strongly objects to any U.S. research and development that could lead to a future mobile or space-based ABM system even though the evidence discloses that the Soviets have been and are now engaged in such research and development. The United States insists on the right to do SDI research and development, up to a point, and also insists that its SDI program has been and will remain within the limitations of the ABM Treaty.

For the reasons explained in this report, the panel believes that the U.S. SDI program, as currently constructed and approved by the Congress, has not approached any of the thresholds established by the ABM Treaty for discussions within the Standing Consultative Commission (SCC) or for required treaty amendments. Moreover, as the SDI program as now structured, those thresholds will not be approached until at least the early 1990's when flight tests might begin or a decision might be made that a ballistic missile defense is in fact feasible and affordable.

The long-term arms control issues regarding SDI will not arise for more than five years and may not arise for a decade. The panel believes that these long term issues can be avoided depending upon the progress that the Soviet Union might make with its own strategic defense program, or if agreements can be negotiated to drastically reduce offensive nuclear forces. If, as a result of the SDI research and development program, promising technologies are identified that could in fact provide an effective and affordable ABM defense and if a national decision is made to produce and deploy such a system, the United States must at that time discuss the matter with the Soviet Union and seek to amend the ABM Treaty. The above contingencies may not occur for years, or decades, or they may never occur. Until that time, debates about the long-term arms control implications of SDI are, therefore, premature.

Nuclear Weapons Testing

COMPREHENSIVE TEST BAN OR A TEST MORATORIUM

The panel does not believe that a comprehensive nuclear weapons test ban treaty (CTBT) would be in the national interest at this time. Moreover, because an unnegotiated informal moratorium on testing as suggested by the Soviets would do the same harm as a CTBT, but would provide absolutely no verification enhancements, the panel cannot support a test moratorium. Finally, the panel opposes legislated test ban schemes (such as H.R. 3100 and H.R. 3442) that would unilaterally freeze essential U.S. programs by prohibiting the use of any funds for certain test purposes. [See Exhibits VI and VII of the Appendix for the text of these bills]

It is highly unlikely that all states having nuclear weapons would agree to total nuclear disarmament. Nuclear weapons are too easily hidden and small numbers of them can be coercive and decisive. Also, what accommodations would be made to the resulting conventional imbalances in the absence of nuclear deterrent forces? The panel agrees with the weight of informed opinion that

U.S. nuclear deterrent forces supported by the testing will have to be maintained into the foreseeable future—at least several decades.

The panel found convincing evidence of substantial verifications problems even with the 150,000 tons (150 kiloton) limit of the TTBT. The weight of expert opinion is that a comprehensive test ban (CTB) barring all tests cannot be sufficiently verified—perhaps even with improved verification methods—and that an informal moratorium would, by definition, include no verification methods.

Although a negotiated CTB (not a moratorium) could result in better verification procedures, this is not a certainty. Even if such procedures could be negotiated, any expected benefits would be outweighed by the almost certain damage that would be done to the reliability of U.S. deterrent forces.

On the other hand, no arms control agreement should be made simply because it may be verifiable. The idea of a CTB must be measured by how it could: limit the Soviet threat to the United States; adversely affect or inhibit steps by the United States to maintain a strategic deterrent; and reduce our uncertainties about Soviet forces and programs. The panel believes that a CTB would have a zero-to-marginal effect on the Soviet threat. At the same time, a CTB banning reliability tests would inhibit the maintenance of a reliable U.S. nuclear deterrent which depends on testing. Moreover, the industrial, technological, and resource base supporting the U.S. deterrent would be heavily eroded or destroyed over a period of time.

THRESHOLD TEST BAN TEATY AND PEACEFUL NUCLEAR EXPLOSIONS TREATY

The panel does not believe that any arms control objectives of the United States would be served by the formal ratification of the 1974 Threshold Test Ban Treaty (TTBT) or the 1976 Peaceful Nuclear Explosions Treaty (PNET). Conversely, the panel believes that several disadvantages could result from ratification.

The TTBT and PNET are arms control agreements in name only. They have not resulted in the reduction of a single weapon, have not prevented proliferation of nuclear weapons, and have not enhanced national security in any tangible way. Although the agreements limit individual nuclear explosions to the equivalent of 150 kilotons of conventional high explosives, this fact has not prevented the development of weapons in the one-million-ton (megaton) class.

The United States and the Soviet Union claim to have abided by the 150 kiloton limitation on testing nuclear weapons and neither party has formally indicated a desire to stop observing that limit. The United States has previously cancelled and has no future plans for a peaceful nuclear explosions program. Because the most substantive limitation of the TTBT or PNET agreements (150 kiloton limit) are being voluntarily observed, no marginal benefit could be expected from formal ratification.

The panel's negative recommendation regarding the TTBT and PNET is based on the unsatisfactory verification procedures contained in those agreements and the uncertainty of verification of Soviet compliance with the agreements. The panel, therefore,

adopts the advice of Ambassador Walter J. Stoessel, who was the chief negotiator for both agreements, that enhanced verification procedures for the agreements should be provided before they are ratified.

The panel notes the frequent claim that "the Soviets have accepted on-site inspection in principle" or that the Soviets "will permit modern seismographic equipment on their soil" in connection with certain test ban proposals. The panel submits that the Soviet Union could demonstrate this principle in practice by agreeing to amend the TTBT and PNET prior to ratification.

Soviet Noncompliance

Soviet compliance with existing arms control agreements and commitments has presented problems, issued and questions that the panel believes must be resolved before new agreements can be reached or, if reached, politically sustained. Moreover, unless there is a change in Soviet attitudes toward compliance with existing agreements, several of those agreements are in danger of further erosion or *de facto* abrogation. The panel believes that the Congress and the President should make clear to the Soviet Union that U.S. unilateral restraint could soon be transformed into a policy of appropriate response unless noncompliance concerns are addressed.

The panel believes that there are lessons to be learned from the existing noncompliance dilemma including: do not negotiate controls where controls cannot be verified; and expect the Soviet Union to use every loophole, interpret every word and use every omission or imprecision of an arms control agreement to its own advantage. It is also important to remember that there is no *enforcement* mechanism for international agreements; and because another party can withdraw or abrogate on short notice, the United States must be in a position to take offsetting actions.

Soviet noncompliance represents a latent pitfall for any future agreement. Because the ability or inability of the parties to resolve Soviet noncompliance issues is critical to future negotiations, these issues should be given priority during the next rounds of the space and nuclear arms talks in Geneva.

SPACE AND NUCLEAR ARMS NEGOTIATIONS

Because the U.S.-Soviet Space and Nuclear Arms negotiations in Geneva involve the most destructive and destabilizing offensive weapons, and the benefits that could be realized from an acceptable agreement are so important, the panel believes that those negotiations deserve special attention.

Background

Following the Soviet walkout from the START and INF talks in Geneva, and a one-year hiatus in nuclear arms negotiations, the United States and the Soviet Union on November 22, 1984, jointly announced that the U.S. Secretary of State and the Soviet Foreign Minister would meet to discuss an agenda for possible additional nuclear arms control talks. This meeting, on January 7–8, 1985, in Geneva, Switzerland between Secretary of State George P. Shultz and Soviet Minister of Foreign Affairs Andrei A. Gromyko resulted in an agreement that future negotiations would be conducted by delegations from each side to be divided into three groups. On January 18, 1985, the President appointed Ambassador Max M. Kampelman to head the U. S. delegation and to serve as the U.S. negotiator on space and defensive arms. Ambassador John G. Tower was appointed as chief negotiator on strategic nuclear arms and Ambassador Maynard W. Giltman was appointed as chief negotiator on intermediate-range nuclear arms. The new negotiations, which incorporated the subjects previously discussed in the abruptly terminated START and INF negotiations, began in Geneva on March 12, 1985. The subject matter to be covered by negotiations was broadened to include strategic defense and space arms issues.

The U.S. Approach

The general objectives of the United States—to achieve verifiable and equitable radical reductions in the numbers and destructive power of destabilizing strategic forces and to eliminate or reduce radically intermediate-range nuclear forces—are the same as in previous START and INF negotiations.

The first round of the new talks was completed on April 23, 1985 and included U.S. proposals for equitable and verifiable deep reductions in strategic nuclear weapons, using trade-offs that recognized the substantial differences between U.S. and Soviet force structures. The United States reaffirmed its preference for the total elimination of intermediate-range nuclear forces but expressed a willingness to reduce such forces to lower, but equal, global limits on warheads. With regard to defense and space issues, the United States emphasized the instability of the current strategic situation based only on offensive forces and the relationship between offen-

sive and defensive forces. The United States also expressed its concerns about the erosion of the ABM Treaty, notably the construction of the large phased-array ballistic missile tracking radar under construction in the Soviet Union at Krasnoyarsk.

The Soviet Approach

The Soviet approach during the first and second rounds of negotiation reiterated previous proposals to freeze the current situation with respect to strategic weapons and to declare a moratorium (freeze) on further deployment of intermediate-range weapons. The Soviet characterized U.S. research on SDI as a violation of the ABM Treaty and of the general agreement that established the space arms talks. The U.S. proposal with respect to strategic weapons reductions did not receive a response in Geneva until the Soviet Union presented a counterproposal during the third round of negotiations on September 30, 1985.

The Soviet Counterproposal

The Soviet counterproposal included various bans, freezes, limitations and reductions of offensive forces. The Soviets proposed a reduction of 50 percent of each side's strategic delivery systems-launchers and aircraft—but did not apply its reductions to numbers of warheads. In addition, the Soviet counterproposal would ban the deployment of all U.S. air-, sea-, and ground-launched cruise missiles, the U.S. Midgetman and Trident II ballistic missiles and the advanced technology bomber, while it would permit the deployment of the Soviet SS–24, SS–25, and SS–NX–23 ballistic missiles and the Blackjack bomber. Further, the Soviet counterproposal would halt all additional NATO deployments of Pershing II and ground-launched cruise missiles and would ban scientific research, development, testing and deployment relating to U.S. SDI programs. A subtle feature of the Soviet counterproposal is that it defines "strategic delivery systems" to include those systems that, *by virtue of their location,* can strike the territory of the other side. This provision would, in effect, equate forward-deployed tactical U.S. Air Force and Navy aircraft in Europe and Asia with Soviet strategic systems such as the SS–18 while comparable Soviet tactical systems would not be counted.

Although there were some positive elements in the Soviet counterproposal, the overall effect would be to unacceptably degrade U.S. capabilities, decrease stability, undermine deterrence and divide the NATO Alliance. In addition, the proposal would tend to force the United States to choose between systems committed to the defense of NATO and those committed to its strategic deterrent that defends only the United States. Moreover, the proposal would prohibit the modernization of NATO's tactical nuclear forces, under the NATO Montebello decision, and prohibit the stationing of GLCM systems in additional NATO countries.

The U.S. Response

On November 1, 1985, the United States tabled a response to the Soviet counterproposal. This new U.S. proposal would build on the

50 percent reduction in strategic weapons proposed by the Soviet Union and is based on the following concepts: reductions would not be unequal or destabilizing; the result would not weaken U.S. support of NATO; and the United States would not renounce the right to conduct SDI research in conformity with the ABM Treaty. The new U.S. proposal would limit the number of *warheads* on strategic ballistic missiles to approximately 50 percent below present levels. Strategic ballistic missile throw-weight be reduced by 50 percent and equal limits would be established for long-range air-launched cruise missiles at approximately 50 percent below planned U.S. levels. In addition, the new U.S. proposal would ban all new heavy strategic ballistic missiles and their modernization, ban all mobile intercontinental ballistic missiles and include a "build-down" to implement reductions. A Soviet response to the new U.S. proposals is expected after negotiations resume in mid-January, 1986.[7]

Regarding intermediate-range nuclear forces (INF), the new U.S. proposal would cap U.S. INF *launcher* deployments in Europe to approximately 140 Pershing II and ground-launched cruise missile (GLCM) launchers in return for a Soviet agreement to reduce SS–20 launchers within range of NATO Europe to the same manner. The United States would agree to equal numbers of *warheads* on INF missiles at reduced levels-—approximately 420 warheads. The Soviet Union would be required to reduce SS–20 launchers in Asia by the same proportion as the reduction of launchers within the range of NATO Europe. The result of the U.S. proposal would be equal limits on INF missile warheads.

With regard to space systems, the new U.S. proposal reaffirms the U.S. commitment to SDI research in compliance with the ABM Treaty. A cooperative transition from offensive systems to defensive systems was proposed if new technology proved feasible. It was also proposed that the Soviet Union join with the United States in an "open laboratories" agreement to provide each side with information on the other side's defensive research programs.

The following table shows the differences between the Soviet counterproposal and the new U.S. proposal when negotiations recessed in November, 1985.[8]

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[7] As this report was in preparation, on January 15, 1986, the official organ of the Communist Parties of the Soviet Union, *Izvestia*, reported an extensive statement by General Secretary M. S. Gorbachev proposing, among other things, the worldwide destruction of all nuclear weapons by the year 2000. This complicated statement is now undergoing study and will, without question, be reflected in Soviet position put forward in the Geneva negotiations in 1986.

[8] See Exhibit IX of the Appendix for an address by Paul H. Nitze, Special Advisor to the President, before the Atlantic Council, Washington, D.C., December 5, 1985, for a more detailed explanation of the U.S.-Soviet proposals.

NUCLEAR AND SPACE TALKS—DECEMBER 19, 1985

Elements	Soviet counterproposal (October 1985)	New U.S. proposal (November 1985)
	START	
General Approach	50 percent reduction in nuclear delivery vehicles, including over 1,100 U.S. long-range intermediate nuclear forces (LRINF) missiles, and tactical and carrier aircraft, but excluding some 2,000 comparable Soviet forces and some 300 Backfire bombers.	50 percent reduction in various categories of comparable U.S./Soviet strategic forces (numbers of ballistic missile warheads, current level of Soviet throw-weight, and planned numbers of U.S. air launched cruise missiles (ALCM's), leading to equality and increased stability at lower levels.
Weapons	6,000 warheads for each side on delivery systems capable of reaching other side's territory, including ballistic missile reentry vehicles (RV's) and all aircraft weapons. U.S. weapons on tactical and carrier aircraft, Pershing II (P–II) and ground launched cruise missiles (GLCM) would count, comparable Soviet weapons would not count. No more than 60 percent on one component—intercontinental ballistic missiles (ICBM's), submarine-launched ballistic missiles (SLBM's), or delivery aircraft.	Separate limits on ballistic missile warheads and ALCM's, to total 6,000 for each side. Other heavy bomber weapons limited indirectly by bomber limit.
Ballistic Missile RV's	Freedom to mix within 6,000 ballistic missile RV's/not more than 60 percent on ICBM's.	4,500 total on ICBM's and SLBM's for each side.
ICBM RV's	Maximum of 3,600 for each side	Maximum of 3,000 for each side.
Strategic Nuclear Delivery Vehicles (SNDV's).	1,250 total SNDV's for U.S.S.R. (ICBM's SLBM's and heavy bombers). 1,680 total SNDV's for U.S. (ICBM's, SLBM's, heavy bombers, plus LRINF missiles and tactical aircraft in Europe and Asia and dual-capable aircraft on 14 carriers). Excludes some 2,000 comparable Soviet systems and some 30 Backfire bombers.	Separate limits on ballistic missiles and heavy bombers, to total between 1,600 and 1,800 SNDV's for each side (ICBM's, SLBM's, and heavy bombers).
Ballistic Missiles	No sublimit and freedom to mix within SNDV limit.	1,250 to 1,450 total ballistic missiles for each side.
Heavy bombers	No sublimit, freedom to mix within SNDV limit.	350 total heavy bombers for each side.
Long-range cruise missiles	Ban all types of cruise missiles over 600 kilometer (km) range (372 miles).	1,500 ALCM's for each side contingent upon Soviet acceptance of RV and throw-weight limitations. Constraints on sea-launched cruise missiles (SLCM's) not necessary, but remain prepared to consider Soviet proposal for stabilizing, equitable and effectively verifiable limits.
Throw-weight	No limitation on this category	Equal limit for each side 50 percent below current Soviet ICBM/SLBM throw-weight.
Heavy ICBM's	No sublimit with SNDV limit	Ban on new heavy ICBM's and ban on modernized Soviet SS–18.
Mobile ICBM's	No sublimit within SNDV limit	Banned.
	LRINF (land-based missiles and aircraft)	
Global LRINF warheads	Freeze, as of December 1, 1985, followed by cuts of U.S. and U.S.S.R. LRINF missiles in Europe.	Equal limits for each side.
LRINF warheads in Europe	Freeze at December 1, 1985, levels; After 18 months: zero P–II, 100 to 120 GLCM's, SS–20's to match US/UK/FR; Ultimately: U.S. zero, SS–20's to match UK/FR.	420 SS–20 warheads; 420 to 450 warheads for U.S. (P–II and GLCM mix).

NUCLEAR AND SPACE TALKS—DECEMBER 19, 1985—Continued

Elements	Soviet counterproposal (October 1985)	New U.S. proposal (November 1985)
LRINF missile launchers	Freeze U.S. and Soviet LRINF missiles in Europe as of December 1, 1985; after 18 months: zero P–II, 100 to 120 GLCM's, SS–20's to match US/UK/FR.	Interim limit of 140 U.S. LRINF missile launchers in Europe and Soviet SS–20 launchers in range of NATO Europe; Ultimately: zero.
Freedom to mix LRINF in Europe	Freeze mix as of December 1, 1985; After 18 months, U.S. GLCM's allowed (100 to 120) but P–II banned; Ultimately U.S. zero, SS–20's match UK/FR. Ban on deployments of nuclear weapons in countries where they do not exist.	Freedom to mix within the 140 launcher limit, system types deployed as of December 31, 1985; Mix subject to discussion; U.S. right to redistribute missiles among basing countries as decided by U.S. and NATO.
SS–20's in Asia	Freeze on SS–20's in Asia in exchange for agreement to Soviet proposal limiting intermediate-range nuclear forces (INF) in Europe, and provided no change in the strategic situation in Asia.	Reductions in Asia (outside range of NATO Europe) proportional to those in Europe.
Shorter-range missiles	No provision	Appropriate constraints on shorter-range intermediate nuclear forces (SRINF).
LRINF aircraft	No specific provisionin interim INF proposal; U.S. aircraft capable of reaching the U.S.S.R. would count against U.S. START total of 1,680 SNDV's. No limitation on comparable Soviet aircraft.	No specific provision; but prepared to discuss.
	Defense and Space	
Strategic Defense Initiative (SDI)	A ban on development (including scientific research), testing, and deployment of "space-strike arms", including antisatellite weapons.	Reaffirm that SDI program will be conducted in accordance with Anti-Ballistic Missile (ABM) Treaty. Joint commitment to explore cooperative transition to strategic defense reliance. "Open laboratories" initiative to provide briefings on each other's strategic defense research programs and allowing visits to each side's facilities and laboratories.

Although the United States welcomed the Soviet acceptance of the principle of deep cuts in nuclear offensive forces, the proposal was found wanting in several respects.

The Soviet proposal is inequitable because it equates U.S. Pershing II missiles or forward-based F–16 and A–6 aircraft with Soviet SS–18 or SS–19 ICBM's. It equates gravity bombs with SS–18 or SS–19 warheads. It equates systems such as manned aircraft that must face extensive and concentrated air defenses to reach their targets with ballistic missile warheads that have a "free ride" to their targets. Moreover, the Soviet proposal *excludes* 2,000 comparable Soviet nuclear delivery vehicles as well as 300 Backfire bombers. And, by inflating the U.S. "strategic weapon delivery system base"—to which a 50-percent reduction would be applied—by simply defining the components of U.S. strategic forces as "those that can strike the Soviet Union," the Soviets would retain an enhanced first strike capability or a near monopoly on tactical nuclear forces in Europe and Asia.

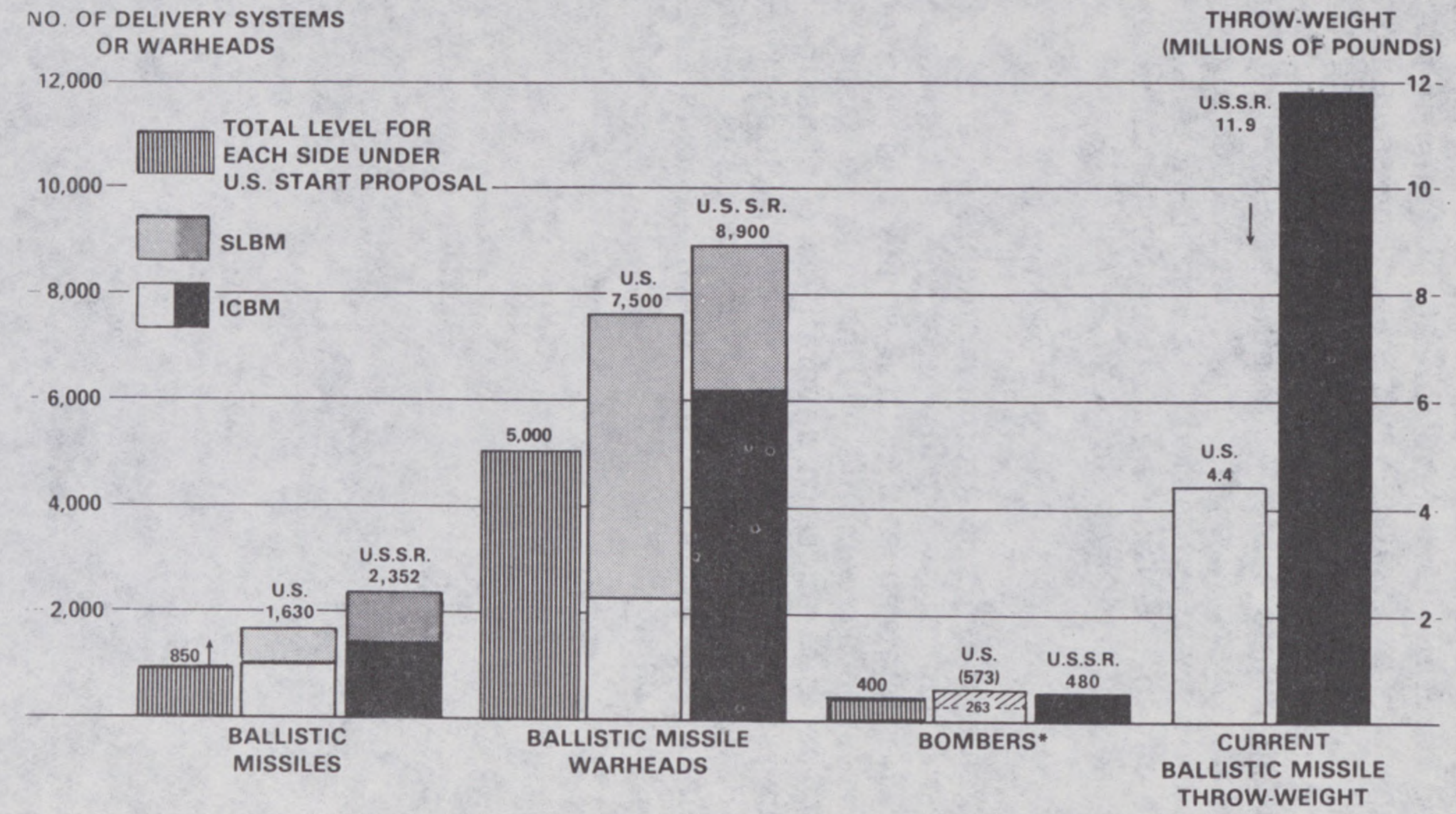
For example, the Soviets propose to cut the roughly 2,500 Soviet strategic delivery systems (ICBM's, SLBM's, and heavy bombers only—not counting the Backfire bomber) to a level of 1,250. On the U.S. side, the Soviets propose to cut 3,042 U.S. systems (ICBM's,

SLBM's, bombers, and 1,149 GLCM, Pershing II, and land- and carrier-based aircraft) to a level of 1,680. Thus, if the United States chose to retain its strategic systems at the same levels as the Soviets (1,250), all other categories (GLCM, Pershing II, and deployed land- and carrier-based aircraft) would have to be reduced to a total of 430, while some 2,300 similar Soviet systems would not count. In the alternative, if some U.S., NATO, and Pacific-area tactical capability were retained, U.S. strategic missiles and bombers would be cut to less than half of the Soviet number of 1,250. This would present a true Hobson's choice.

Balance of Forces

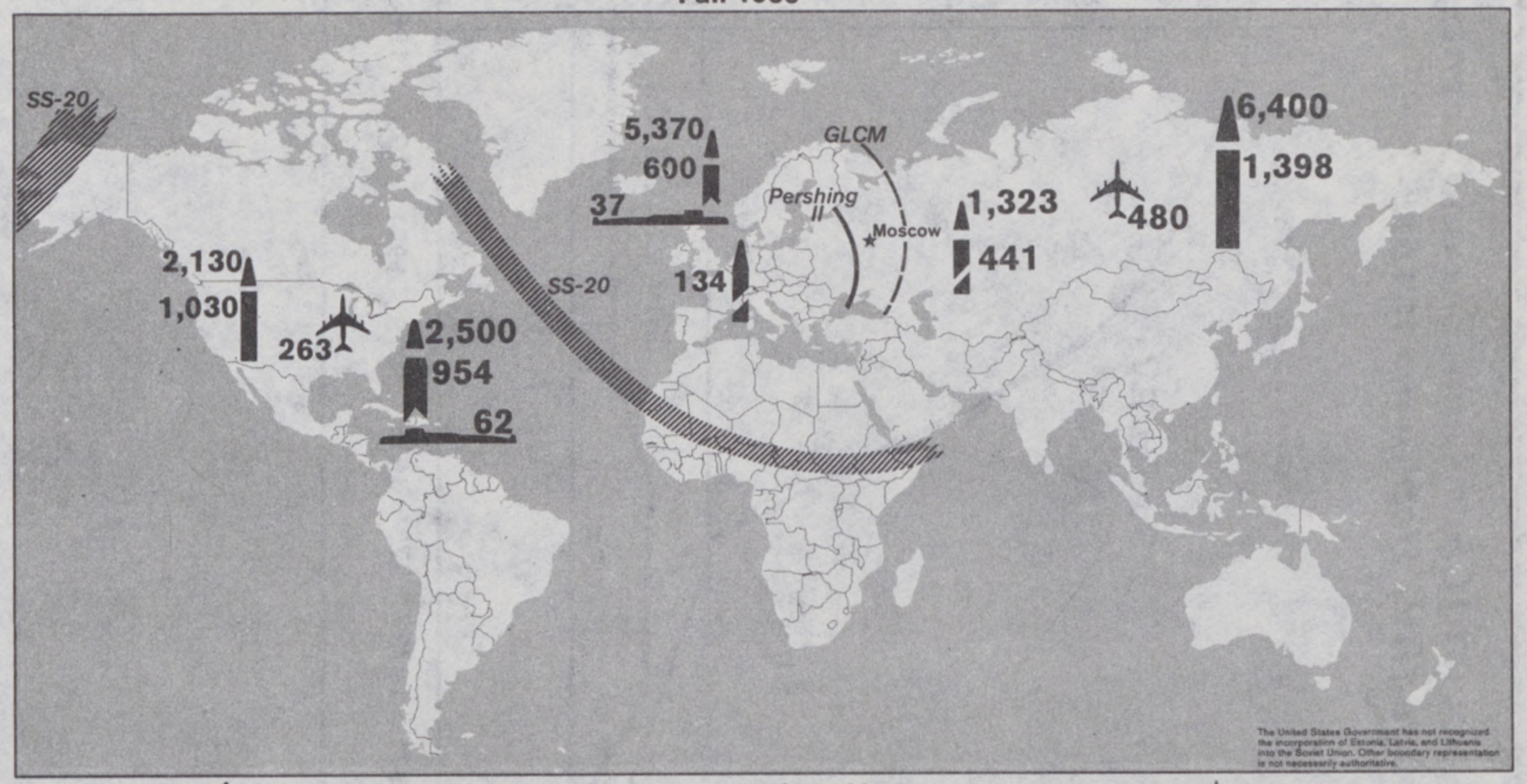
If the goals of arms control agreements on strategic and intermediate-range nuclear weapons are the achievement of stability through the deterrence of a first strike and equitable substantial reductions, such agreements will have to be based on compromises based on the differences in capabilities of opposing forces and not on numbers alone. These differences include throw-weight, defenses, vulnerabilities, age of delivery systems, relative time of delivery and weapon yields. The following charts and tables help to illustrate this point.

U.S. START PROPOSAL AND THE STRATEGIC BALANCE
FALL 1985



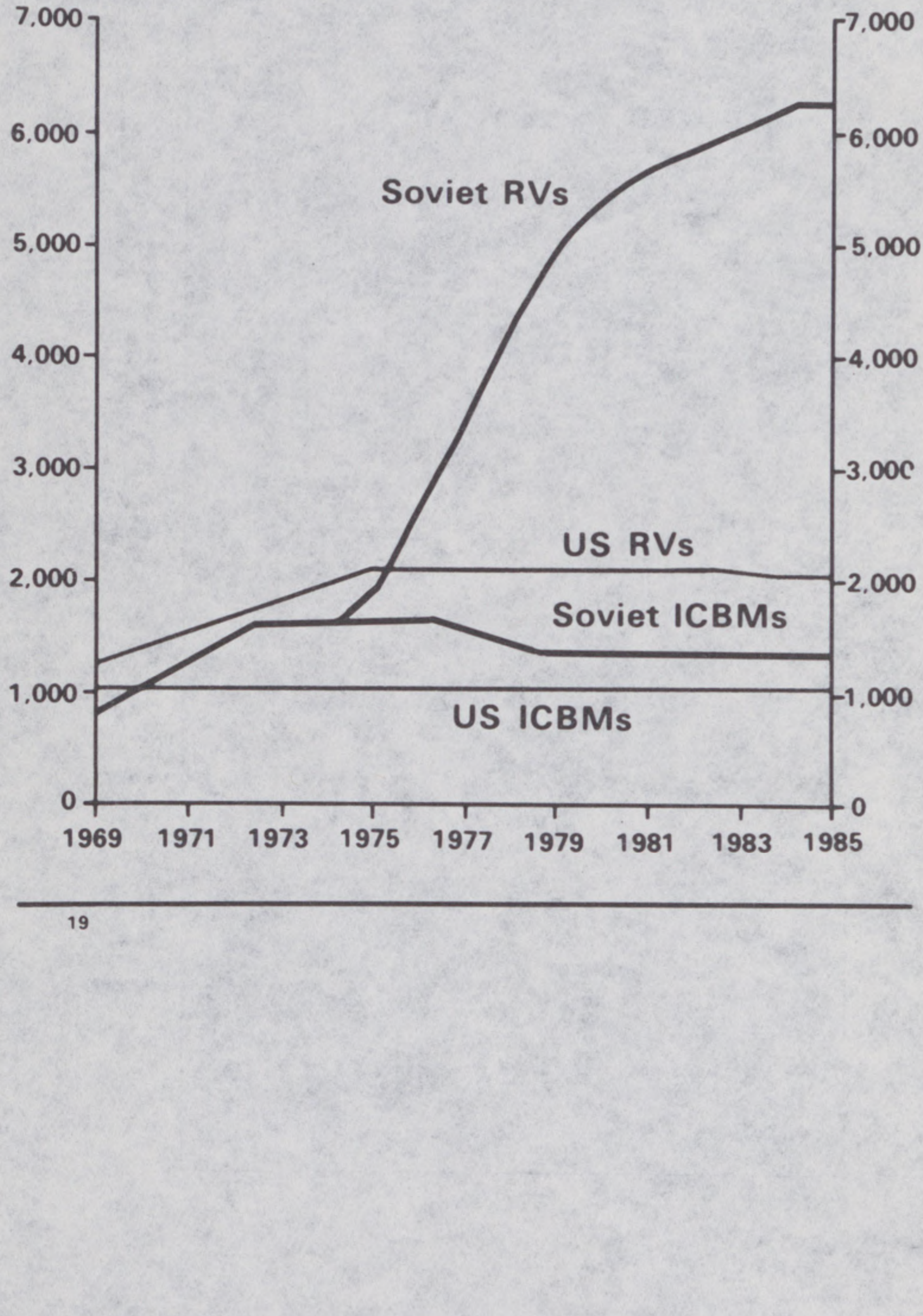
* U.S. FIGURE INCLUDES 263 OPERATIONAL B-52s.
U.S.S.R. FIGURE INCLUDES BEAR, BISON, AND BACKFIRE BOMBERS

Major US and USSR Systems
Fall 1985



ICBM warhead
ICBM missile
SLBM warhead
SLBM missile
Soviet SS-20
US Pershing II and GLCM warhead
Soviet SS-20
US Pershing II and GLCM missile
Bomber
SSBN

US and Soviet ICBM Launcher and Reentry Vehicle (RV) Deployment 1969–1985



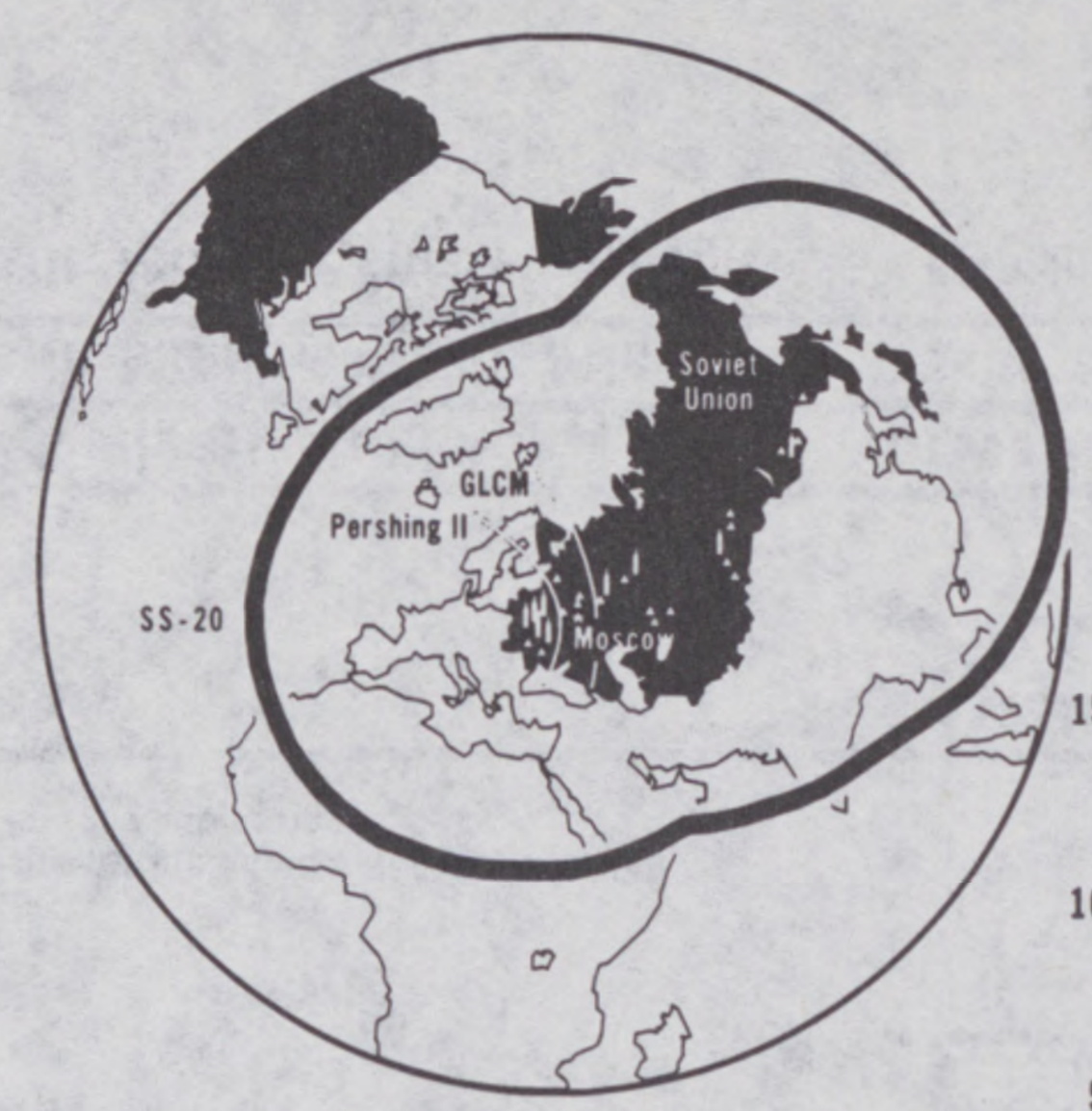
Current Strategic Balance:
Operational Strategic Nuclear Forces as of September 1985

	US		Soviets	
ICBMs	30	Titan II	520	SS-11
	450	Minuteman II	60	SS-13
	550	Minuteman III	150	SS-17
	1030		308	SS-18
			360	SS-19
			1398	
SLBMs*	288	Poseidon (C-3)	42	SS-N-5
	312	Trident (C-4)	304	SS-N-6
	600		292	SS-N-8
			12	SS-N-17
			224	SS-N-18
			80	SS-N-20
			954	
Bombers	167	B-52G	140	Bear
	96	B-52H	40	Bison
	263		300	Backfire
			480	
Total Delivery Vehicles	1893		2832	
Ballistic Missile Warheads	7500		8900	
Ballistic Missile Throw-Weight	4.4 million pounds		11.9 million pounds	

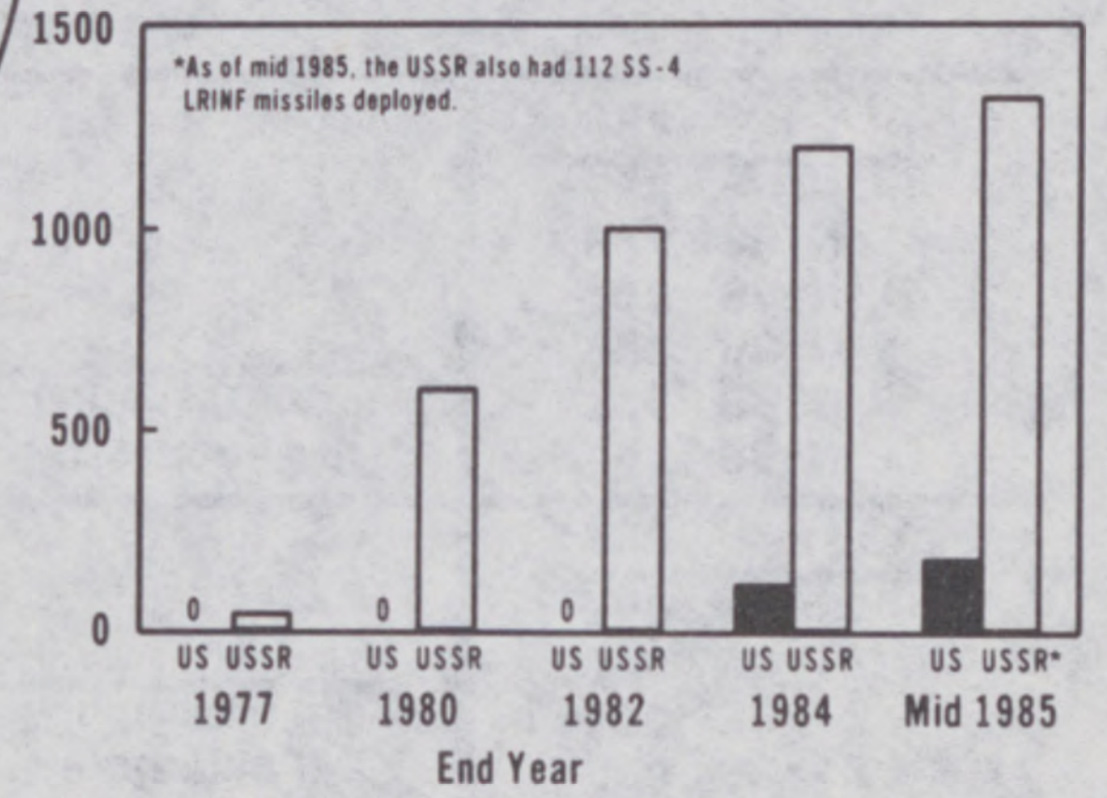
*Totals do not include SS-NX-23 missiles or new Trident submarine

Mid 1985

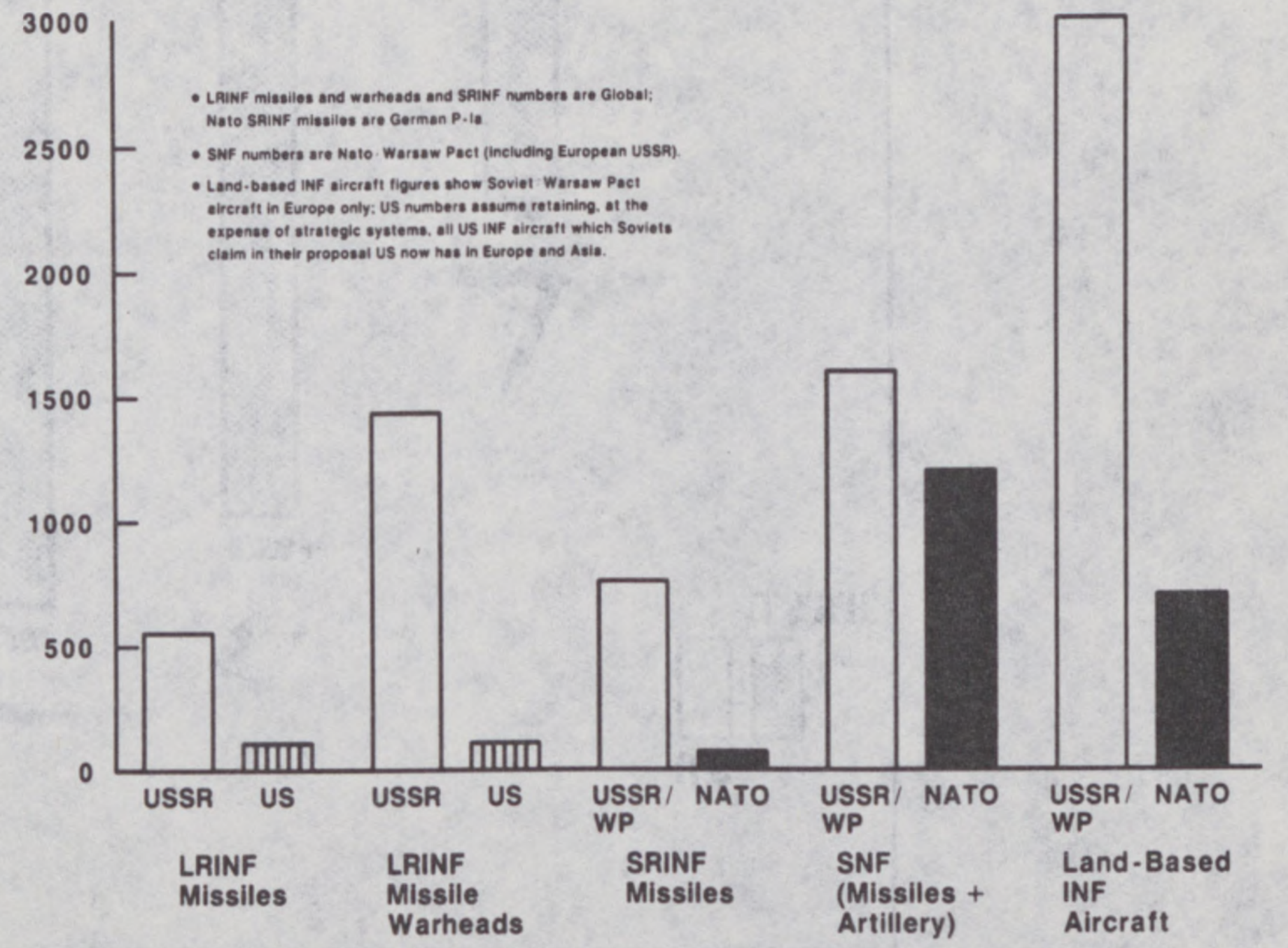
Target Coverage of Soviet SS-20 and NATO Pershing II and Ground-Launched Cruise Missiles



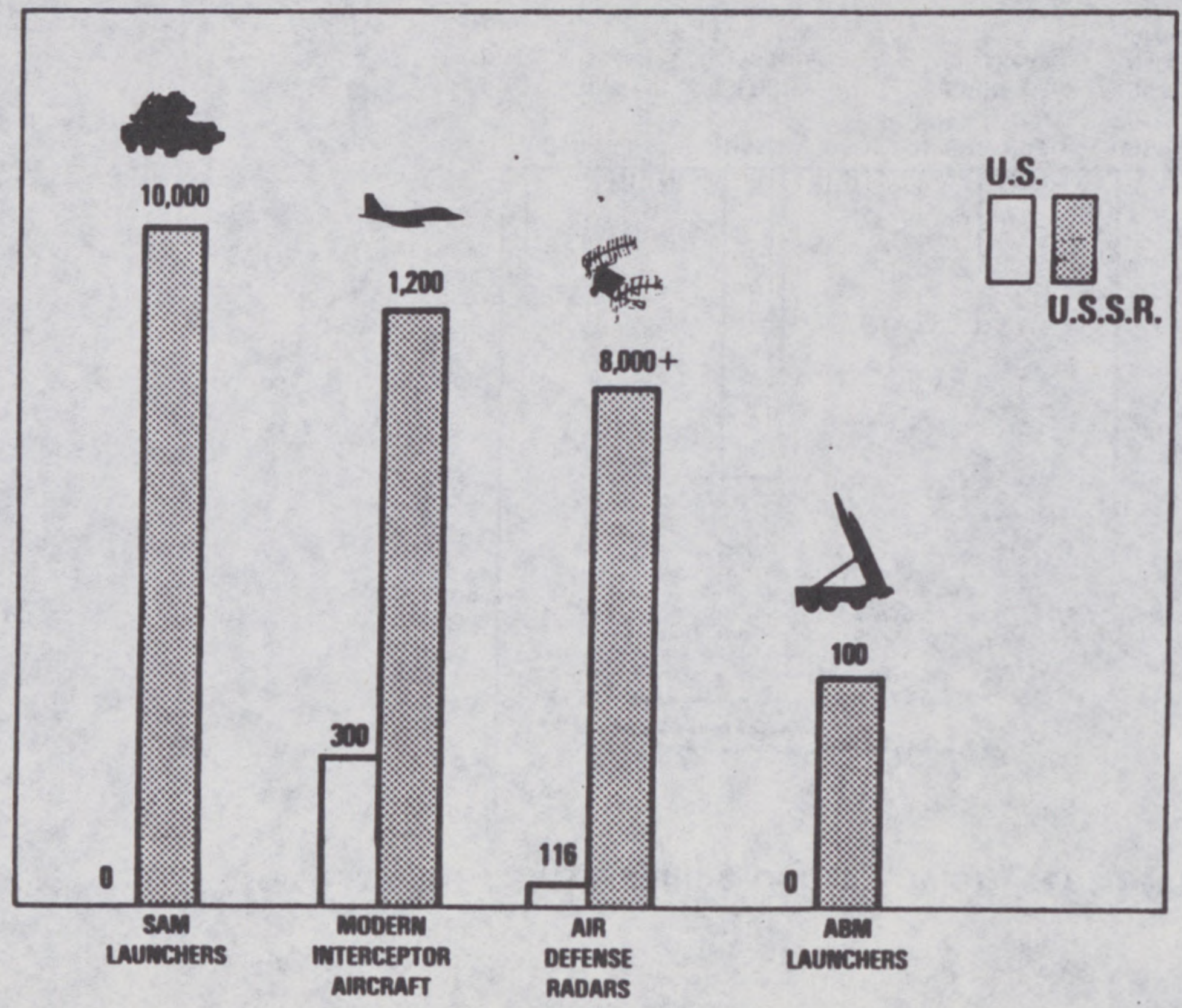
SS-20 Location
ICBM Location

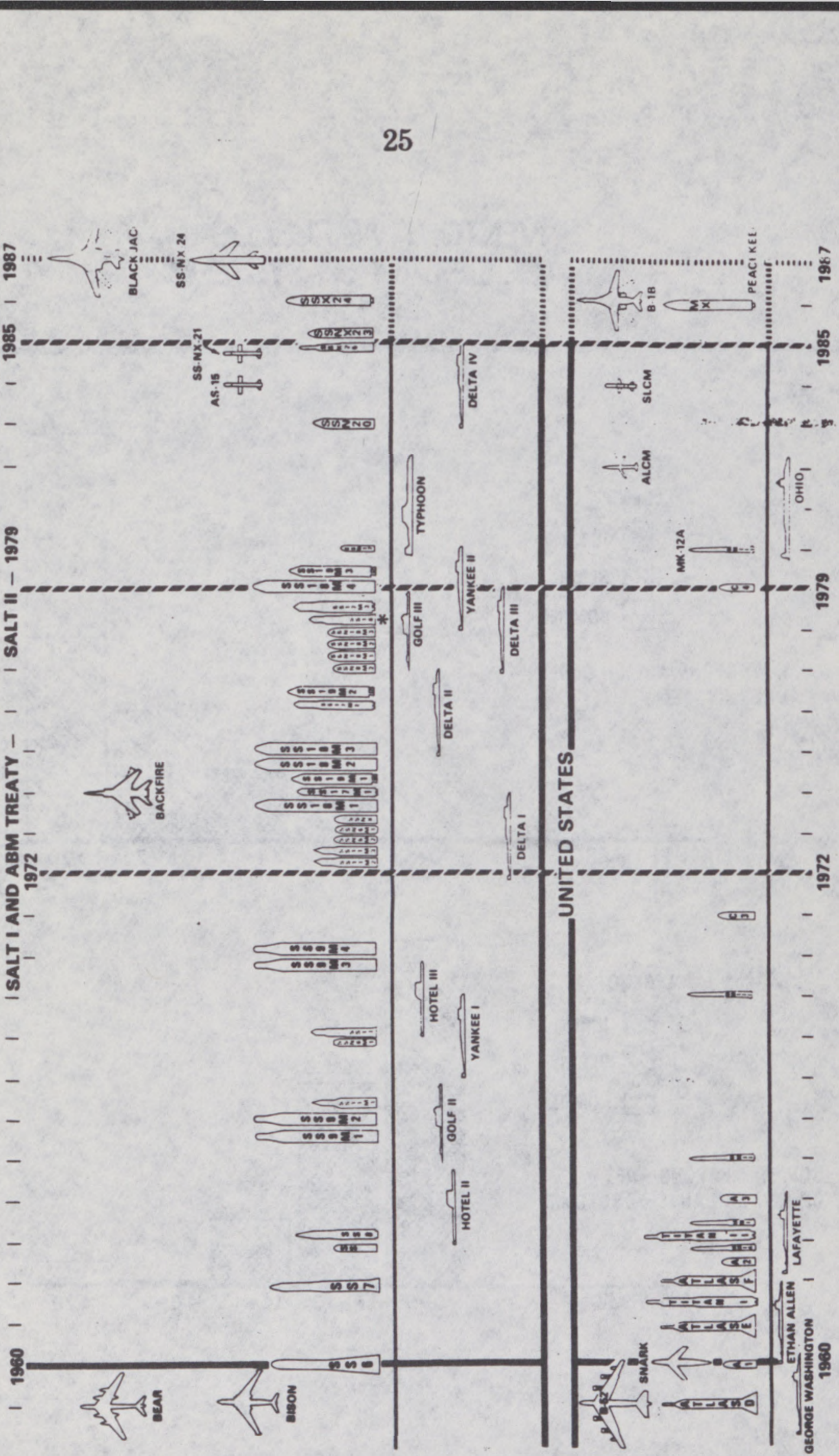


INF / SNF Balance Under Soviet Freeze Proposal



COMPARISON OF FORCES DEDICATED TO STRATEGIC DEFENSE

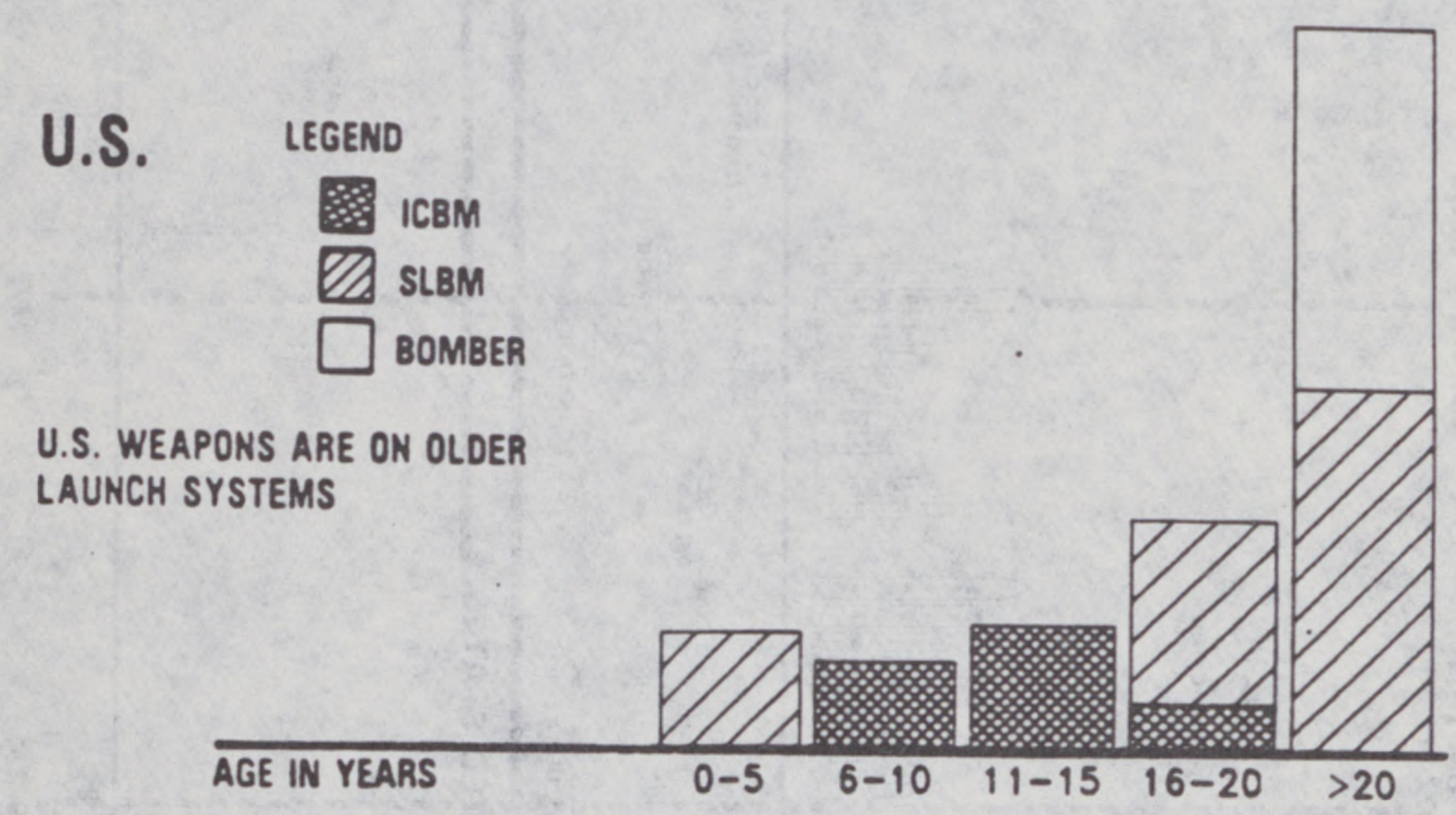



U.S. AND SOVIET STRATEGIC FORCES
INTRODUCTION OF SYSTEMS BY YEAR
SOVIET UNION
SALT I AND ABM TREATY
SALT II — 1979
UNITED STATES
1960
1965
1972
1979
1985
1987
BEAR
BISON
BACKFIRE
HOTEL II
HOTEL III
GOLF II
GOLF III
YANKEE I
YANKEE II
DELTA II
DELTA III
DELTA IV
TYPHOON
SS-NX-21
SS-NX-24
SNARK
ETHAN ALLEN
LAFAYETTE
GEORGE WASHINGTON
OHIO
MK-12A
ALCM
SLCM
B-1B
PEACEKEEPER

57-357 O - 86 - 2

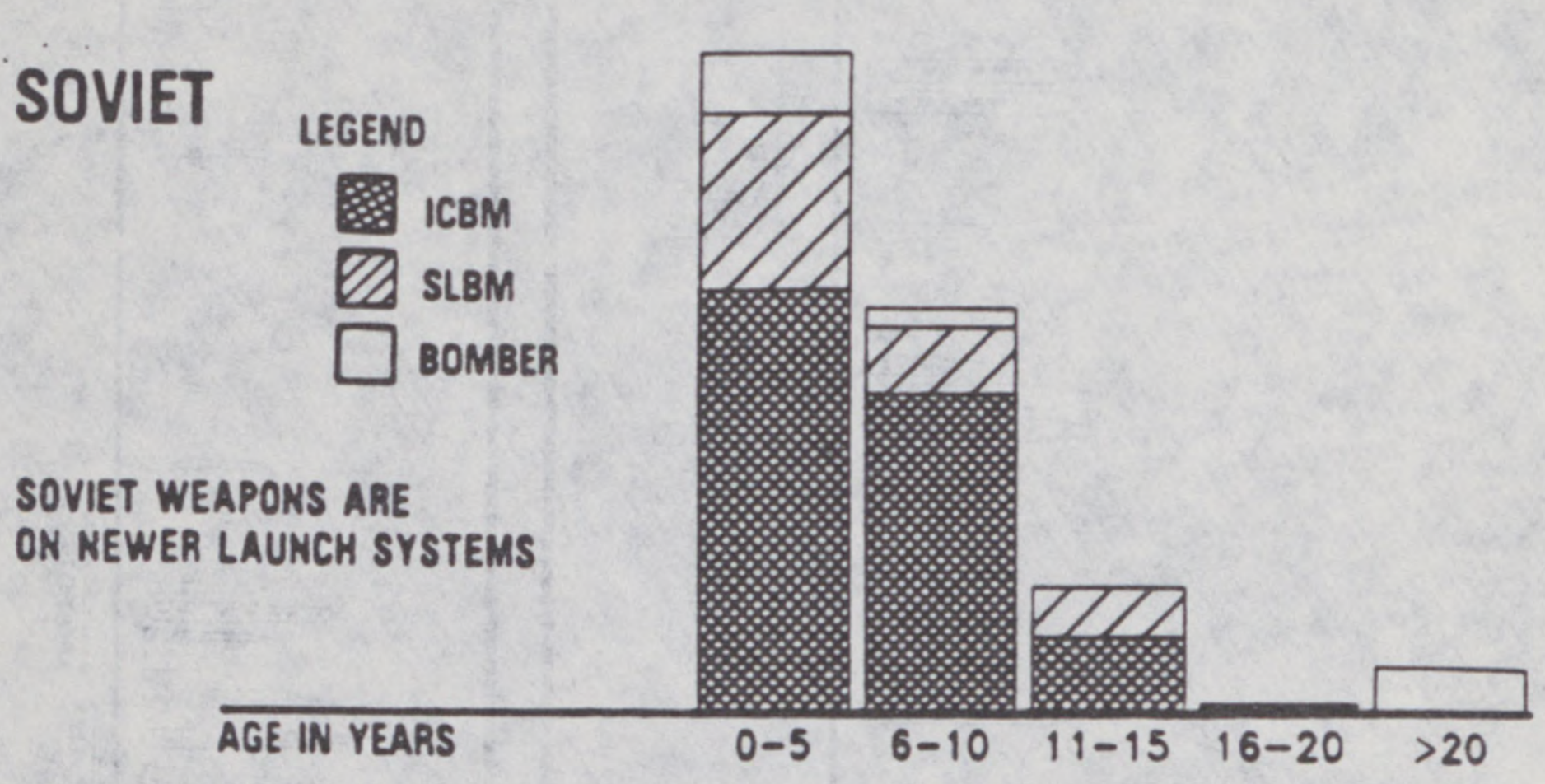
INVENTORY WARHEADS BY AGE OF LAUNCH SYSTEMS 1984

U.S.



U.S. WEAPONS ARE ON OLDER LAUNCH SYSTEMS

SOVIET



SOVIET WEAPONS ARE ON NEWER LAUNCH SYSTEMS

Other Inequities

Although the Soviet counterproposal received much publicity as an agreement for "deep cuts," other features demand closer scrutiny. For example, the U.S. air-launched cruise missile (ALCM) program would have to be terminated; and modernization programs such as the Advanced Technology Bomber (ATB), the Trident D–5 SLBM, and the Midgetman small ICBM would be prohibited. On the other hand, new Soviet systems such as the SSX–24, SS–25, and SS–NX–23 would be permitted.

In summary, it is obvious that the Soviet counterproposal is ideally designed to degrade U.S. Strategic capabilities, to prevent the modernization of U.S. forces, and to divide the NATO Alliance. In addition, the proposal would stop all U.S. SDI research and development while similar Soviet programs could be continued.

Future Prospects

It must be assumed that neither the original U.S. proposal, the Soviet counterproposal, nor the new U.S. proposal are "final" offers. There are acceptable features in each proposal that can form the basis for future bargaining. Although a series of summit meetings may be helpful in improving the climate in which negotiations take place, this will not serve to reduce their complexity. Several serious problems must be solved, or finessed, if a successful agreement is to be reached. Not the least of these are: existing and future verification problems; linkage of United States, United Kingdom, and French nuclear systems; linkage of negotiations to SDI research; modernization; and a resolution of what would constitute equitable deep reductions. These and other problems will not be solved quickly nor will they be resolved without mutual risks and sacrifices of some of the positions held by both sides for many years. Whether the risks and sacrifices are worth the ultimate value of future agreements must await the outcome of negotiations.

THE ABM TREATY AND STRATEGIC DEFENSE

1972 Concept of the ABM Treaty

The 1972 Anti-Ballistic Missile (ABM) Treaty[9] reflects the concept of strategic deterrence and the state of technology existing at that time. The concept of deterrence recognized the possession of rather large strategic ballistic missile arsenals by both the United States and the Soviet Union and a roughly equivalent ability of either side to retaliate against a first strike by the other—a stable mutual deterrence. The ABM Treaty also reflects the existence, in 1972, of *survivable* retaliatory forces against threats then characterized by non-MIRVed, relatively inaccurate warheads. The treaty also promised further negotiations leading to significant reductions in the numbers of strategic weapons. So long as there was a balanced, survivable retaliatory capability on both sides, defensive measures were not needed as a deterrent. Ballistic missile defense (BMD) technology in the late 1960's and 1970's although based on years of research and development by both the United States and the Soviet Union, offered highly expensive but relatively ineffective BMD systems that could be overcome by several methods. The ABM Treaty, therefore, was designed to reinforce the concept of a stable mutual deterrence by assuring that the retaliatory warheads of each side would have a "free ride" to their targets and to encourage negotiated reductions in offensive strategic arms then anticipated to occur in SALT II.

To accomplish the purposes of the ABM Treaty, both sides agreed not to deploy regional or territorial ABM defenses or mobile, air-, sea-, and ground-based systems. Some technological improvements (to the extent verifiable by national technical means) are banned while others are permitted. A joint Standing Consultative Commission (SCC) was created to resolve questions, ambiguities, and consider amendments to the treaty. Of prime importance, the parties also agreed to continue active negotiations to reduce strategic offensive arms in anticipation of the SALT II talks.

The Soviet Union, since 1972, has maintained and improved its limited ABM capability permitted by the treaty and installed around Moscow. But in addition, the Soviet Union has deployed massive air and civil defense systems and has hardened its civil and military facilities against the effectiveness of a retaliatory strike. In contrast, the United States abandoned its ABM system,

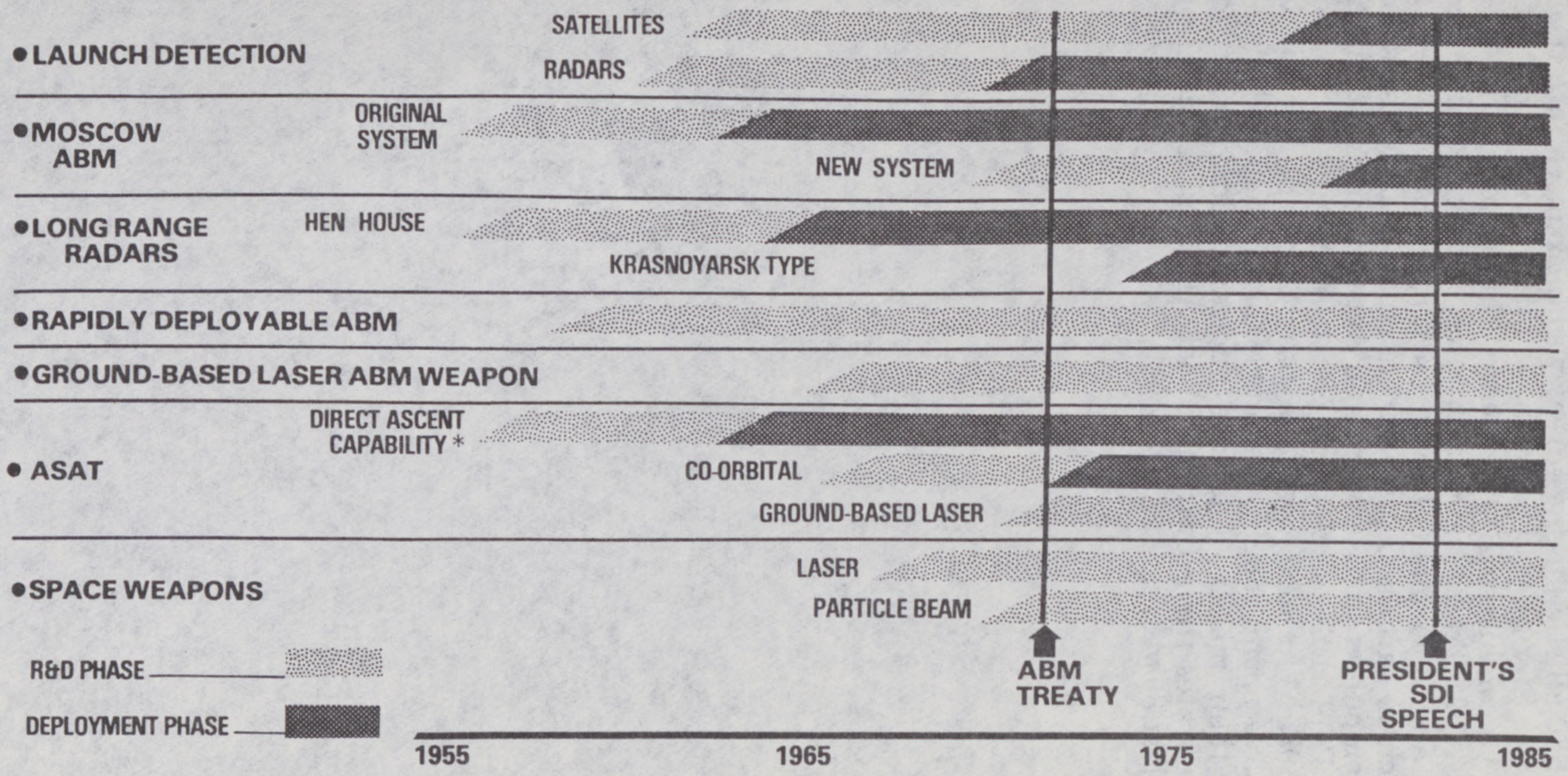
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[9] U.S. Congress. House. Committee on Armed Services. Defense Department Authorization and Oversight Hearings on H.R. 1872, Department of Defense Authorization of Appropriations for Fiscal Year 1986 and Oversight of Previously Authorized Programs. H.A.S.C. 99-2, Part 7, Research, Development, Test, and Evaluation—Title II. March 6, 7, 8, 19, 20, 21, 26, 27, 28, 29; April 2, 3, 4, and 16, 1985. Washington, U.S. Government Printing Office, pp. 349-364.

drastically reduced its continental air defense, and has no similar civil defense or hardening programs.

Since the ballistic missile threat was introduced into the nuclear equation in the 1950's, both the United States and the Soviet Union have conducted BMD research and development. Moreover, since the ABM Treaty came into force, both sides have conducted research and development programs in so-called "new technologies" such as particle beam weapons; high-energy lasers; advanced radars, computers and sensors; and antisatellite weapons. As Ambassador Paul H. Nitze told the North Atlantic Assembly on October 15, 1985: "In fact, over the past 20 years, they [the Soviet Union] have spent roughly as much for strategic defense as they have for their massive offensive nuclear buildup." The following chart illustrates the growth in Soviet ABM/space defense systems over the last 30 years.

SOVIET ABM/SPACE DEFENSE PROGRAM



POTENTIAL CAPABILITY OF THE MOSCOW ABM SYSTEM *

DISAPPOINTMENT IN THE ABM TREATY

Although the ABM Treaty has garnered a great deal of symbolic value, there is little argument on the point that it has been a disappointment. U.S. *strategic* nuclear warheads have nearly doubled in number and Soviet *strategic* warheads have increased by fourfold since 1972, in spite of SALT I and SALT II. The Soviet increase—concentrated in heavy MIRVed ICBM's of increasing accuracy—and the reluctance of the Soviets to discuss substantial reductions, have eroded the original basis of the ABM Treaty—deterrence through assured retaliation. The erosion of deterrence and the erosion of trust resulting from evidence of serious Soviet violations of the agreement, raise questions about whether the ABM Treaty actually *enhances* our national security today.

The Strategic Defense Initiative

> On March 23, 1983, President Reagan made a speech that was almost as unexpected as it was portentous. In it, he called on American science to create a total defense against ballistic missiles, a defense of such qualitative difference that it could support a radical change in our nuclear strategy. Nuclear strategy would no longer be based on offense, but rather on defense; no longer on assured destruction, but on assured survival; or, as some have put it, no longer on death, but on life."[10]

The program that has evolved from this idea of a new deterrent strategy is the Strategic Defense Initiative (SDI).

The rationale for SDI is based on three factors: the erosion of the strategic balance and the expansion of nuclear arsenals since 1972; technological advances that might make the defensive deterrent feasible and affordable; and the obligation to search for a better deterrent than a strategy based on the threat of nuclear retaliation. In effect, deterrence and stability need not be equated with offensive weapons of mass destruction.[11]

The administration emphasizes that the search for new defensive options does not mean the near-term abandonment of our reliance on deterrence through a nuclear retaliatory capability. It is recognized that SDI research may require many years before a national decision "to shift toward an offensive-defensive mix placing greater reliance on defense than at present."[12]

Although the *emphasis* placed on strategic defense through the SDI program is new, the technology that will be used is the result of years of research and development by both the United States and the Soviet Union. And even though the SDI is designed to increase the pace of defensive technology research, a large percent-

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[10] York, Herbert F. Nuclear Deterrence and the Military Uses of Space. DAEDALUS: Journal of the American Academy of Arts and Sciences, Weapons in Space, Vol. 114, No. 2, Spring 1985, p. 17.

[11] See Exhibit XI of the Appendix for statement by Paul H. Nitze, Special Adviser to the President and Secretary of State on Arms Control Matters, before the North Atlantic Assembly, San Francisco, California, October 15, 1985 entitled SDI: Its Nature and Rationale. U.S. Department of State, Bureau of Public Affairs, Current Policy No. 751.

[12] Ibid.

age of the SDI budget will be used to continue programs in progress before SDI was announced.[13]

The emphasis placed on strategic defense since 1983, the increased pace of research and development and increasing budgets for SDI progams, to say nothing of the extensive efforts of the Soviet Union to discredit this approach to deterrence, have fueled a national debate. As the Congressional Office of Technology Assessment study on SDI stated, this debate involves both short-term and long-term issues.[14]

> For the short term, the important questions have to do with what kind of research the United States should conduct on BMD and how future BMD technical possibilities affect current offensive force planning and diplomatic activities. For the longer term, the important questions have to do with what kind of BMD we could reasonably expect to deploy, whether we would want to, and what the consequences might be.

Research, Development, and Testing Under the ABM Treaty

Although the January, 1985 U.S.-Soviet agreement to continue negotiaitons in Geneva included space arms, the Soviet Union continued a vigorous public relations and disinformation campaign throughout the year aimed at stopping the U.S. SDI program by political means. The Soviet program to discredit the SDI was assisted by the free access of Soviet officials to the U.S. news media (such as full-page newspaper advertisements and frequent television appearances by Mr. Georgi Arbartov, a member of the Supreme Soviet and advisor to the Kremlin on American affairs). The objectives of the Soviet anti-SDI campaign appear to be to halt all U.S. SDI research and development thereby leaving the Soviets a monopoly in the field; to divide the NATO Alliance; and to gain political support in the United States and Europe for their own positions in the space and nuclear arms negotiations in Geneva.

At the nuclear and space arms negotiations in Geneva, and elsewhere, the Soviets have taken the position that the SDI research and development program violates and erodes the 1972 ABM Treaty; that U.S. research and development will fuel the arms race (again notwithstanding their own program).

Limitations of the ABM Treaty

During 1985, perhaps the most debated SDI issues centered around so-called "old" and "new" interpretations of precisely what types of research, development and testing (R,D & T) are permitted under the ABM Treaty. Because this debate is expected to continue, the panel believes that the following analysis will be useful.

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[13] U.S. Congress. House. Committee on Armed Services. Defense Department Authorization and Oversight Hearings on H.R. 1872, Department of Defense Authorization of Appropriations for Fiscal Year 1986 and Oversight of Previously Authorized Programs. H.A.S.C. 99-2, Part 7, Research, Development, Test, and Evaluation—Title II. March 6, 7, 8, 19, 20, 21, 26, 27, 28, 29; April 2, 3, 4, and 16, 1985. Washington, U.S. Government Printing Office, pp. 349-364.

[14] U.S. Congress. Office of Technology Assessment. Ballistic Missile Defense Technologies, OTA-ISC-254. Washington, U.S. Government Printing Office, September, 1985, p. 3.

Article II of the ABM Treaty carefully defines "for the purposes of this treaty" the "components" that make up an "ABM system" to currently consist of "interceptor missiles," "ABM launchers," and "ABM radars". Further, ASBM system *components* to be limited by the treaty are described as those which on the date of the treaty were: operational; under construction; undergoing testing; undergoing overhaul, repair or conversion; or components that were "mothballed." An ABM system is a system to counter strategic ballistic missiles or their elements while in flight trajectory.

Article IV of the treaty *excludes* from the limitations of the treaty ABM systems or components used for *development or testing* that are located within agreed test ranges. However, not more than 15 ABM *launchers* may be located at those test ranges.

Article V of the treaty specifically deals with the question of development and testing of ABM *systems or components* that are defined in Article II (*i.e. ABM interceptor missiles, ABM missile launchers, and radars constructed and deployed for an ABM role or tested in an ABM mode*). With regard to those described ABM systems and components, the treaty would prevent the development, testing, or deployment of "systems or components" that are sea-based, air-based, space-based, or mobile land-based. Article V also limits *development and testing* of ABM launchers for more than one "interceptor missile" at a time from each launcher and prohibits the *development and testing* of automatic or semiautomataic systems, or systems for the rapid reload of launchers.

Article VI of the treaty also deals with the subject of testing in that it limits the testing of *non-ABM missiles, launchers, or radars,* other than those described in Article II, *in an "ABM mode."* Such systems and components would include antiaircraft and tactical ballistic missile defenses. Although there was a *unilateral* U.S. statement as to the meaning of "tested in an ABM mode," there was no Soviet agreement on this interpretation in 1972.

Articles IV, V and VI are the *only provisions of the ABM Treaty* itself that specifically deal with *development or testing* of ABM systems or components.

New Physical Concepts

The parties to the ABM Treaty did not prohibit, and in fact anticipated, continued research and development in ABM technology. This is spelled out in an "agreed statement" approved on the same day that the treaty was signed. This statement (Agreed Statement D) reads as follows:

> In order to insure fulfillment of the obligation *not to deploy* ABM systems and their components except *as provided in Article III* [limiting the numbers and location of ABM missiles, launchers and radars] of the Treaty, the Parties agree that *in the event* ABM systems based on other physical principles and *including components capable of substituting for* ABM intercepter 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 [within the Standing Consultative Commission] and agreement in accordance with Article XIV [dealing with treaty amendments] of the Treaty. [emphasis added]

Clearly, the parties anticipated that one side or the other might in the future create (develop) ABM systems and/or devices, based on new research and development, that could perform the same

ABM missions as existing ABM missiles, launchers and radars. Anticipating that this might happen, the negotiators agreed that, if such systems and components were developed, "specific limitations" on them would "be subject to discussion" by the Standing Consultative Commission created by article XIII of the ABM Treaty or that amendments to the treaty would be negotiated and subjected to ratification procedures as provided in Article XIV. Supporting this interpretation is the fact that without some research, development and testing, the parties would never know that new ABM systems or components *based on other physical principles* that are *capable of substituting for ABM interceptor missiles, ABM launchers or ABM radars* have been "created" in order to trigger the "discussion" and "agreement" requirements of Agreed Statement D.

The "New" Interpretation

The controversy concerning a so-called "new" interpretation of the ABM Treaty became more heated following a public statement by Mr. Robert C McFarlane, Assistant to the President for National Security Affairs, on October 6, 1985.[15]

Mr. McFarlane. Well, Marvin, I think that the President is guided by the ABM Treaty, and the terms of that treaty are very explicit in Articles II, III, IV and V, plus Agreed Statement D. They make clear that on research involving new physical concepts, that that activity, as well as testing, as well as development indeed, are approved and authorized by the treaty. Only deployment is foreclosed, except in accordance with Articles XIII and XIV. So our program is compatible with the treaty, and will remain so.

Mr. Kalb. Doesn't the treaty also talk about development?

Mr. McFarlane. The treaty does, indeed sanction research, testing and development of these new systems.

Mr. Kaiser. Only by mutual agreement, though. It says that there should be negotiated introduction of new exotic technologies.

Mr. McFarlane. Their deployment should be negotiated in accordance with Articles XIII and XIV.

The "Old" Interpretation

The Soviet Union seized upon the McFarlane statement as "proof" of a U.S. determination to expand the arms race in space and to deploy mobile, space-based ABM systems in violation of the ABM Treaty. In Geneva, the Soviets took the position that all U.S. research (including laboratory research, feasibility, proof of principle) on "new physical principles" is forbidden by the treaty because the United States intends to deploy forbidden mobile space-based systems. This interpretation received some support within the U.S. arms control community, including that of former Ambassador Gerard C. Smith.

HOW THE ISSUE WAS EXPLAINED TO CONGRESS

Ambassador Gerard C. Smith, the Chief U.S. Negotiator of the ABM Treaty explained the research, development and testing aspects of the treaty to the House Committee on Armed Services on July 25, 1972—only two months after it was signed. Ambassador

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[15] NBC News' "Meet the Press," October 6, 1985. National Broadcasting Company, Inc., Washington, D.C., broadcast transcript.

Smith first explained the *quantitative* limitations and then proceeded to explain the *qualitative* limitations of the treaty, as follows: [16]

An additional important qualitative limitation is the prohibition on the development and testing, as well as deployment, of sea, air, space-based and land-mobile ABM systems and components.

Of even greater importance as a qualitative limitation is the prohibition on the *deployment* of future types of ABM systems that are based on physical principles different from present technology.

On this point, Mr. Chairman there is an agreed interpretation *with respect to ABM systems* based on different physical principles, *and including components capable of substituting for those components used at present*—that is, launchers, missiles and radar components. *If such new systems are developed,* and one or the other side *wants to deploy them* under the limitations of this treaty, there would have to first be *a discussion of the question in the Standing Consultative Commission* we are proposing to establish under this treaty, and then *the treaty would have to be amended before such novel ABM systems could be deployed.* [emphasis added]

During the same series of hearings on July 27, 1972, Admiral Thomas H. Moorer, then Chairman of the Joint Chiefs of Staff, responded to a question as follows:[17]

Mr. WHITEHURST. I have a difficult time finding the last mathematics here about the 15 percent, but let me ask you: This obviously will go on with ABM R & D. I am thinking about some kind of technical breakthrough, perhaps something beyond Spartan or Sprint in the state of the art. Is this possible? What would this do to this agreement?

Admiral MOORER. If I could just read one paragraph here that deals, I think, with your question, Mr. Whitehurst. It states as follows:

"In order to insure fulfillment of the obligations not to deploy ABM systems and their components, except as provided in Article III of the Treaty, 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 discussions in accordance with Article VIII and agreement in accordance with Article XIV of the Treaty."

Mr. WHITEHURST. That is exactly what I am referring to.

Admiral MOORER. Yes, sir,

Mr. WHITEHURST. You have no means of surveillance, though. For example, *if we acheived this technically, then we would be obliged to advise the Soviets that we have this capability?*

Admiral MOORER. *Only if we deployed it in the configuration of an ABM weapons system. But there is no restraint on research and development."* [emphasis added]

On June 19, 1972, Secretary of State William P. Rogers and ABM Treaty Chief Negotiator, Gerard Smith appeared before the Senate Committee on Foreign Relations to explain the terms of the ABM agreement. Secretary Rogers first explained the provisions of Article V dealing with qualitative restrictions on the *development, testing, and deployment* of ABM systems:[18]

The treaty provides for other important qualitative limitations. The parties will undertake not to develop, test or deploy ABM systems or components which are sea-based, air-based, space-based or mobile land-based. They have also agreed 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 launchers to provide them with

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[16] U.S. Congress. House. Committee on Armed Services. Full Committee Hearings on the Military Implications of the Strategic Arms Limitation Talks Agreements. July 25, 27, 1972. 92d Cong., 2d Sess. H.A.S.C. 92-68. Washington, U.S. Government Printing Office, 1972, p. 15086.

[17] Ibid., p. 15125.

[18] U.S. Congress. Senate. Committee on Foreign Affairs. Strategic Arms Limitation Agreements. June 19, 20, 21, 26, 28, and 29; and July 20, 1972. 92d Cong. 2d Sess. Washington, U.S. Government Printing Office, 1972, p. 6

such a capability; nor to develop, test or deploy automatic or semi-automatic or other similar systems for rapid reload of ABM launchers; nor to develop, test, or deploy ABM missiles with more than one independently guided warhead.

He then dealt separately with the limitation on *deployment* of "future exotic types" of ABM systems.

Perhaps of even greater importance as a qualitative limitation is that the parties have agreed that future exotic types of ABM systems, i.e. systems depending on such devices as lasers, may not be *deployed*, even in permitted areas." [emphasis added]

Ambassador Smith, during the same Senate committee hearing, made the following statements in response to questions by Senator Aiken:[19]

Senator AIKEN. I have been reading lately in several places about the effectiveness of the laser guided bombs in wiping out SAM's . . . could the laser also be effective in the ABM system?

If the laser had come three years ago, one would have voted against the ABM system when it was first proposed.

Secretary ROGERS. Under the agreement we provided that exotic ABM systems may not be *deployed* and that would include, or course, ABM system based on the laser principle. [emphasis added]

Senator AIKEN. Is the ABM system getting somewhat obsolete?

Secretary ROGERS. Excuse me?

Senator AIKEN. Is the ABM system getting obsolete? If the lasers can be used to knock out the SAM's, wouldn't they be effective against other types of missiles also?

Mr. SMITH. Senator Aiken, I think it is an entirely different problem with respect to the use of lasers to help guide offensive missiles and from their use to guide defensive missiles, but we have covered this concern of yours in this treaty by *prohibiting the deployment* of future type technology. Unless the treaty is amended, both sides can only deploy launchers and interceptors and radars. There are no inhibitions on modernizing this type of technology except that it cannot be deployed in mobile land-based or space-based or sea-based or air-based configurations. But the laser concern was considered and both sides have agreed that they *will not deploy future type ABM technology unless the treaty is amended.* [emphasis added]

Hearings on the ABM Treaty were held before the House Committee on Foreign Affairs on July 20 and 27, and August 2 and 9, 1972. On July 20, 1972, Secretary Rogers distinguished between *development, testing, improvement and deployment* of ABM's based on present technology and *deployment* of those "based on different physical principles."[20]

The commitment to low ABM levels is further enhanced by several important qualitative limitations. We and the Soviet Union have agreed not to develop, test, or deploy:

1. ABM systems or components that are sea based, air based, space based, or mobile land based;

2. Automatic or semiautomatic or other similar systems for rapid reloading of ABM launchers;

3. An interceptor missile with more than one independently guided warhead; and

4. An ABM launcher capable of launching more than one interceptor missile at a time from each launcher, or to modify launchers to give them such a capability.

Such undertakings are important. It may be of even greater importance that both sides have agreed that *future types of ABM systems based on different physical principles,* for example, systems depending on such devices as lasers, that do not consist of ABM interceptor missiles, launchers, and radars, *cannot be deployed* even in permitted areas. So there is a limitation on what may be employed in the ABM systems

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[19] Ibid., p. 20.

[20] U.S. Congress. House. Committee on Foreign Affairs. Agreement on Limitation of Strategic Offensive Weapons. July 20, 27; August 2 and 9, 1972. 92d Cong., 2d Sess. Washington, U.S. Government Printing Office, 1972, p. 5.

now in operation and it prohibits the deployment of new esoteric systems in these areas. [emphasis added]

Further illustrating the dichotomy between the development, testing, improvement and deployment of systems using current technology and the deployment of "future ABM systems" is the June 10, 1972 letter from Secretary of State Rogers to President Nixon detailing the terms of the ABM Treaty. With respect to "future" systems, the letter stated: [21]

. . . (3) *Future ABM Systems*

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* or of components thereof capable of substituting for ABM interceptor missiles, launchers, or radars: Article II(1) defines an ABM system in terms of its function as 'a system to counter strategic ballistic missiles or their elements in flight trajectory', noting that such systems 'currently' consist of ABM interceptor missiles, ABM launchers and ABM radars. Article III contains a prohibition on the deployment of ABM systems or their components except as specified therein, and it permits deployment only of ABM interceptor missiles, ABM launchers, and ABM radars. Devices other than ABM interceptor missiles, ABM launchers, or ABM radars could be used as adjuncts to an ABM system, provided that such devices were not capable of substituting for one or more of these components. Finally, in the course of the negotiations, the Parties specified that 'In order to insure fulfillment of the obligation not to deploy ABM systems and their components except as provided in Article III of the Treaty, 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 and agreement in accordance with Article XIV of the Treaty.' (As explained below, Article XIII calls for establishment of a Standing Consultative Commission, and Article XIV deals with amendments to the Treaty.) [emphasis added]

The following exchanges between Senator Jackson and Ambassador Smith during hearing before the Senate Committee on Armed Services on July 18, 19872, are also useful.[22]

Senator JACKSON. Will you also take into account the further question as to whether there is any other meaning of the term "develop" associated with its use in other provisions of the accords? [the ABM Treaty and SALT I]

Mr. SMITH. Yes Sir.

[The information follows:]

Article V of the ABM Treaty and an Agreed Interpretive Statement (F) obligate the U.S. and U.S.S.R. "not to develop, test, or deploy" mobile ABM systems, rapid reload devices, or ABM interceptor missiles for delivery of more than one independently guided warhead.

The SALT negotiating history clearly supports the following interpretation. The obligation not to develop *such systems, devices or warheads* would be applicable only to that stage of development which follows 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. It was understood by both sides that the prohibition on "development" applies to activities involved after a component moves from the laboratory development and testing stage to the field testing stage, wherever performed. The fact that early stages of the development process, such as laboratory testing, would pose problems for verification by national technical means is an important consideration in reaching this definition. Exchanges with the Soviet Delegation made clear that this definition is also the Soviet interpretation of the term "development."

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[21] Ibid., pp. 125–126.

[22] 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. June 6, 20, 22, 28; July 18, 19, 21, 24, and 25, 1972. 92d Cong., 2d Sess. Washington, U.S. Government Printing Office, p. 377.

Consequently, there is adequate basis for the interpretation that development as used in Article V of the ABM Treaty and as applied to the buget categories in the DOD RDT&E program places no constraints on research and on those aspects of exploratory and advanced development which precede field testing. Engineering development would clearly be prohibited.

No. The term "development" appearing in Article IV of the Treaty is used in the same sense as the term "development" in Article V.

[The above statement defines the term "develop" as used in Articles IV and V of the treaty. That term is not used in Agreed Statement D.]

During the same hearing: [23]

Senator JACKSON. On that point, isn't it a fact that the Soviet technology in the area of antiballistic missiles is somewhat limited and that *the Soviets have only confined themselves in this agreement to the limit of their technology at this time?* Isn't that a fair statement?

Mr. SMITH. Well, this treaty is of indefinite duration; it placed no limitation on the technology, the development of technology of radars, launchers, and interceptors. *It does place limits on the technology of systems using other physical principles, but it would be fair to say it does not limit them to the present state of their art.* [emphasis added]

Senator JACKSON. Well, let me ask you, do you think that the treaty might not be revised as technology changes? We can never ignore what is going on in the laboratories and the developments that originate in those laboratories.

Mr. SMITH. I agree. All treaties can be revised, and in this case we would have a veto over whether it was revised or not.

From the foregoing, it appears that the explanation of the term "develop" made by Ambassador Smith in 1972 referred only to the use of that term within Articles IV and V of the treaty and in other agreed statements, where the term is used, and *not* to Agreed Statement D, where the term is not used. Otherwise, if the term "developed" were to be substituted for the term "created" used in Agreed Statement D, then that statement apparently anticipated the types of development that Ambassador Smith testified were prohibited in Articles IV and V. This ambiguity would have completely nullified the intent of the agreed statement and the explanations of it provided to the Congress during the hearings.

HIDDEN AGREEMENTS

The debate on permitted ABM research and development has included references to "understandings" or agreements that could influence the interpretation of the treaty so as to prohibit or limit research and development in ways that were not spelled out by the treaty itself. It is argued that the secret ABM treaty negotiating record confirms such interpretations. However, on June 15, 1972, Dr. Henry A. Kissinger, then Assistant to the President for National Security Affairs, provided a briefing for members of Congress. With respect to "other understandings" or "secret understandings", Dr. Kissinger stated:[24]

Senator COOPER. Are there any other understandings, secret understandings, which have not been made public or will be made public? I think we will be asked, and it is just as well to ask it now.

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[23] Ibid., p. 371.

[24] U.S. Congress. Senate. Committee on Foreign Affairs. Strategic Arms Limitation Agreements. June 19, 20, 21, 26, 28 and 29; and July 20, 1972. 92d Cong., 2d Sess. Washington, U.S. Government Printing Office, 1972, Appendix, p. 412.

Dr. KISSINGER. There are no secret understandings. We have submitted to the Congress the list of all the significant agreements and interpretative statements, and so forth. What we have not done is to go through the record to see whether Ambassador Smith might have said something that they interpreted in a certain way, and this is why we put on the qualification "significant", because otherwise we would have to submit the entire record.

According to the best of our judgment, there are no secret understandings, and all the significant interpretative statements have been submitted to the Congress.

Again, on July 25, 1972, before the House Committee on Armed Services, Mr. Paul H. Nitze, a negotiating team member, expanded on Dr. Kissinger's answer.[25]

Mr. NITZE. The entire effort of the U.S. side in the negotiations was to try to have the agreement as precise as we could possibly make it. We thought precision was in the interest of the United States.

Each word, even in a very precise agreement, can still perhaps be interpreted in more than one way. It was for that reason that we tried to carry the agreement through a second level of precision through agreed interpreted statements, in order to reduce as far as we could possible alternate interpretations.

By and large, I think the agreements are very precise. Certainly it was our purpose to have them as precise as possible so that the sides would not rest upon intent, but on specific language.

PANEL CONCLUSIONS

Notwithstanding the assertions of the negotiators in 1972 that the ABM treaty was relatively free of ambiguity, it appears from recent statements of some members of the U.S. negotiating team and from Soviet sources, that the treaty is, in fact, ambiguous. The continuation without serious complaint of Soviet and U.S. antiballistic missile research programs throughout the life of the treaty, using both well-established, advanced, and emerging technologies, indicates a common understanding that some research, development, and testing was anticipated and permitted. Moreover, the parties had ample opportunity to modify such an understanding when the protocol to the ABM Treaty was negotiated and signed in 1974.

A serious U.S.-Soviet dispute concerning Soviet testing of air defense components in an "ABM mode" arose during negotiations on the SALT II treaty. The dispute was resolved by the Standing Consultative Commission (SCC) through an agreed (secret) statement resolving ambiguous language on November 1, 1978. Although ballistic missile defense research and development efforts were well advanced by both the United States and the Soviet Union at that time, apparently neither party had asked for discussions of those programs within the SCC, which, under Article XIII of the ABM treaty, is the only appropriate forum for considering questions of noncompliance.

OPINIONS OF THE PANEL

Comparing the text of the treaty, the statements made when the treaty was presented to the Congress, the statements made by those who have researched the negotiating record, and recent state-

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[25] U.S. Congress. House. Committee on Armed Services. Full Committee Hearings on the Military Implications of the Strategic Arms Limitation Talks Agreements. July 25, 27, 1972. 92d Cong., 2d Sess. Washington, U.S. Government Printing Office, 1972, pp. 15134–15135.

ments made by members of the negotiating team, the panel believes that:

(a) The following interpretation is correct: [26]

The ABM treaty bans the *deployment* of the advanced ABM systems, such as laser and directed energy beams, because Article III, together with "Agreed Interpretation E (sic)', [D], make clear that systems based on "other physical principles" cannot be deployed *without further* discussion, and amendment of the treaty.

(b) There is no basis for Soviet assertions that all SDI research is prohibited by the ABM treaty on the basis that the ultimate results of such research would be prohibited.

(c) The parties did not intend to ban types of ABM research, development, and testing that could not be verified by national technical means.

(d) The Senate gave its advice and consent to ratification of the ABM Treaty based on the representations of members of the Executive Branch, including the U.S. negotiating team. Those representations on the public record should be given more weight than external statements or remembrances made more than a decade after the fact.

(e) Although the weight of the evidence favors a "broad" interpretation that research, development and testing of certain SDI elements is permitted, up to the point of deployment as an ABM system or components of an ABM system, the threshold for such activities will ultimately have to be established *for both parties* either within the SCC, by treaty amendment, or by another agreement.

(f) The U.S. SDI research program as currently constructed, and as controlled by the Congress, does not violate the ABM treaty nor does it approach any reasonable threshold requiring amendment of the treaty. Notwithstanding this, the Reagan Administration has stated that the U.S. program ". . . will continue to be conducted in accordance with a restrictive interpretation of the treaty's obligations." [27] The panel concurs in the caveat that followed that statement that there ". . . can be no double standard as to the way we interpret our treaty obligations vis-a-vis the interpretation the Soviets apply to those same treaty obligations. To do otherwise would outline a formula for potential disaster to our national security interests."

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[26] U.S. Congress. Senate and House. Joint Committee Print, Committee on Foreign Relations, Committee on Foreign Affairs. Fiscal Year 1979 Arms Control Impact Statements. June, 1978. 95th Cong., 2d Sess. Washington, U.S. Government Printing Office, 1978, p.99.

[27] U.S. Department of State. Bureau of Public Affairs. Statement by Ambassador Paul H. Nitze on the ABM Treaty and the SDI Program Before the Committee on Foreign Affairs, U.S. House of Representatives. October 22, 1985.

NUCLEAR WEAPONS TEST BANS AND RELATED PROPOSALS

Background

International agreements to ban nuclear weapons tests have been sought, without success, since the mid-1950's. Major efforts to produce a comprehensive test ban resulted in an informal unnegotiated moratorium during the Eisenhower Administration (1958) which was unilaterally ended by the Soviet Union in 1961. Similar efforts during the Kennedy Administration produced the Limited Test Ban Treaty (LTBT) in 1963 which barred nuclear tests in the atmosphere, under water, and in outer space. Rather than a treaty designed to control arms, the LTBT is an environmental treaty designed primarily to put an "end to the contamination of man's environment by radioactive substances." The Nixon Administration negotiated the Threshold Test Ban Treaty (TTBT) in 1974 to limit the yields (explosive power) of underground explosions. The TTBT anticipated the subsequent negotiation of controls over peaceful nuclear explosions. This intent was carried out through negotiation of the Peaceful Nuclear Explosions Treaty (PNET) during the Ford Administration in 1976. For various reasons, neither the TTBT nor the PNET have received the advice and consent of the Senate to ratification and ratification has not been sought by the Carter or Reagan administrations.

The Carter Administration initiated trilateral negotiations toward a comprehensive test ban (CTB) with the Soviet Union and United Kingdom during the fall of 1977. Although some progress was made, no agreement was reached after three years of negotiations. The Reagan Administration has consistently taken the position that a CTB is a long term goal to be achieved *after* the major nuclear weapons powers have achieved deep and verifiable arms reductions while maintaining a credible nuclear deterrent.

The "Unratified Twins": Threshold Test Band (TTBT) and Peaceful Nuclear Explosions (PNET) Treaties

The bill, H.J. Res. 3, and similar legislative proposals to restrain nuclear weapons testing by the United States and the Soviet Union, reflect a revival of Congressional interest in the Threshold Test Ban Treaty (TTBT) and the Peaceful Nuclear Explosions Treaty (PNET).

THRESHOLD TEST BAN TREATY (TTBT)

The TTBT was negotiated during a one-month period in anticipation of the summit meeting in Moscow in July, 1974 between President Nixon and General Secretary Brezhnev and was signed in Moscow on July 3, 1974. The treaty was accompanied by a protocol signed on the same date. The TTBT limits underground nuclear

weapons tests to 150 kilotons (TNT equivalent), limits nuclear weapons tests to designated test areas, and provides that verification of compliance shall be by "national technical means of verification". The provisions of the treaty *explicitly exempt*". . . underground nuclear explosions carried out by the parties for peaceful purposes" and states that such peaceful explosions will be governed by a subsequent separate agreement (the PNE Treaty).

To enhance verification, the protocol to the TTBT provides for an exchange of information, including: the locations and physical properties of test sites; the locations of nuclear tests once they have been conducted; and the exchange of technical data on two weapons tests to be conducted for calibration purposes. The exchange of data would occur simultaneously with the exchange of instruments of ratification of the treaty. Neither the TTBT nor the protocol contains any provisions or references to on site inspection or verification methods other than national technical means.

Although the TTBT (and protocol) was completed in July of 1974, it was not submitted to the Senate for ratification until after the Peaceful Nuclear Explositions Treaty (PNET) was completed in 1976 because of the interrelationship of the two agreements.

THE "PEACEFUL NUCLEAR EXPLOSITION TREATY" (PNET) [28]

Negotiations toward the PNET required approximately 18 months (contrasted to the one month required for the TTBT). Ambassador Walter J. Stoessel, Jr., the Chief U.S. negotiator, has described those negotiations as "extremely complex and arduous". The PNET and a protocol were signed by President Ford and General Secretary (CPSU) Brezhnev in Moscow on May 28, 1976.

The PNET carried out the intent of Article III of the TTBT: the conclusion of a separate agreement to govern the use of underground nuclear explosions for peaceful purposes. The treaty would also establish a Joint Consultative Commission to consider questions of compliance, to facilitate cooperation, and to consider possible amendments to the treaty and protocol.

Verification of PNET compliance (Article IV) would be by national technical means as augmented by information to be supplied by the party conducting a PNE to the other party. *However, in the event that one party proposed group explosions with a planned yield exceeding 150 kilotons*, the other party could exercise certain on site inspection rights, including the emplacement of electronic devices and the presence of technical personnel.

The PNET treaty differs from the TTBT in that so-called "peaceful" explosions may be conducted at *any location* under the control of the party conducting the explosion, except within the boundaries of designated nuclear weapons test sites, but including ". . . explosions in the territory of another state at the request of such other state." [29]

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[28] Technically know as the Treaty Between the United States of America and the Union of Soviet Socialist Republics on Underground Nuclear Explosions for Peaceful Purposes (and Protocol Thereto).

[29] See Article III of the PNE Treaty.

Comprehensive Test Ban (CTB)

H.J. Res. 3 and similar legislative proposals urge the President to request the advice and consent of the Senate to ratification of the TTBT and PNET and to ". . . propose to the Soviet Union the immediate resumption of negotiations toward conclusion of a *verifiable comprehensive test ban treaty*" [emphasis added]. [30] Other legislative proposals would urge the President to accept the Soviet proposal for a limited informal moratorium on nuclear explosions.[31]

Proponents of H.J. Res. 3 argue (and the bill so states) that ratification of the TTBT and PNET ". . . will ensure full implementation of significant new verification procedures and so make completion of a comprehensive test ban treaty more probable." It is further stated that a CTBT would promote the security of the United States by constraining the U.S./Soviet nuclear arms competition and would also strengthen efforts to prevent the proliferation of nuclear weapons. Proponents also recognize that a CTBT must be *adequately verifiable* and hasten to point out that "significant progress" has been made in methods for *detection* of underground nuclear explosions by seismological and other means.

WHAT IS A "COMPREHENSIVE TEST BAN"?

There appears to be a difference of opinion as to the meaning of the term "comprehensive" when applied to a CTBT. For example, does "comprehensive" mean:

—termination of *all nuclear* testing;
—only termination of all *nuclear weapons* testing;
—termination of *all nuclear explosions*; and
—would a CTBT remain in effect permanently or only for a limited period of time?

To some, the foregoing questions may appear to make distinctions without major differences, yet vast differences in risks and effects would exist depending upon the particular approach that might be taken toward a CTBT.

H.J. Res. 3 ("to prevent nuclear explosive testing") cites language contained in the Limited Test Ban Treaty of 1963 and the Non-Proliferation Treaty of 1968 relating to the *goal* of discontinuing "all test explosions of nuclear weapons for all time . . .," but does not further elaborate on the type of CTBT that the bill would encourage.

The hearing record on H.J. Res. 3 [32] does not offer much clarification. Senator Kennedy, testifying in favor of H.J. Res. 3, stated, "Some testing may be needed in the long run to assure the credibility of our existing deterrent. Provisions can be negotiated in a CTBT that address this problem without permitting the development of a new generation of weapons."[33]

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[30] U.S. Congress. House. H.J. Res. 3, a bill to prevent nuclear explosive testing. 99th Cong., 1st Sess. Subparagraph (2) of the resolving clause. [See Exhibit VIII of the Appendix for the text of the bill]

[31] U.S. Congress. House. H.R. 3100 and H.R. 3442. 99th Cong., 1st Sess.

[32] U.S. Congress. House. Committee on Foreign Affairs. Proposals to Ban Nuclear Testing. February 26; April 30; May 8, 14 and 15, 1985. 99th Cong., 1st Sess. Washington, U.S. Government Printing Office, 1985.

[33] Ibid., p. 4.

Chairman Fascell also stated that the question of reliability testing under a CTBT would be ". . . a matter of negotiation and determination by the President . . ."[34] On the other hand, Congressman Leach, a cosponsor of H.J. Res. 3, took the approach that reliability testing of nuclear weapons is not required and that future testing under a CTBT ". . involves the nonnuclear testing of the mechanisms." Further, he said, ". . . I think it should be stressed that the words 'comprehensive test ban' includes the word 'comprehensive,' which implies that all testing will cease" and ". . . it's the opinion of the gentleman from Iowa that comprehensive test ban means comprehensive."[35]

H.R. 3100 (providing for a "comprehensive bilateral and verifiable freeze" on testing nuclear weapons) is typical of a different approach. That bill would freee "the testing of nuclear *explosive devices*" by cutting off funds for that purpose. [emphasis added] A nuclear explosive device is defined as any device utilizing fissile materials. Thus, a CTBT, or a legislative unilateral test ban based on the formula of H.R. 3100 and H.R. 3442, or similarly worded measures, could ban all stockpile reliability tests, many small sub-kiloton experiments, laboratory experiments, nonexplosive testing of devices using fissile materials, safety and security tests, and *peaceful nuclear explosions*. [See Exhibits VI, VII, and VIII of the Appendix for the texts of H.R. 3100, and H.R. 3442, and H.J. Res. 3, respectively]

A "comprehensive" test ban that would bar all "nuclear weapons testing" would also ban nonexplosive testing and might extend to small explosions or laboratory experiments. Such an agreement would involve serious limitations on verification and monitoring. This would be especially true if the Soviet Union were to continue to insist on the right to conduct "peaceful" nuclear explosions, if both parties insisted on the right to conduct nuclear experiments for "peaceful" purposes, notably energy research, or if on-site inspection and other intrusive verification methods could not be negotiated.

PARADOXICAL ARGUMENTS

The troublesome lack of definition of a CTB continues to foster paradoxical arguments with respect to probably national security risks and impacts on U.S. military capabilities, especially U.S. nuclear deterrent forces.

It is argued that a CTB would, within a few years, make the nuclear weapons of the participants so unreliable that they could never be used. Yet, other proponents argue that a CTB would not (and must not) destroy confidence in the reliability of our nuclear deterrent.

It is argued that a CTB would encourage other countries to refrain from efforts to become nuclear weapons states. Yet, it is argued that terrorist groups or desperate governments could (as is now suspected) construct nuclear weapons in secret without explosive testing, given the availability of fissile materials and the

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[34] Ibid., p. 145.
[35] Ibid., p. 146.

know-how. It is also argued that a CTB would stop the proliferation of weapons and the enlargement of existing stockpiles. Yet, no serious CTB proposal to date would affect the present numbers of *existing types* of nuclear weapons, prevent increases in their numbers or explosive power.

It is argued that a CTB would halt the development of "destabilizing new weapons" of "greater destructive power." Yet, few oppose the ongoing development of new "stabilizing" weapons such as Midgetman, weapons that could not be detonated accidentally or by terrorists, or replacement of old high-yield weapons with weapons of lower yields—all of which require testing. And few who use this argument admit that it is the size, throw-weight, and accuracy of the SS–18 and SS–19—not their nuclear components—that have contributed to existing strategic instability.

Finally, there is the paradox contained in H.J. Res. 3 that urges ratification of the TTBT (permitting tests up to 150 kilotons) and the PNET (permitting uninspected PNE tests up to 150 kilotons), with all of the questionable verification procedures contained in those agreements, while also urging a "comprehensive" ban on *all* tests presumably accompanied by on-site inspection of suspected violations and other intrusive verification procedures.

Why Test Nuclear Weapons?

When the rhetoric on stopping the arm race, preventing nuclear war, elimination of nuclear weapons, weapons proliferation, disarmament, verification and other stated CTB objectives is stripped away, there remain the national security, political, and technical objectives of nuclear weapons test programs. Why is testing necessary?

TO ASSURE WORKABLE WEAPONS

A test program is necessary to assure that weapons designs, engineering and manufacturing methods are workable; that weapons will perform as expected throughout a lifetime of 20 or more years; and that weapons will be safe to handle, resistant to accidents and resistant to unauthorized use.

TO MAINTAIN RELIABILITY

There is no way to simulate or to calculate the full performance of nuclear devices within the laboratory. In the past, the United States has deployed nuclear weapons which had serious reliability problems and which required further testing to restore reliability. Notwithstanding the development or nondevelopment of new offensive or defensive weapons, a test program is required to maintain a credible nuclear deterrent.

Exhibit XII of this report contains a 1983 report, entitled "Some Little-Publicized Difficulties with a Nuclear Freeze." The report details several serious reliability problems with Polaris, Poseidon and Minuteman warheads which, at the time, constituted the most secure legs of the U.S. strategic deterrent retaliatory triad. The report also details serious problems that existed with the W45 Atomic Demolition Munition (also used for the Army's Little John

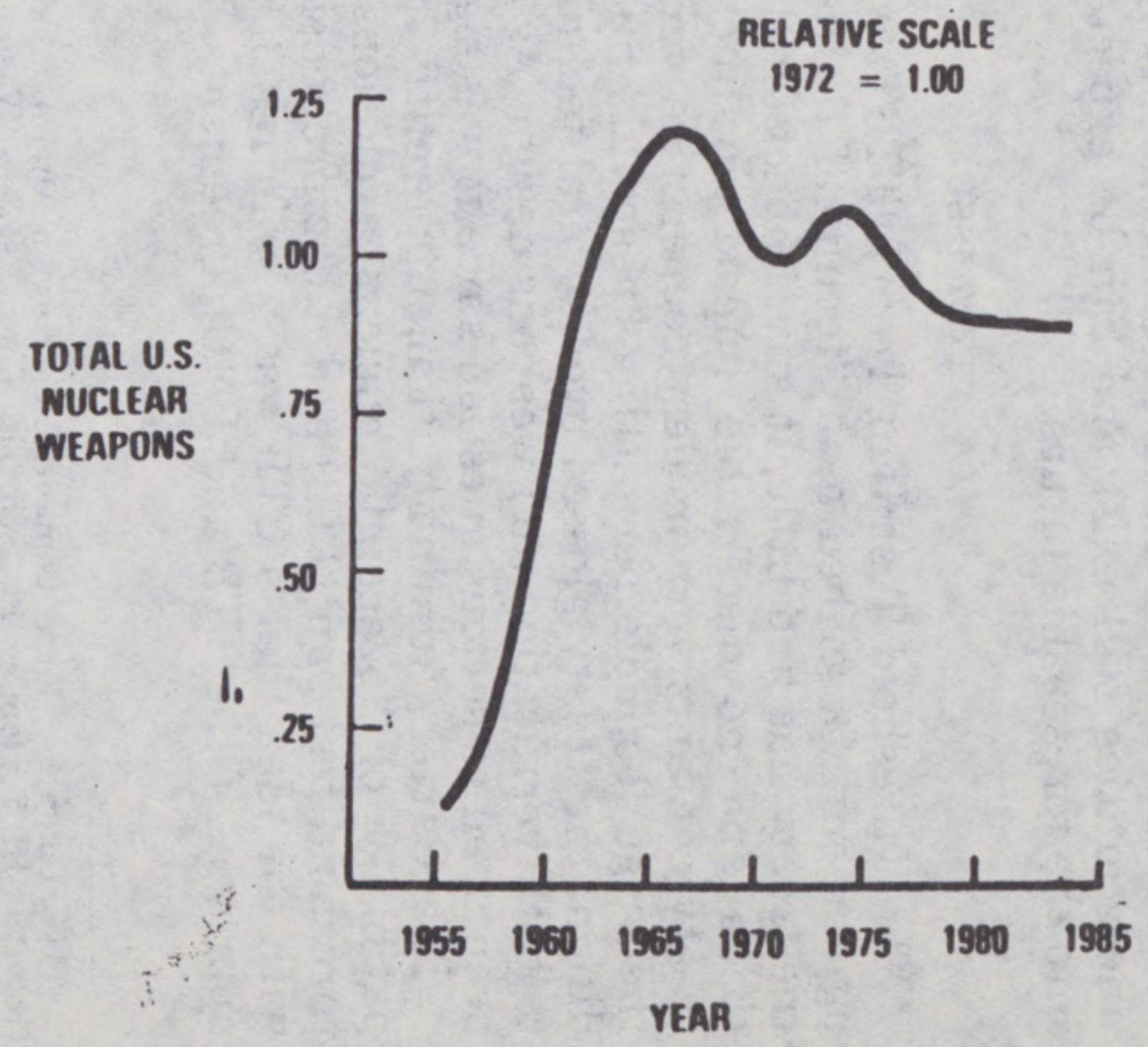
tactical missile and the Navy's Terrier surface-to-air missile) and with the Army's W52 Sergeant surface-to-surface missile. The panel notes that some of the reliability problems reported above occurred during the 1958 to 1961 U.S./Soviet moratorium on testing and that remedies could not be incorporated until after U.S. testing resumed in 1961. In the interim, entire classes of U.S. weapons would have been duds or, at least, ineffective.

U.S. NUCLEAR WEAPON STOCKPILE TRENDS

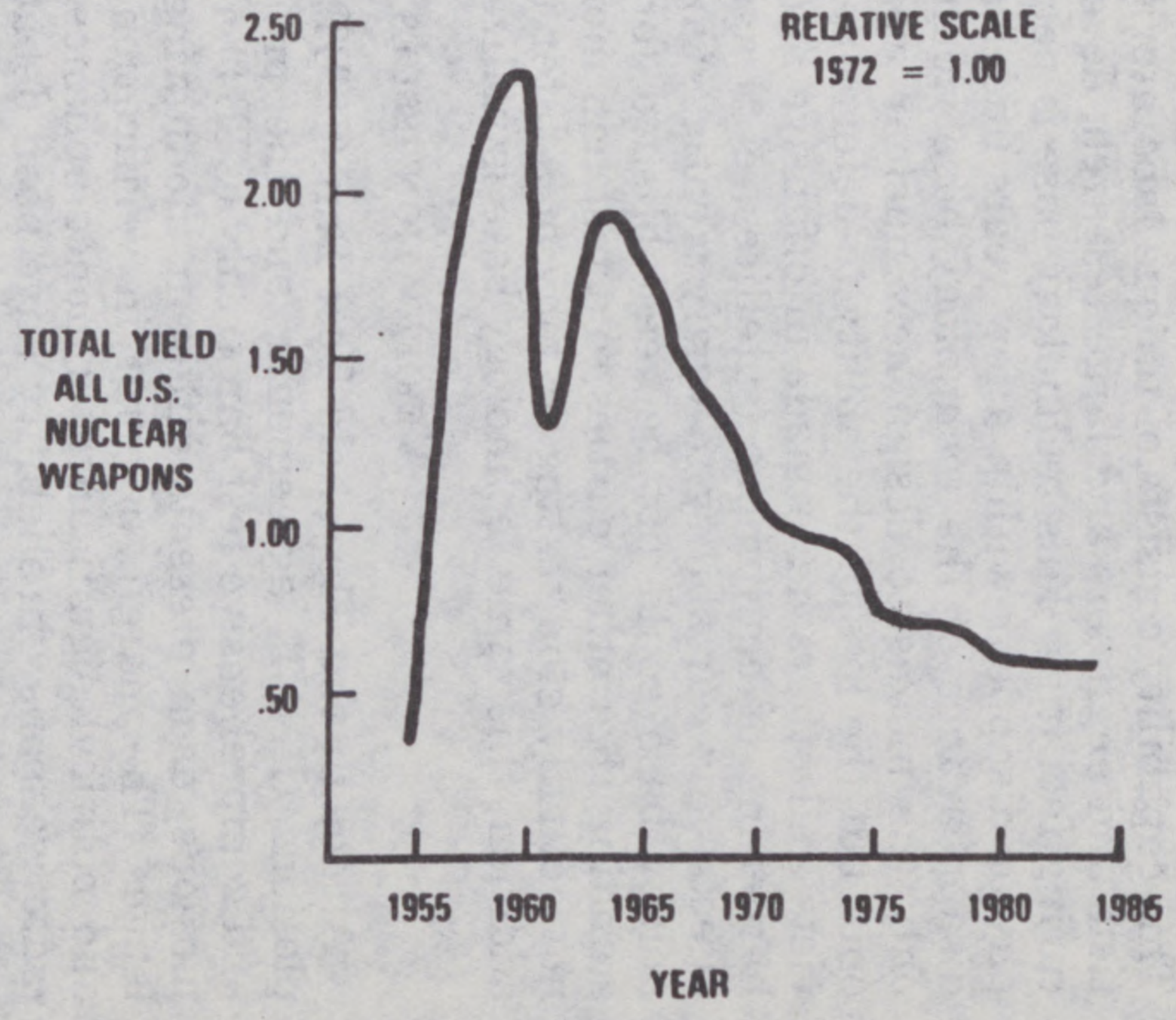
U.S. nuclear weapon stockpile trends have toward fewer weapons (a decline of approximately 25 percent since 1965) and smaller overall destructive power (a decline of approximately 75 percent since 1960). More recently designed weapons have had to accommodate to smaller available delivery systems. These designs also take advantage of reduced use of special nuclear materials, reduced costs, and new safety features such as the use of insensitive high explosives, new materials and permissive action links. Few of these features could have been incorporated into old or new weapon designs without testing. The following chart illustrates U.S. nuclear weapons stockpile trends over the past 30 years.

STATUS OF U.S. WEAPON STOCKPILE OVER TIME

INVENTORY



MEGATONNAGE



MAINTAINING A NUCLEAR TECHNOLOGY BASE

A viable weapons test program not only provides the scientific and technical base for the reliability of U.S. deterrent forces but testing is also necessary to maintain a national nuclear capability. This capability consists of unique laboratories, highly trained scientists and engineers and large research, development, and manufacturing facilities. This technology base is perishable and would atrophy or disappear within a few years under a freeze on testing. The disappearance of the technology base would mean the loss of not only the means to design new nuclear weapons and improve old ones but the loss of the ability to determine what advances the Soviets and others have made in offensive and defensive weapons, in hardening of equipment (satellites, etc.) against nuclear radiation effects, and our ability to verify treaties. Once dissipated, this technology base could not be reestablished for many years, notwithstanding that other parties to a test ban moratorium or treaty may not actually stop testing or may at a later time resume testing. In addition, this same technology base is utilized for the SDI program.

Verification Issues

Although the Threshold Test Ban (TTBT), Peaceful Nuclear Explosions (PNET) agreements, and the proposed test moratorium and comprehensive test ban treaty (CTBT) all deal with nuclear explosions, each presents different monitoring and verification challenges. The margin of error in verification methods, the military and political significance of noncompliance, and the risks of ultimate weapons unreliability have been debated for many years but no national consensus has been reached. Serious disagreements and uncertainties still exist and can be expected to continue to exist into the foreseeable future.

TTBT ISSUES

The Threshold Test Ban Treaty (TTBT) was a hastily negotiated agreement. Described as a "technical fix for a political problem," the treaty has had little, it any, impact on the nuclear arms competition and no discernible impact on nuclear proliferation. The treaty contains very modest cooperative verification measures and the large loophole permitting "peaceful" nuclear explosions. In addition, the treaty glossed over several technical issues with respect to both verification and weapons design. As a result, the TTBT has been open to serious question since it was signed in 1974.[36]

The Carter Administration, apparently recognizing the incompatibility of "peaceful" nuclear explosions (PNE's) with both a threshold test ban (TTB) and a comprehensive test ban (CTB), and with the idea that a CTB was within reach, did not ask for Senate approval of the TTB and PNE agreements. In fact, Leslie H. Gelb,

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[36] U.S. Congress. House. Committee on Foreign Affairs. Fundamentals of Nuclear Arms Control, Part III. September 12, 1985, 99th Cong., 1st Sess. Washington, U.S. Government Printing Office, 1985, pp. 11–14.

Director of the Bureau of Politico-Military Affairs at the State Department, testified on August 15, 1978: [37]

We can now do better than these two relatively modest treaties. As you know, a CTB would effectively ban all weapons testing on both sides. And, due to a recent concession by the USSR, the CTB would include a Protocol banning PNE's altogether for the duration of the treaty (while caling for negotiations to try to find a mutually acceptable means to carry out PNE's).

The United States has carefully observed the 150 kiloton TTBT limit. Within that restriction, U.S. weapons laboratories are able to maintain the reliability of the existing arsenal of nuclear weapons. It is possible to make safety, security and design changes that reduce costs. Nuclear weapons effects testing can also be done to obtain data to harden U.S. weapons systems, facilities, and hardware. In addition, new weapons of 150 kilotons or less can be designed with high confidence. If a weapon design has been previously tested at higher yields, new weapons based on that design can be made that exceed 150 kilotons but with decreasing confidence. High-yield weapons based on new designs cannot be developed by U.S. weapons laboratories under the TTBT restriction, nor can the most critical U.S. weapons be proof tested at their full yield.

The above mentioned "costs" of the TTBT could be accommodated if the United States could be assured through present verification methods that the Soviet Union also strictly observes a 150 kiloton test limit. This, according to the testimony and reports submitted to the Congress, is not the case. There have been numerous instances where identified Soviet nuclear explosions have apparently exceeded the 150 kiloton limit—some by very wide margins—which could mean that the Soviet Union has been proof-testing existing weapons or testing new weapons at their full yields. Diplomatic representations have been made by both the Carter and Reagan Administrations to the Soviet Union asking for explanations and corrections. Each such representation has been met with a denial that the explosion in question exceeded 150 kilotons.

It is the opinion of those scientists in the laboratories, the Department of Defense, and the Department of Energy, who have been responsible for development of the equipment used to monitor the TTBT and PNET, that present methods of verification are not sufficient to verify compliance with those agreements. Because the analysis of data on Soviet tests—data which is incomplete and in many cases based on extrapolations, inferences and guess work—*is consistent with both Soviet compliance and noncompliance* with a 150 kiloton limit, these scientists are understandably concerned that the Soviet Union could unilaterally reap the advantages of large-yield tests with a relatively low probability of detection. Even if the full verification provisions of the TTBT and PNET were to be in force, the data that would be received from the Soviet Union could not be independently verified and the same serious uncertainties would remain. For the above reasons, these groups urge that considerably improved monitoring procedures, independently verified calibration tests, forms of on-site inspection and other veri-

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[37] U.S. Congress. House. Committee on Armed Services. Effects of a Comprehensive Test Ban Treaty on United States National Security Interests. August 14 and 15, 1978. 95th Cong., 2d Sess. Washington, U.S. Government Printing Office, 1978. p. 106.

fication measures be negotiated and agreed to before the TTBT and PNET are ratified.

PNET ISSUES

As outlined previously, the unratified Peaceful Nuclear Explosions Treaty (PNET) would regulate the use of nuclear explosions for peaceful purposes such as large excavations, mineral extraction, and the stimulation of oil and natural gas wells. Such explosions could be conducted at any location outside of a designated nuclear weapons test site, including the territory of another country if requested by the government of that country. Although the PNET provides that verification would be carried out thrugh national technical means, the protocol that is integrated into the treaty provides for: (a) the provision of data for PNE's of 150 kilotons and below, and (b) on-site inspection where the *planned aggregate yield of group explosions exceeds 150 kilotons.* Neither the United States nor the Soviet Union have observed the provisions of the PNET other than the 150 kiloton yield limitation. The United States unilaterally terminated its PNE program in the late 1960's.

> *There is not essential distinction between the technology of a nuclear explosive device which would be used as a weapon and the technology of a nuclear explosive device used for a peaceful purpose.*[38] [emphasis added]

Furthermore, there are no fundamental differences between the development and testing of nuclear weapons and the development and use of a peaceful nuclear device. With respect to the PNET, any differences would lie only in the *declared purpose* of the explosion *by the country conducting* the explosion (at 150 kilotons or below), its location outside of a nuclear weapons test site, and the *inferences* that can be be drawn from national technical means of verification. Although national technical means might detect the visible *results* of a peaceful nuclear explosion (if indeed such results are visible) and estimate the yield, the primary, secondary or other *purposes* of the explosion (explosive testing, proof of design, reliability, etc.) could not be determined. Moreover, the types of data collected from a peaceful nuclear explosion and the use of such data for weapons purposes could not be verified.

Proponents of PNET ratification point to the "benefits" that would be gained from the detailed information required to be provided by a country conducting a PNE. Proponents also point to the "breakthrough" that could guarantee on-site observers where the *planned aggregate yield of group PNE explosions* is to *exceed 150 kilotons.*

Critics of PNET ratification forcefully argue that because the information to be supplied on Soviet explosions under the PNET protocol would be within the control of the Soviet Union, not subject to independent verification, and thus be unreliable or deceptive. Furthermore, with respect to the "benefits" of on-site inspection, it would be a simple matter for the Soviet Union to either forego group explosions exceeding 150 kilotons, or, as in the case of the

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[38] U.S. Arms Control and Disarmament Agency, Arms Control and Disarmament Agreements: Texts and History of Negotiations, 1977 Ed., p. 166.

TTBT, to deny that the aggregate yield exceeded that figure. For this reason, the right to on-site observers would probably never be exercised.

Those who oppose PNET ratification, without improved verification, also point out that Soviet PNE's could be conducted at any place within the large Soviet land mass, within its other territories or within the territory of its surrogate countries. Thus, nuclear explosions could take place in areas that experience hundreds if not thousands of natural earthquakes each year. Moreover, the seismic measurements that are based on historical observations of two or three Soviet nuclear weapons test sites would be highly unreliable for detecting, identifying or determining clandestine explosions or the yields of so-called "peaceful" explosions occurring in a vastly larger area.

A critical view of the TTBT and the PNET is held by Ambassador Walter J. Stoessel, appointed by President Nixon as the Chief U.S. negotiator for both treaties. On February 26, 1985, Ambassador Stoessel testified: [39]

> At the time when the TTBT and PNE agreements were negotiated, it was felt that the procedures regarding exchange of information called for in the treaties would be adequate to provide verification that the limits called for in the agreements would be observed. In the years since the negotiations—over 10 years in the case of the TTBT—developments have taken place which place this conclusion in doubt.
>
> On the technical side, there is continuing controversy regarding our ability to verify with sufficient accuracy the yields of nuclear explosions in the Soviet Union. While experts differ, many maintain that, without direct, on-site inspection, it is impossible to obtain adequate verification, and they hold that this would be the case even with the exchange of data provided for in the TTBT. They note, too, that these data are to be provided from each side's sources, and they claim that—given the record of Soviet violations or likely violations of arms-control agreements—this is reason to question the reliability of such data.
>
> This subject—Soviet violation—has been treated at length in several reports by the President to the Congress. As indicated in the most recent report of February 1, 1985, Soviet activities for a number of nuclear tests constitute a likely violation of obligations under the TTBT.
>
> Given the persisting controversy over verification technologies and the evidence of Soviet non-compliance with a number of arms-control agreements, including the TTBT, I conclude that it would be desirable to provide for enhanced verification procedures in the TTBT and PNE agreements before they are ratified by the U.S. Senate.

It has been suggested that the experts at two of the national weapons laboratories—Los Alamos and Livermore—differ on the question of probable Soviet violations of the TTBT. Testimony before the panel and before a subcommittee of the Committee on Foreign Affairs, however, indicates that the opposite is true. For example, Dr. Donald Kerr, Director of the Los Alamos National Laboratories, testified on May 8, 1985 that with dependence on national technical means—remote teleseismic monitoring—for TTBT verification, ". . . we simply cannot know what the actual yields of underground tests are," and ". . . we have concluded that the issue of Soviet compliance [with the TTBT] is unresolved and presently unresolvable given the nature of the date available to us." [40]

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[39] U.S. Congress. House. Committee on Foreign Affairs. Proposals to Ban Nuclear Testing. February 26; April 30; May 8, 14, and 15, 1985. 99th Cong., 1st Sess. Washington, U.S. Government Printing Office, 1985, pp.

[40] Ibid., p. 79c

Dr. Kerr also stated that, in his opinion, there was no difference of opinion between the laboratories.

On September 20, 1985, Dr. Paul Robinson, representing Los Alamos National Laboratory, and Mr. Roy D. Woodruff, Associate Director of Lawrence Livermore National Laboratory, testified before the panel. Both witnesses agreed that there "is no difference of opinion between the labs" with respect to Soviet compliance with the TTBT. Mr. Woodruff added, "We can't say to an accuracy any better than roughly a factor of two, because of the statistical problem of interpreting yield from seismic data." [41]

The ambiguities and uncertainties involved in verification of the 150 kiloton TTBT and PNET limits are a source of continuing mistrust that cannot be removed, but ony exacerbated, by technical arguments. Testimony before the panel indicates a commitment by the Administration to negotiate verification improvements to resolve those uncertainties prior to seeking ratification of those agreements. As a part of this effort, President Reagan, before the United Nations General Assembly on September 24, 1984, proposed an exchange of U.S. and Soviet technical experts at test sites to measure the yields of nuclear weapons tests. Again, on January 29, 1985, the President invited the Soviet Union to send experts to the Nevada Test Site to measure U.S. test yields. The offer was without preconditions. To date, these offers have been rebuffed.

CTBT/MORATORIUM ISSUES

Proponents of a CTBT or an uninspected moratorium on nuclear testing, and legislative proposals such as H.J. Res. 3, H.R. 3100, and H.R. 3442, insist that such a test ban must be "mutual" and "verifiable." In other words, any such arrangement must be *verifiable* in order to provide proof that it will always be *mutual*.

In addition to the general consensus that a CTBT must be mutual and verifiable, there is widespread, though not universal, agreement on the following:

(a) Verification procedures that apply to the TTBT and PNET would not be adequate for CTBT monitoring.

(b) "Peaceful" nuclear explosions, under the existing PNET or in a "no testing" CTBT regime would be incompatible with the arms control purposes of such an agreement and would further complicate verification and monitoring of a CTBT.

(c) Although there are new devices and techniques that could be used for monitoring compliance with a CTBT, these methods would require the *negotiation* of intrusive on-site inspection provisions for both monitoring and to resolve ambiguous events.

(d) Because of the very large number of possible ambiguous seismic events that would occur from earthquakes and conventional explosions that could be interpreted to be small clandestine nuclear explosions, a total *ban on all nuclear explosions* could not be verified with the required degree of confidence. Therefore, many ex-

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[41] U.S. Congress. House. Committee on Armed Services. Review of Arms Control and Disarmament Activities, 99th Congress, 1st Session. September 10, 12, 18, 20; October 31; November 20; and December 12, 1985. 99th Cong., 1st Sess. H.A.S.C. 99-18. Washington, U.S. Government Printing Office, 1986, p. 217.

perts who favor a CTBT also favor a low-threshold CTT, not a "comprehensive" test ban.

(e) Mutual and verifiable exceptions to a CTBT would have to be negotiated to provide testing for weapons realiability, safety, advanced concepts (such as SDI) and for more stabilizing systems such as small, single-warhead ICBM's.

(f) If there is to be an agreement for the cessation of nuclear explosions between the United States and the Soviet Union, the agreement should be based on careful negotiations, spelling out mutual verification procedures, and not on an amorphous moratorium.

Is a Comprehensive Test Ban (CTB) a Good Idea?

It is variously argued that a CTB (in one of the several forms proposed) would end, or place a technological cap on, the "arms race;" prevent the horizontal proliferation of nuclear weapons; provide a "proper climate for other arms control negotiations; close" or ultimately lead to nuclear disarmament. Based on those assumptions, and the further assumption that a CTB could actually be negotiated or verified, it is argued that only a "lack of political will" stands in the way of achieving a CTB moratorium or treaty. Some point to the Soviet unilateral declaration of a cessation on the testing of nuclear warheads for a five-month period beginning on August 6, 1985, and the Soviet invitation to the United States to join in an indefinite moratorium, as evidence that the "lack of political will" lies only with the U.S. government. The provisions of H.J. Res. 3, which urges *negotiations* toward a CTB, and H.R. 3100 and H.R. 3442, which would legislate a moratorium on testing, appear to be based on the above assumptions.

The panel believes that arguments such as the above overstate the benefits of a CTB and oversimplify the solution. In addition, such arguments tend to finesse the problems of actually *negotiating* a verfiable CTB, past U.S. experience with the 1958–1961 test moratorium, uncertain Soviet compliance with existing agreements and the national security costs of a CTB relative to expected benefits.

For example, it is a fact that only five countries have become nuclear weapons states (as defined by the Nonproliferation Treaty) during the 40 years that nuclear weapons have been developed and tested, and before the NPT came into force. Although a CTB including *all* nuclear weapons states would have some political value, depending on its terms, the deterrent value of a CTB against further proliferation is uncertain. In addition, U.S. experience with total test bans has been limited to the discouraging experience with the 1958–1961 U.S./Soviet moratorium which brought about no observable arms control benefits but imposed great costs and disadvantages on the United States.

In addressing the question, "is a CTB a good idea?", the panel finds merit in the approach suggested a few years ago by Ambassador Ralph Earle II and Ambassador Herbert York, President Carter's negotiators at the SALT II and CTBT talks, respectively. Ambassador Earle raised a series of questions:[42]

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[42] Arms Control in Transition: Proceedings of the Livermore Arms Control Conference. Edited by Warren Heckrotte and George C. Smith. Boulder, Colorado, Westview Press, 1983, pp. 3–4.

Is a comprehensive ban on all testing in our national interest? If so, for how long? If not, what are the alternatives? A threshold lower than 150 kilotons (kt)? Limits on the number of tests? A mixed number/yield limitation—e.g., so many tests at X yield, so many more tests at Y yield? What can and cannot be verified? Here again, we must pose to ourselves all the difficult and relevant questions and answer them before pushing forward.

Ambassador York, also the former director of the Lawrence Livermore National Laboratory, concluded that a CTB is a "good thing and ought to be accomplished" but added several qualifiers concerning the relative priorities that should be given to such agreements.[43]

In need to add some qualifiers to my own position on a CTB. One is that I don't think that a comprehensive test ban is a good thing as an isolated act. A comprehensive test ban in a world in which all the other aspects of the nuclear arms race are going forward in full gear seems to me obviously unstable. It couldn't last, and therefore should not be put in place. The appropriate time for a comprehensive test ban is when things in general are moving away from a dependence on nuclear weapons, when the process is the reverse of what it is today and what has been in recent years. Moreover, a comprehensive test ban is not my personal first priority in nuclear arms control and disarmanent. SALT II, a beginning on SALT III, and doing something about the theater nuclear forces, for example, have higher priority in my view than proceeding with the comprehensive test ban.

Ambassador York also provided some very enlightening remarks about the questions that should be asked and answered in connection with a possible CTB.[44]

There are a number of instances where I feel we asked and answered the wrong questions. I want to take just two of them to complete my remarks. One of the questions that was frequently asked was, "Does a comprehensive test ban interfere with the nuclear weapons stockpile reliability?" I think that's a wrong question. The answer to that question is both simple and trivial. The answer is, "Yes, it interferes with stockpile reliability." The question that should have been asked is, "Given that the comprehensive test ban does interfere with stockpile reliability, how does one cope with that problem and what can be done to maintain an adequate level of nuclear military preparedness in the face of that particular problem?" To illustrate the kind of issues I think would come up if one asked the questions the way I suggest, consider those weapons systems that occur in very large numbers and that have the same warhead deployed on all launchers, such as the *Poseidon* system. Then the questions of failing on a class means the entire system fails, and that's obviously something that is completely unacceptable. If one has to field large numbers of a particular type of launcher, there should be several different warheads employed and these should originate in at least two of the nuclear laboratories. Or, if the designs are marginal and finely tuned, one should back off. That might mean eight warheads instead of ten on a *Polaris;* it might mean only 80 percent of the range. Those of course, are costs; they're certainly not benefits, but they are costs that can be analyzed and understood and weighed against possible benefits. I might add that the doves are at least as guilty as the hawks with regard to putting these questions in the wrong form, because many of the doves who were behind the comprehensive test ban were confident that the answer to the original (and wrong) question was either, "No, a test ban doesn't interfere with stockpile reliability," or if it does, it can be easily handled by stockpiling drawings, stockpiling knowledge or whatever. I think we would have been better off if we had started with the notion that, yes, indeed nuclear testing must be worth something, we've been doing so much of it, that eliminating it does not have a cost—that issue is how to cope with that cost, rather than to deny it exists.

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[43] Ibid., pp. 73–74.
[44] Ibid., pp. 76–77.

Opinions of the Panel

TTBT/PNET

As *arms control measures,* it is difficult to make a case for either the TTBT or the PNET. For example, it was never clear just what was expected by the Nixon Administration from the TTBT. Having signed the TTBT, the Nixon Administration left the commitment to a PNE agreement to the Ford Administration. Historians have written that the motivation for both agreements was more domestic politics rather than the achievement of an arms control of objective.[45]

Both the TTBT and the PNET have been severely criticized by members of the "arms control community" because those agreements permit testing at all, or because testing and PNE's are controlled at very high thresholds not related to detection capability—in other words, these agreements are only cosmetic arms control agreements. On the other hand, both agreements have been criticized because they have exacted a price from the U.S. testing program in excess of any benefits gained. In addition, critics believe that serious shortcomings in verification procedures could result in unequal observation of the top agreements. As a result, there is no broad bipartisan consensus in support of ratification of the TTBT or PNET.

A national debate on the ratification of two marginal arms control agreements, with which both parties claim they have been in compliance for a decade, would add nothing on the "plus" side of arms control. On the other hand, such a debate would surely detract from ongoing negotiations on space and nuclear arms and chemical and biological warfare wherein progress is possible.

A "comprehensive" test ban (CTB) would carry with it several unacceptable risks to the U.S. nuclear deterrent that would in all probability not equally affect the Soviet Union. These risks relate both to the reliability of our weapons and to the maintenance of a technical capability. To date, the proponents of a CTB have not addressed the critical questions asked by Ambassador Earle nor is the United States postured to cope with the "costs" of a CTB noted by Ambassador York—the prevention of system failures on a "class" basis. The panel believes that, so long as we must maintain nuclear forces, we must test them. A negotiated test program as suggested by some is not a CTB and, moreover negotiated reliability testing would not satisfy the complaints of other parties to the Nonproliferation Treaty (NPT) cited by CTB proponents as a rationale for a CTB.

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[45] National Academy of Sciences, Committee on International Security and Arms Control. Nuclear Arms Control: Background and Issues. Washington, National Academy Press, 1985, pp. 196–199.

OTHER ISSUES EXAMINED

Antisatellite (ASAT) Weapons

As a recent study and report by the Congressional Office of Technology Assessment noted,[46] the United States and the Soviet Union have used military satellites for more than twenty years. As technology has advanced, satellites play a diverse and pervasive role in military activities. Even those satellites which perform passive or peaceful roles, during peacetime can become weapons in time of war by providing targeting, intelligence, damage assessment, warning, communications, and possibly disruptive activities. The possession or nonpossession of operating satellites by an adversary could be the deciding factor in a future major conflict. In fact, modern warfare is becoming so dependent upon satellite information that satellites may well be the second casualties, after truth, in a future war.

By their nature, satellites are vulnerable to a varity of attacks from other satellites, manned space vehicles, missiles, or from ground-based equipment. Although there are various measures that can be, and have been, taken to reduce vulnerabilities, the threat is also improving. Even those satellites that today may be safe from attack by virtue of their high or geosynchronous orbits can be attacked in the foreseeable future. Developing technologies, and systems that may be fielded as a result, may not be characterized as dedicated antisatellite (ASAT) systems but may serve a variety of other military purposes such as air defense, missile defense, multipurpose satellites or space vehicles, to be brought into play at an appropriate time.

A situation where one adversary can disable or destroy the key satellites of the other, without fear of retaliation in kind, is considered to be intolerable from a military standpoint. Such a situation would be highly destabilizing because the side lacking that capability could not rely on its space assets for early warning; command, control, and communications; weather information; and intelligence. And because of the considerable military advantage that would result from a Soviet attack on U.S. satellites, even in a conventional war, U.S. satellite systems would probably be considered high priority targets. For these reasons, the United States has sought a *comprehensive and verifiable ban on antisatellite systems* of all types.[47] If a *comprehensive and verifiable* agreement could not be reached, it is believed that the United States must be able to

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[46] U.S. Congress. Office of Technology Assessment, Anti-Satellite Weapons, Countermeasures, and Arms Control. OTA-ISC-281. Washington, U.S. Government Printing Office, September 1985.

[47] Arms Control Impact Statement submitted to the Congress by the Carter Administration on Space Defense, dated January 31, 1979.

deter possible Soviet attacks against U.S. satellites through the capability to retaliate in kind.

WHAT IS AN "ANTISATELLITE SYSTEM"?

The United States arms control policy to seek a verifiable ban on *antisatellite (ASAT) systems* has consistently included: *any means of physical attack on a satellite or space system,* including, for example, space mine, kinetic energy weapon, or laser attack. The nature of the diverse and numerous systems that could threaten U.S. satellites and would have to be included in a "comprehensive" ASAT ban present a complicated set of problems of both identification and verification. These include systems such as space shuttle vehicles, space stations, ABM, air defense, satellites, ground-, air-, and space-based directed energy and other components of the U.S. and Soviet space programs. The fact that numerous dual-purpose of ambiguous systems must be included in any meaningful "comprehensive" ban on ASAT testing or deployment would require verification procedures far beyond national technical means.

SOVIET MONOPOLY ON ASAT

The Soviet Union has had an operational dedicated ASAT capability against U.S. satellites in low orbit (below 6,000 kilometers) since 1972. The United States has no similar capability but has reached the flight testing phase in an ASAT development program that began nearly a decade ago. If fully tested and deployed, the United States could achieve a limited low-orbit ASAT capability within a few years. The rationale for the U.S. ASAT program has been based on the same rationale during the Carter Administration (when development began) and the Reagan Administration when a deployment decision was made: denial of a Soviet ASAT monopoly; an incentive for serious negotiations; and to prevent a competition leading to exotic systems or systems with high orbit (above 6,000 kilometers) capabilities.

The operational Soviet ASAT system employs "killer" satellites boosted into orbit and designed to intercept and physically destroy target satellites. The U.S. ASAT employs a direct-ascent missile and intercept vehicle (miniature homing vehicle), launched from specially configured F-15 aircraft, and designed to intercept and destroy target satellites. In comparison with the U.S. ASAT, the Soviet dedicated ASAT system is depicted as "old, cumbersome, crude and unresponsive." In addition, the Soviet system has not been tested for several years. Although the U.S. ASAT under development is based on more recent technology, the capabilities and limitations of the system cannot be known until testing is complete. At this point, the Soviets have an ASAT capability that could prove damaging to U.S. and NATO capabilities in the event of hostilities, while the U.S. will have not existing counter capability or deterrent other than, perhaps escalation to attacks on ASAT ground bases in the Soviet Union.

In reviewing the several ASAT arms control issues, the panel found that the above assessment is not new. U.S. concerns and activities to devise countermeasures to Soviet ASAT capabilities predate the Carter Administration, were continued by that adminis-

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tration, and have continued into the present administration. It has been consistently recognized that a Soviet ASAT monopoly should not be tolerated indefinitely.

ASAT ARMS CONTROL

There are no arms control agreements that inhibit research, development or deployment of ASAT systems. Although nuclear weapons may not be detonated or deployed in space, no agreement explicitly limits the deployment of dedicated ASAT systems or the deployment of dual-purpose systems operating in an ASAT mode. Notwithstanding, the United States has sought *comprehensive and verifiable* arms control agreements while continuing a vigorous ASAT development program as a hedge against the failure to achieve an agreement or Soviet cheating or abrogation if an agreement were to be reached. Also the U.S. goal has been to make it clear to the Soviets that the alternative to an agreement is U.S. competition.

U.S negotiations with the Soviet Union were conducted in 1978 and 1979 but were terminated without notable progress.

The Soviet Union submitted draft treaties on space-based weapons to the United Nations General Assembly in August, 1981, and August, 1983. Both draft treaties, however, were considered imprecise by the United States and did not provide for adequate verification. In addition, these Soviet proposals would have imposed unacceptable restrictions on the U.S. space shuttle.

Concurrent with their space arms control activities within the United Nations, the Soviet government has mounted an extensive international political and public information campaign to halt both the further development of a U.S. ASAT system and research relating to SDI. This effort resulted in a Soviet offer to discuss space arms control issues at negotiations proposed to be held in Vienna in September, 1984. The Soviet offer, however, contained preconditions unacceptable to the United States. Although the United States declared a willingness to attend the Vienna talks, without preconditions, the Soviets refused to meet on that basis and negotiations were not convened in 1984.

The energy with which the Soviets have opposed the testing of the U.S. ASAT system and the political character of their various public proposals, including a test moratorium, could indicate various possible alternative Soviet approaches to ASAT arms control. One approach could be a desire to stop the U.S. ASAT program while the Soviets continue a monopoly and their work on improved systems. Another approach could be a perceived connection between ASAT research and development and the U.S. SDI program. Still another approach may be a desire to avoid the economic costs of increased competition, while continuing their own programs to develop advanced ASAT systems. A more remote reason may be a sincere desire to achieve equitable, comprehensive and verifiable limits on weapons in space.

The ASAT issue, with all of its related complicated definitional and verifcation problems, has now been included in the Geneva nuclear and space arms negotiations. Although its inclusion in those negotiations will without doubt require more extended talks, it is

important that any ASAT controls be considered in connection with limitations on other strategic systems.

CONGRESSIONAL ACTION

The decision of the Reagan Administration to test the U.S. ASAT system and to request funds leading to establishment of an operational capability increased Congressional interest in the issue and resulted in restrictive language in authorization Acts for fiscal years 1984, 1985, and 1986. Proponents of these "fine tuning" provisions looked upon Soviet public statements as a "window of opportunity" to at least obtain a ban on ASAT weapons. In their view, this "opportunity" would be forever lost if the United States tested its system and demonstrated an ASAT capability.

An amendment to the fiscal year 1984 Defense Appropriations Act was designed to prevent testing of the U.S. ASAT "against an object in space" pending certification of the President that he was seeking "good faith" negotiations with the Soviet Union to ban ASAT's and that, pending such a ban, testing is necessary to prevent harm to U.S. national security. This Act also required a comprehensive report to the Congress concerning U.S. arms control policy regarding ASAT systems. President Reagan submitted this report on March 31, 1984.[48] The report reaffirmed previously stated administration policy that: the United States would continue to study space arms control; the United States will consider verifiable and equitable measures that would ban or limit testing of "specific weapons systems;" and that any such measures considered must be compatible with U.S. national security.

The fiscal year 1985 Department of Defense Authorization Act limited the number of U.S. ASAT tests against objects in space to two "successful" tests" against objects in space. Like the fiscal year 1984 provision, this limitation was an exercise of the Congressional "power of the purse" to encourage U.S. negotiations with the Soviet Union on ASAT limitations. The fiscal year 1985 Act also contained a requirement for several Presidential certifications similar to those in the 1984 Act, particularly, "that the United States is endeavoring, in good faith," to negotiate the "strictest possible limitations" on ASAT's with the Soviet Union. The President complied with this provision early in calendar year 1985. The President's certification was unsuccessfully challenged in court by several members of Congress on the basis that the certification was "false and fraudulent."

The Department of Defense Authorization Act for fiscal year 1986 restricted the use of funds for U.S. ASAT testing until the President provided certifications to the Congress identical to those contained in the fiscal year 1985 Act and restricted testing against objects in space to not more than three such tests prior to October 1, 1986. Although this provision would have permitted the ASAT test program to proceed at a reduced pace, legislation contained in the Continuing Appropriations Act for fiscal year 1986 halts all testing of the U.S. ASAT system unless it is overturned. The Ap-

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[48] President Reagan's Report to the Congress on U.S. Policy on ASAT Arms Control, March 31, 1984.

propriations Act prohibits the obligation or expenditure of "funds appropriated *by this Act or any other Act*" for ASAT testing against an object in space" until the President certifies to the Congress that the Soviet Union has conducted, after October 3, 1985, a "*dedicated* satellite weapon" against an object in space. This provision, in effect, places the decision as to whether the U.S. ASAT will be stopped or will proceed in the hands of the Soviet Union. Further, U.S. ASAT development and procurement will evidently depend solely upon a Soviet decision to test its co-orbital system against an object in space—a system that the Soviets have already extensively tested and may be ready to abandon in favor of more advanced systems.

Chemical Weapons

Congressional concern about the control of chemical weapons was reflected in the activity of the first session of the 99th Congress. The fiscal year 1986 budget request for chemical warfare programs continued to address three issues: improved chemical warfare defense; development of measures to dispose of deteriorating chemical weapons; and the modernization of a U.S. deterrent retalitatory capability.

The policy of the United States for more than a decade has been to achieve a complete, effective, and verifiable ban on the production, possession, and transfer of chemical weapons. The U.S. position recognizes that verification of such a comprehensive ban cannot be achieved through national technical means alone and that other more intrusive methods would be required. Although the United States has adhered to a unilateral moratorium on the production of chemical agents since 1969, the United States is not a party to any treaty restricting the development, production, stockpiling, or transfer of chemical weapons.

Primary issues raised during the first session of the 99th Congress involved the maintenance of a production base and large chemical weapons stocks by the Soviet Union in support of a chemical warfare doctrine, and its exercise of chemical weapons delivery systems available for possible offensive warfare against NATO defensive forces. To deter the possible use of chemical agents by the Warsaw Pact in a NATO-Warsaw Pact confrontation, NATO forces must possess a comparable capability. Similar concerns, and support for a comprehensive and verifiable chemical weapons ban, have been expressed by nonaligned nations who point to evidence of actual use of toxin and other chemical weapons in the Near East, Southeast Asia, and Afghanistan.

An important argument supporting a verifiable comprehensive ban on chemical weapons or, in the alternative, the maintenance of a retaliatory capability is that the offensive use of those weapons against NATO would probably trigger an early nuclear response.

In January, 1982, U.S. efforts for chemical weapons arms control shifted from previous bilateral U.S.-Soviet negotiations to the 40-nation Conference on Disarmament (CD) in Geneva, Switzerland. Major U.S. initiatives were presented in July, 1983, and subsequently by Vice President George Bush in an appearance before the CD in April, 1984. A comprehensive text of a treaty supported

by the United States is now before the CD and the U.S. delegation has continued both bilateral and multilateral negotiations on that proposal.

A comprehensive ban on the production, possession, and transfer of chemical weapons is a complex undertaking. Because numerous countries are capable of manufacturing chemical agents, and many others would be capable of using such weapons, a comprehensive agreement should be multilateral. Chemical weapons are relatively easy to manufacture, conceal, and transfer. Also, because chemical weapons can be quickly produced and existing stocks can be hidden for possible use, the United States has considered mandatory on-site inspection necessary for adequate verification.

Chemical weapons negotiations within the CD have moved very slowly. Although some "procedural progress" was reported during 1985, there was little cause for optimism. Following the pattern of prior years, there was intense debate within the Congress regarding the administration's request for funds to resume production of chemical agents and weapons. Proponents argued that a demonstrated U.S. resolve to maintain an adequate deterrent is necessary to bring about serious Soviet negotiations. Others argued that the production of new U.S. chemical weapons would damage arms control efforts; that given the passage of time, negotiations would eventually be successful. Ambassador Donald Lowitz, the U.S. representative to the Conference on Disarmament, appearing before the panel on September 10, 1985, described the effect of House passage of the fiscal year 1986 authorization for chemical weapons as follows:[49]

> As I review this session's negotiation, it appears that immediately following the House vote to authorize the production of binary chemical weapons the Soviet Union reacted in a highly polemical fashion and for a few weeks adopted a stance of silent withdrawal from negotiations. Then I believe the Soviet Union assessed the situation and concluded that the United States resumption of chemical weapons production might well become a reality, and it was in their interest to participate in the negotiations rather than to remain silent. At this point they resumed negotiating and the modest progress that we achieved in the committee occurred largely in the closing weeks of this year's session with the active participation of the Soviet delegation. This seems to indicate that the prospect of U.S. resumption of chemical weapons production may provide some incentive to the Soviet Union to become serious about the chemical weapons convention.

The Senate version of the Department of Defense Authorization Act, 1986 (S. 1160), would have authorized the full amount requested for the modernization of U.S. chemical weapons stockpiles—the binary munitions production program. The House amendment to the Senate bill would have reduced the amount requested and, in addition, would place restrictions and conditions on the program. The conference agreement (enacted as Public Law 99-145 on November 8, 1985) authorized the full amount requested for chemical weapons procurement and facilities but restricted the obligation of funds for procurement or assembly of new chemical munitions, or for the establishment of production facilities, pending a Presidential certification that a plan has been developed whereby new

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[49] U.S. Congress. House. Committee on Armed Services. Review of Arms Control and Disarmament Activities: 99th Congress, 1st Session. September 10, 12, 18; October 31; November 20; and December 12, 1985. 99th Cong., 1st Sess. H.A.S.C. 99-18. Washington, U.S. Government Printing Office, 1986, p. 19.

chemical munitions can be deployed under contingency plans within NATO. In addition, no final assembly of complete binary chemical munitions can occur until sixty days after October 1, 1987, and certain other specified conditions have been satisfied.

The Department of Defense Appropriations Act, 1986 (Public Law 99-190, signed on December 19, 1985) appropriated $126 million for the binary chemical munitions program against a total budget request of $163.6 million. The Appropriations Act amended section 1411 of the Department of Defense Authorization Act, 1986 (Public Law 99-145, signed on November 8, 1985), making three substantive changes: first, obligation of all funds are subject to a requirement that the President certify to the Congress that a force goal stating the requirement for modernization of the U.S. share of the NATO chemical deterrent has been submitted and adopted by the North Atlantic Council; second, funds for the Bigeye chemical weapon could not be obligated until further operational testing is completed; third, funds for the binary artillery projectile could not be obligated before October 1, 1986, and then only when provisions concerning the consultation of NATO allies have been satisfied. Further, funds for the binary artillery projectile could not be used for final assembly of the projectile before October 1, 1987.

Although there was little progress on chemical weapons negotiations within the CD during 1985, the joint Reagan-Gorbachev statement following their November, 1985 summit meeting gives the panel reason to hope that negotiations will be accelerated.

Mutual and Balanced Force Reductions (MBFR) Negotiations

The panel continued its oversight activities of the Mutual and Balanced Force Reductions (MBFR) talks, now in their thirteenth year. Notwithstanding the failure of the MBFR talks to achieve their central purpose—reductions in military forces in Central Europe—these talks have served several useful purposes. Most significant is that the MBFR talks constitute the only forum where mutual security concerns are continually discussed by NATO and the Warsaw Pact countries.

Since the beginning of the talks in 1973, there have been fundamental differences on a number of issues, including the size of forces in the reductions area (the so-called data issue), and on what would constitute adequate verification. The NATO countries have insisted on reaching a prior agreement on the size of existing forces while the Warsaw Pact countries have refused to agree to provide this data or to agree to verification measures other than national technical means of verification.

On December 5, 1985, President Reagan announced a new U.S./NATO initiative designed to break the long-standing impasse in the MBFR talks. The new NATO initiative would make the following important concessions: NATO would accept the general framework for negotiations proposed by the Warsaw Pact in February, 1985; NATO would consider a noncomprehensive agreement of limited duration; NATO would no longer insist on an agreement on troop levels before a treaty is signed; and NATO would not insist that all steps made to reduce troop levels to parity be agreed to prior to the completion of an agreement.

In return for the above concessions, the NATO initiative would propose a reduction of 5,000 United States and 11,500 Soviet ground troops in Central Europe. Both sides would agree not to increase ground forces in that area for three years. In addition, a package of measures to verify the numbers of troops withdrawn and the numbers remaining, including on-site verification measures, would be negotiated.

At the end of the first session of the 99th Congress, no official Warsaw Pact response had been received by the NATO MBFR negotiators. It is expected that a response will be received when the MBFR talks resume on January 30, 1986.

Nuclear Nonproliferation

The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) entered into force in 1970 and has been signed by 124 nations as of September, 1985. Article VIII of the treaty provides for a treaty review conference at five-year intervals. The third such conference met in Geneva, Switzerland, from August 27 through September 21, 1985, and upon completion, issued a joint declaration.

The objectives of the NPT are: to prevent proliferation of nuclear weapons and other nuclear explosive devices; cessation of the nuclear arms race and ultimate general and complete disarmament; and to promote cooperation in peaceful uses of nuclear energy. Although the NPT is the bedrock of international nonproliferation efforts, the agreement establishing the International Atomic Energy Agency (IAEA), created in 1957, provides the chief merchanism for policing the NPT and establishing safeguards against proliferation.

Because the Subcommittee on Procurement and Military Nuclear Systems of the Armed Services Committee has both legislative and oversight responsibility for Department of Energy Defense Programs, it reviews the budgets for special nuclear materials production for weapons, naval reactor fuels and civil scientific research; nuclear weapons production, safeguards and security of nuclear materials and facilities; and the control of classified information regarding nuclear programs. In reviewing this oversight function, the panel is mindful that controlling classified information on materials production and nuclear explosive devices is of equal importance with safeguarding nuclear materials and devices themselves.

The Subcommittee on Procurement and Military Nuclear Systems also reviews budget requests and overseas the Department of Energy's Verification and Control Technology Program. The panel notes that this program has provided most of the technology used by the United States to verify nuclear arms control treaties and by the IAEA to monitor compliance with the NPT. As part of its oversight review, the panel held hearings on the NPT and the IAEA agreement and received a briefing from Ambassador Bruce Chapman, the U.S. Representative to the IAEA, in Vienna at the conclusion of the NPT Review Conference.

NPT REVIEW CONFERENCE

Although the success of the NPT and IAEA is manifest in that no additional countries have acquired nuclear weapons during the 15 years that the treaty has been in force, the nuclear programs of

Israel and South Africa, not parties to the NPT, were noted with concern during the 1985 NPT Review Conference. The conference also noted that all countries should suspend cooperation with South Africa and Israel that could contribute to the development of their nuclear programs and that South Afrcia and Israel should accede to the NPT and accept IAEA safeguards on their nuclear facilities. Other issues of concern involved the suspected nuclear weapons capabilities of Argentina and Brazil and other countries under military pressure such as Pakistan, South Korea, and Taiwan. In addition, issues were raised during the conference concerning the Israeli attack on the Iraqi nuclear reactor.[50]

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[50] See Exhibit XIII of the Appendix containing the joint statement of the 1985 NPT Review Conference Final Declaration.

SOVIET NONCOMPLIANCE WITH ARMS CONTROL AGREEMENTS

In its report on arms control activities during the 98th Congress,[51] The panel expressed its concern about Soviet noncompliance with existing arms control agreements in the following statement:

> If arms control agreements designed to enhance stability and maintain a strategic balance are violated, the result is only an illusion of security. Moreover, the presence of the several serious unexplanied ambiguities in Soviet compliance practices is cause for concern about both the viability of existing agreements and the possibility that future agreements would be found acceptable.

Compliance with both the spitit and intent of existing arms control agreements is necessary to prevent the long-term erosion or abrogation of those agreements. However, compliance with the *express provisions* of such agreements is necessary to prevent *de facto* abrogation and to instill the national confidence required if there are to be any new agreements.

Presidential Reports

The above general principles were recognized by the General Assembly of the United Nations which, on December 12, 1985, passed a resolution on arms control compliance by a vote of 131 to zero. The resolution urged all parties to arms control agreements to comply with their provisions and called upon the parties to consider the implications of noncompliance not only for international security and stability but for the prospects for further progress in the field of disarmament as well.

Evidence of Soviet noncompliance with several existing arms control agreements has continued to accumulate and, along with Congressional interest in the subject matter and details of current negotiations, the Congress is demanding more detailed information on the track record of the Soviet Union in complying with existing agreements. As a result, the Congress has required the submission of annual reports on Soviet noncompliance by the President in January, 1984; February, 1985; and December, 1985 in both classified and unclassified forms. The most recent unclassified report is attached as Apendix Exhibit XIV.

Significance of Noncompliance

The December, 1985, Presidential report detailed two categories of Soviet violations characterized by the panel as those that are

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[51] U.S. Congress. House. Committee on Armed Services. Review of Arms Control and Disarmament Activities: 98th Congress. December 28, 1984. 98th Cong., 2d Sess. Committee Print No. 23. Washington, U.S. Government Printing Office, 1985, p. 22

"balance destructive" and those that are "confidence destructive." However, as the President's December, 1985 report stated,

> In a fundamental sense, all deliberate Soviet violations are equally important. As violations of legal obligations or political commitments, they cause grave concern regarding Soviet commitment to arms control, and they darken the atmosphere in which current negotiations are being conducted in Geneva and elsewhere.
>
> In another sense, Soviet violations are not of equal importance. While some individual violations are of little apparent military significance in their own right, such violations can acquire importance if, left unaddressed, they are permitted to become precedents for future, more threatening violations. Moreover, some issues that individually have little military significance could conceivably become significant when taken in their aggregate.

Balance Destructive Violations

This category involves areas wherein the Soviet Union has made military gains or achieved the potential to rapidly break out of existing agreements that the United States has observed.

THE KRASNOYARSK RADAR

The panel is aware of no disagreement with the conclusion that the construction of the large phased-array radar near Krasnoyarsk in Siberia is a violation of the 1972 ABM Treaty. The ABM Treaty specifically prohibits such critical radars that can provide ABM coverage for a significant part of the Soviet Union. A primary purpose of the ABM Treaty was to preclude the creation of a base for territorial ABM defense. A most serious aspect of the Krasnoyarsk case is that the Soviets began and continued its construction knowing that it would be detected while they were negotiating other arms control proposals with the United States.

OTHER SOVIET ABM ACTIVITIES

Other activities, in addition to the Krasnoyarsk radar, cause concern that the Soviet Union may be preparing a territorial ABM defense. Indications of these ambiguous activities include: testing of more rapidly deployable ABM components; concurrent testing of air defense and ABM components; development and deployment of the SA–X–12 air defense system that could be used as part of an ABM system; and demonstration of more rapidly reloading of ABM launchers.

THE SS–25 ICBM

The President's December, 1985 report describes the *development* of the SS–25 intercontinental ballistic missile (ICBM) as "*a clear and irreversible violation of the Soviet Union's SALT II commitment.*" Vital provisions of SALT II were intended to limit the number of new ICBM's to one new type for each party. The Soviet's have stated that the SS–X–24 is their "one new type." During 1985, the Soviets have *deployed* the SS–25, a mobile ICBM, under the pretext that this missile is an upgrade of the existing SS–13 ICBM. This deployment involves a second new type of Soviet ICBM having characteristics substantially different from the SS–13 in size, weight, and payload—a violation of SALT II.

INTERFERENCE WITH VERIFICATION

The December, 1985 Presidential report presents a new violation of the SALT II Treaty—the use of deliberate concealment measures associated with the verification of Soviet compliance with the provisions of SALT II, particularly with respect to Soviet ICBM testing. The SALT II treaty was designed to insure that compliance could be monitored by national technical means of verification. A primary method for verification is the analysis of data obtained from telemetry intercepted during ICBM tests and the comparison of that data with the missile launcher known to be associated with a particular missile. The President's report states that the Soviet Union has continued to encrypt its test data so as to deny this verification method to the United States and, in addition, has deliberately concealed the association between laucnchers and missiles during testing. According to the report, these deliberate Soviet activities impede our ability to determine whether or not a particular missile meets the restrictions imposed by SALT II.

CHEMICAL, BIOLOGICAL AND TOXIN WEAPONS

The December, 1985 Presidential report reconfirms previous reports that the Soviet union remains in violation of the Biological and Toxin Weapons Covention (BWC) by maintaining an illegal offensive biological warfare capability. Although reports concerning the use of chemicals or toxins in Southeast Asia and Afghanistan subsided in 1985, the reort found no evidence to refute the conclusion that the Soviet Union has been involved in the production, transfer, and use of toxins and chemical agents in those areas in prior years.

NUCLEAR TESTING

Although the pattern of Soviet nuclear testing continued to be ambiguous during 1985 because of verification uncertainties, the Presidential report reaffirms the previous conclusion that a number of Soviet tests have exceeded the 150 kiloton limit of the Threshold Test Ban Treaty of 1974.

Actions That Destroy Confidence

In addition to the above noted instances of noncompliance that involve possible Soviet military advantages, other noncompliance issues indicate a pattern of behavior that tends to undermine the political confidence necessary to obtain new arms control agreements and to erode the efficacy of existing agreements as well. The December, 1985 Presidential report lists the following Soviet activities in this category:

—The use of former Soviet SS–7 ICBM facilities to support new SS–25 ICBM's in violation of SALT I;
—Exceeding the number of strategic nuclear delivery vehicles agreed to in SALT II;
—Possible deployment of the SS–16 ICBM in violation of SALT II;
—Venting of underground nuclear tests in violation of the Limited Test ban Treaty;

—Violation of the military exercise notification provisions of the Helsinki Final Act;
—Deployment of Backfire bombers to Arctic staging bases (SALT II).

The U.S. Response: Restraint, Patience, Diplomacy and Caution

The U.S. response to Soviet noncompliance has been one of self-restraint, patience, diplomacy and caution. In 1982 and again in 1985, President Reagan announced the policy that the United States would not undercut existing agreements, including those that remain unratified. The Soviet Union was invited to join with the United States in a "framework" of mutual restraint wherein noncompliance issues could be resolved. In addition, statutory provisions have been enacted by the Congress to bolster U.S. compliance with the "no undercut" policy.

Since the U.S. "no undercut" policy was announced almost four years ago, extensive diplomatic approaches on noncompliance issues have been made to the Soviet Union within the Standing Consultative Commission (SCC) established by SALT II and the ABM Treaty and through other diplomatic channels. No adequate Soviet explanations have been made or actions taken with respect to these U.S. concerns.

Underlying the U.S. "no undercut" policy is the very real possibility that diplomacy might fail to halt the erosion of existing agreements resulting from Soviet noncompliance; that while the United States exercises unilateral constraint, the Soviet Union could continue to reap advantages. This dilemma was recently addressed by Senator Proxmire: [52]

> For the United States to agree to an arms control treaty with the Soviet Union which the Soviet Union violates in a way that gives the Soviets a military advantage has precisely the same effect as unilateral disarmament. The agreement becomes worthless. The United States can become vulnerable. The Soviets may achieve a major, even a decisive military advantage. The cause of peace is not advanced. It is set back.

The panel posed the following question in its report for the 98th Congress:[53]

> What is the appropriate action where the evidence produced by verification and monitoring strongly indicates significant violations of arms control obligations?

RESTRAINT TEMPERED BY CAUTION

The U.S. policy of interim restraint announced in 1982 was not without reservations and conditions. Basic assumptions supporting the policy included: an agreed framework for *interim* restraint while new agreements were being negotiated; equal restraint by the Soviet Union; and that U.S. restraint would not adversely affect vital national security interests. The July 10, 1985 policy an-

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[52] Proxmire, Senator William. The Quintessential Role of the Standing Consultative Commission in Arms Control. Congressional Record, December 19, 1985, Vol. 131, No. 177—Part II. Washington, U.S. Government Printing Office, 1985, p. 18265.

[53] U.S. Congress. House. Committee on Armed Services. Review of Arms Control and Disarmament Activities. December 28, 1984. 98th Cong., 2d Sess. Committee Print No. 23. Washington, U.S. Government Printing Office, 1985, p. 22.

nouncement recognized that those assumptions had proved to be unrealistic in view of Soviet noncompliance.

Notwithstanding the evidence of Soviet noncompliance, the July 10, 1985 decision was to continue a "no undercut" policy to provide the opportunity for agreement on mutual restraint that would support the ongoing negotiations in Geneva. The policy statement that accompanied the decision includes several reservations:

—The United States will not abide by a "double standard" of compliance;

—The United States will refrain from undercutting existing agreements only to the extent that the Soviet Union exercises comparable restraint;

—U.S. restraint is conditioned on the extent that the Soviet Union pursues arms reduction agreements in the Nuclear and Space Talks in Geneva;

—The U.S. policy of restraint is temporary and subject to continuous review;

—The United States will develop and make "appropriate and proportionate" respnses to Soviet noncompliance as a hedge against Soviet military advantages gained from violations.

FUTURE U.S. RESTRAINT

Concurrent with the July 10, 1985 policy announcement, President Reagan directed the Department of Defense (DOD) to make a comprehensive assessment to identify "appropriate and proportionate" responses to Soviet violations of existing agreements. Because the December 31, 1985 SALT II expiration date was approaching, the DOD study is to consider options available when future SALT II thresholds (such as sea trails for additional TRIDENT submarines and the 121st U.S. ALCM carrying heavy bomber) are reached. Those thresholds, according to the administration's policy statement, will be assessed at the time on a case-by-case basis in the light of the progress (or lack thereof) in meeting the above listed conditions.

Panel Conclusions

Soviet noncompliance issues, whether the result of strained treaty interpretations or deliberate cheating, have cast a pall over existing arms control agreements and, unless resolved, the probability of reaching new agreements as well. Soviet interpretations and activities tend to drain away the meaning of existing agreements and eventually must drive the United States to reevaluate its own obligations under those agreements.

The existence of substantial noncompliance issues illustrates the weakness of limiting verification to national technical means and the dangers of including imprecise or ambiguous provisions in agreements. Although such provisions may make an agreement more negotiable, they leave a trail of problems for the future—problems that may have few, and universally undesirable solutions.

POSSIBLE FUTURE RESPONSES

How should the United States respond to Soviet attitudes on compliance; to Soviet interpretations of agreements that substantially change their meaning? How can the United States best cope with the growing political reaction resulting from Soviet noncompliance that may ultimately require a redefinition of U.S. responsibilities under existing agreements and make new agreements unnegotiable?

First, the United States could continue to pursue diplomatic efforts to end Soviet noncompliance through formal complaints within the Standing Consultative Commission (SCC) and other avenues, taking responsive action, but this has been unfruitful in the past and may only encourage further instances of noncompliance.

Second, the United States could respond to Soviet noncompliance with comparable activities of its own, but this would further erode existing agreements and the arms control process as it has evolved over the past three decades.

Third, the United States could refuse to negotiate toward new agreements, but this would be self-defeating.

Fourth, the United States could withdraw from or abrogate those agreements that have been substantially violated, but this would tend to destroy the basis of existing agreements as building blocks for future agreements.

Because Soviet noncompliance represents a latent pitfall for any future agreement, the United States could insist that the next rounds of the nuclear and space arms talks in Geneva be devoted solely to verification and compliance issues. The ability or inability of the parties to resolve these issues would then provide a basis for and guidance for further negotiations.

ADDITIONAL COMMENTS OF REPRESENTATIVES NICHOLAS MAVROULES AND JOHN SPRATT

As Members of the Special Panel on Arms Control and Disarmament, we have read the Panel's report with great interest.

In some areas we are in agreement with the Panel's recommendations.

For instance, we agree that arms control is not an end in itself. Rather, arms control agreements must be part of the carefully crafted international balance involving military forces, foreign alliances, and diplomatic policy.

We find it encouraging that during the lifetime of this Panel the United States and Soviet Union resumed negotiations on a number of bilateral strategic issues. Indeed, the November summit meeting between President Reagan and Secretary Gorbachev, and the promise of further summits, are signs of possible future progress.

However, in other areas, we believe the report speaks continually of the Panel as though the Panel were of one mind on all the conclusions it reaches.

Comprehensive Test Ban

For example, we disagree with the assertion that "a CTB would have zero to marginal effect on the Soviet threat. At the same time, a CTB would inhibit the maintenance of a reliable U.S. nuclear deterrent."

The Panel heard extensive testimony from managers of the U.S. nuclear weapons research and testing facilities regarding the potential problems of a CTB.

A test ban would, according to these officials, reduce the reliability of the U.S. nuclear deterrent by increasing the uncertainty that a given weapon would operate as expected. Robert N. Thorn, Deputy Director of Los Alamos National Laboratory, citing the experience of the 1958–1961 test moratorium, explained:

> . . . we did certify some weapons that had not been tested, in the belief that our understanding and design codes were satisfactory. In some cases the weapons proved out in testing after the moratorium, in others they did not.

Yet to the extent that a CTB would degrade the reliability of the U.S. nuclear deterrent, a verifiable treaty would also reduce the Soviet Union's confidence in the reliability of its nuclear weapons.

Such uncertainty would weigh heavier on a nation considering a first strike. As noted by Harvard Professor Al Carnesale during the hearings, in initial strike aimed at disarming the enemy would fail in its objective if only a few weapons did not work as expected, while a massive retaliation strike would achieve its purpose even if the weapons used proved much less reliable than anticipated.

Moreover, a CTB treaty could include provisions for special reliability testing.

The Panel's report also concludes that "the panel found convincing evidence of substantial verification problems even with 150 kiloton limit of the threshold test ban treaty (TTBT)." Yet the Panel received expert testimony that a CTB could be adequately verified. Dr. Lynn Sykes, a member of a Department of Defense scientific panel that examines methodology for estimating the yields of Soviet nuclear tests, and a professor at Columbia University explained that a CTBT could be verified "with high confidence down to the explosions of very small size. The lower limit of reliability identification can be reduced to about 1 kiloton with a combination of seismic listening posts within the U.S.S.R. and other national technical means such as satellite photography."

Strategic Defense Initiative

In November 1983, President Reagan outlined what has now become the Strategic Defense Initiative.

The S.D.I. program represents a potential dramatic change in U.S. strategic policy. At issue is a fundamental shift—away from the tested but perhaps uncomfortable doctrine of deterrence based on the threat of retaliation against nuclear attack—and toward the ambitious but untested concept of effective defense against ballistic missiles.

The new direction is that, a new direction. It will be some time before the answers are in, and we can make a judgment on defensive rather than offensive deterrence.

This is not the time to engage in a technical debate over the feasibility of S.D.I.

We need to give the scientists a chance.

And, we need to give our negotiators a chance, too.

Yet, the Panel's report concludes that "the S.D.I. program" as now structured, will not approach the thresholds of the ABM Treaty until the "early 1990's when flight tests might begin or a decision might be made that a ballistic missile defense is in fact feasible and affordable."

In fact, in this area there is an honest difference of opinion. The following table highlights some of the individual test elements within the current SDIO program which raise questions of compliance with the ABM.

Strategic Defense Initiative Compliance Issues

Some of the scheduled tests and demonstrations within these SDI projects would raise questions of compliance with the ABM Treaty.

Project	Testing Mode	Testing Period	Treaty Article Affected
Sensors			
Boost Surveillance and Tracking System (BSTS)	space-based	early 1990s	Article V(1)
Space Surveillance and Tracking System (SSTS)	space-based	early 1990s	Article V(1) Article VI(a)
Airborne Optical System (AOS)	air-based	late 1980s	Article V(1)
Terminal Imaging Radar (TIR)	ground-based (mobile?)	late 1980s	Article V(1)
Imaging Radar or Laser Demonstration	space-based	mid 1990s	Article V(1)
Directed Energy Weapons			
Space-Based Laser	space-based	late 1980s (flight test) early 1990s (integrated demonstration)	Article V(1)
Ground-Based Laser	space-based (some aspects)	early 1990s	Article V(1)
Space-Based Particle Beam	space-based	early 1990s	Article V(1)
Nuclear-Driven Directed Energy	space-based	early 1990s	Article V(1)
Kinetic Energy Weapons			
Hypervelocity Launcher	ground-based	late 1980s	Article V(2)
SLBM Boost Phase Engagement	air/sea-based	early 1990s?	Article V(1)
Space-Based Hypervelocity Launcher	space-based	early 1990s	Article V(1)
Kinetic Kill Vehicle	space-based	early 1990s	Article V(1)

Bilateral, verifiable arms control agreements can help maintain the essential balance which must exist in this nuclear age.

As Professor Sykes pointed out during his testimony to the Panel on November 20, 1985:

> It is in our national interest that the Soviet Union not test very large nuclear weapons and thence emplace more lighter-weight weapons on their large intercontinental missiles. The Threshold Treaty and SALT II have constrained the number of intercontinental missiles deployed by the U.S.S.R. and the sizes of the nuclear weapons carried by those systems. In the absence of such restraints, the U.S.S.R. would probably have an asymmetrical advantage in that it could conduct very large underground tests easier than the United States and deploy weapons of either greater yield or greater numbers on their large ICBM's.

Professor Sykes' testimony shows the value of taking testimony from a wider range of outside witnesses. We hope that during future hearings, the Panel will draw from witnesses with more diverse points of view.

Finally, with respect to the Strategic Defense Initiative, the $2.75 billion approved by the Congress in Fiscal Year 1986, and the anticipated $4.5 billion request expected from the Administration for Fiscal 1987, we agree with Professor Al Carnesale, that it is time to address some of the *policy* issues associated with the concept of strategic defense.

Professor Carnesale, in our opinion, was a critical witness because he was a technical advisor to the delegation which negotiated the 1972 ABM agreement.

On October 31, 1985, Professor Carnesale outlined the, as yet, unanswered policy questions on the S.D.I. They are:

What is S.D.I. for?

How will it work?

How much will it cost?

What do our allies think?

What effect will it have on arms control?

And, would it make a nuclear conflict more, or less, likely to occur?

Until these questions can be answered, it would seem to be in the security interests of the United States to continue compliance with the ABM Treaty.

The Future of Arms Control

As we stated in our initial remarks, we agree that arms control is not an end in itself.

However, arms control can contribute to our national security and the security of our allies.

APPENDIX

Exhibit I

U.S. House of Representatives
COMMITTEE ON ARMED SERVICES
Washington, DC 20515

March 26, 1985

MEMORANDUM FOR MEMBERS, SUBCOMMITTEE ON PROCUREMENT
AND MILITARY NUCLEAR SYSTEMS

FROM: Samuel S. Stratton, Chairman

SUBJECT: Special Panel on Arms Control and Disarmament of the Subcommittee on Procurement and Military Nuclear Systems

Effective today, I am establishing within the Subcommittee on Procurement and Military Nuclear Systems a special panel on Arms Control and Disarmament.

The purpose of the panel will be to (a) monitor ongoing arms control and disarmament negotiations; (b) advise the subcommittee of pertinent issues whenever any hearings of the subcommittee involve arms control and disarmament matters (such as nuclear freeze resolutions, for example); and (c) make appropriate studies on technical matters relating to arms control and disarmament, such as the problem of verification, the balance of forces, violations of current or former arms control agreements; and such other matters of direct concern as may be assigned by the chairman of the subcommittee.

In consultation with Mrs. Holt, the ranking minority member of the subcommittee, I have designated the following members of the panel:

Majority	Minority
Mrs. Byron, Chairman	Mrs. Holt
Mr. Mavroules	Mr. Badham
Mr. Ray	Mr. Courter
Mr. Spratt	
Mr. Stratton	

The panel will carry out its duties at such times as will not conflict with the schedule of the subcommittee or of the full committee and will report regularly to the chairman on the progress of the panel.

Exhibit II

House Committee on Armed Services
Subcommittee on Procurement and Military Nuclear Systems
Special Panel on Arms Control and Disarmament

Chronology of Hearings and Briefings Relating to Arms Control Oversight

Tuesday, September 10, 1985 (Special Panel on Arms Control and Disarmament)

Subject: Hearing on Mutual and Balanced Force Reductions (MBFR) Negotiations

Witness: Ambassador Robert Blackwill
U.S. Representative to the Mutual and Balanced Force Reductions (MBFR) Negotiations

Subject: Hearing on Conference on Disarmament Activities

Witness: Ambassador Donald Lowitz
U.S. Representative to the 40-Nation U.N. Conference on Disarmament

Subject: Hearing on Nuclear Weapons Testing and Verification

Witness: Dr. Robert Barker
Deputy Assistant Director
Bureau of Verification and Intelligence
U.S. Arms Control and Disarmament Agency

Thursday, September 12, 1985 (Special Panel on Arms Control and Disarmament

Subject: Hearing on Current U.S. Arms Control Policy and Activities of the Nuclear Nonproliferation Treaty (NPT) Review Group

Witness: Honorable Kenneth Adelman
Director
U.S. Arms Control and Disarmament Agency

Subject: Hearing on Current Activities of the United States Delegation to the Negotiations on Nuclear and Space Arms

Witnesses: Ambassador Max M. Kampelman
Head of the U.S. Delegation and
U.S. Negotiator on Defense and Space

Ambassador John G. Tower
U.S. Negotiator on Strategic Nuclear Arms

Ambassador Maynard W. Glitman
U.S. Negotiator on Intermediate-Range Nuclear Forces

Ambassador Henry F. Cooper
Deputy U.S. Negotiator on Defense and Space

Wednesday, September 18, 1985 (Special Panel on Arms Control and Disarmament)

Subject: Military Implications of Certain Policy Issues With Regard to Arms Control

Witnesses: Honorable Richard N. Perle
Assistant Secretary for International Security Policy
Department of Defense

Honorable Richard L. Wagner
Assistant to the Secretary of Defense for Atomic Energy

Honorable William W. Hoover
Assistant Secretary for Defense Programs
Department of Energy

Subject: Military Implications of Certain Policy Issues With Regard to Arms Control

Witnesses: Dr. Roger Batzel
Director
Lawrence Livermore National Laboratory

Dr. Paul Robinson
Principal Associate Director for National Security Programs

Subject: Intelligence Assessment on Soviet Testing and Production of Special Nuclear Materials

Witness: Mr. Robert I. Rubinstein
Director
Weapons Intelligence Division
Office of Scientific and Technological Intelligence
Department of Energy

Friday, September 20, 1985 (Special Panel on Arms Control and Disarmament)

Subject: Military Implications of Certain Policy Issues With Regard to Arms Control

Witnesses: Dr. George C. Dacey
President
Sandia National Laboratories

Mr. Roy Woodruff
Associate Director for Defense Systems
Lawrence Livermore National Laboratory

Mr. Robert N. Thorn
Deputy Director
Los Alamos National Laboratory

Mr. Paul Robinson
Principal Associate Director for National Security Programs
Los Alamos National Laboratory

Mr. Thomas Clark
Manager, Nevada Operations Office
Department of Energy

Mr. Ron Ewing
Director of Systems and Technologies Division
Office of International Security Affairs
Department of Energy

Tuesday, October 8, 1985 (Special Panel on Arms Control and Disarmament)

Subject: Briefing from Panel Members on Trip of September 21 through 25, 1985, to Geneva, Switzerland, and Vienna, Austria, to Review Current Arms Control Negotiations

Thursday, October 17, 1985 (Special Panel on Arms Control and Disarmament)

Subject: Briefing on Current Soviet Arms Control Proposals

Witness: Mr. Robert W. Dean
Deputy Director for Arms Control for the Politico/Military Affairs Bureau
Department of State

Thursday, October 31, 1985 (Special Panel on Arms Control and Disarmament)

Subject: Public Perspectives on Arms Control

Witnesses: Dr. Albert Carnesale
Academic Dean
John F. Kennedy School of Government
Harvard University

Admiral Noel Gayler (USN-Ret.)
American Committee on East-West Accord

Thursday, November 14, 1985 (Special Panel on Arms Control and Disarmament)

Subject: Briefing on Current U.S/Soviet Arms Control Proposals

Witnesses: Ambassador Max M. Kampelman
Head of the U.S. Delegation
and
U.S. Negotiator on Defense and Space

Ambassador Maynard W. Glitman
U.S. Negotiator on Intermediate-Range Nuclear Forces

Ambassador Ronald F. Lehman
Deputy U.S. Negotiator on Strategic Nuclear Arms

Ambassador Henry F. Cooper
Deputy U.S. Negotiator on Defense and Space

Wednesday, November 20, 1985 (Special Panel on Arms Control and Disarmament)

Subject: Public Perspectives on Arms Control

Witnesses: Honorable William E. Colby
Former Director of the Central Intelligence Agency (1973-1976)

Dr. Lynn R. Sykes
Professor of Geological Sciences
Lamont-Doherty Geological Observatory
Columbia University

Dr. Kosta Tsipis
Director
Program in Science and Technology for International Security
Massachusetts Institute of Technology

Wednesday, December 12, 1985 (Special Panel on Arms Control and Disarmament)

Subject: Briefing on a New NATO Initiative in the Vienna Negotiations on Mutual and Balanced Force Reductions (MBFR)

Witness: Ambassador Robert Blackwill
U.S. Representative to the Mutual and Balanced Force Reductions (MBFR) Negotiations

Exhibit III

Special Panel on Arms Control and Disarmament
Additional Contacts with Various Officials Relating to
Arms Control Oversight

September 22-24, 1985, Geneva, Switzerland

U.S. Delegation to the Negotiation on Nuclear and Space Arms

Ambassador Max M. Kampelman
Head of Delegation and Negotiator on Defense and Space

Ambassador John G. Tower
Negotiator on Strategic Nuclear Arms

Ambassador Maynard W. Glitman
Negotiator on Intermediate Range Nuclear Forces

Ambassador Warren Zimmerman
Deputy to Head of Delegation and Executive Director (NST)

Ambassador Henry F. Cooper
Deputy Negotiator on Defense and Space

Ambassador John A. Woodworth
Deputy Negotiator on Intermediate Range Nuclear Forces

Major General Donald Aldridge (USAF)
JCS START Representative

September 25, 1985, Vienna, Austria

Mutual and Balanced Force Reductions (MBFR) Negotiations

Ambassador Robert D. Blackwill
Head of Delegation

Ambassador Vladimir Lehovich
Deputy Head of Delegation

Ambassador Marcel G. Rymenans
Belgian Delegation

Ambassador Thomas C. Hammond
Canadian Delegation

Ambassador Josef Holik
Federal Republic of Germany Delegation

Ambassador Jan Hein van de Mortel
Netherlands Delegation

Ambassador Michael Alexander
United Kingdom Delegation

Ambassador Politis
Greece Delegation

Ambassador Cappuzzo
Italy Delegation

United States Mission to the United Nations System Organizations, Vienna, Austria (UNVIE)

Ambassador Bruce Chapman
U.S. Representative to UNVIE

Mr. Carl Stoiber
Counselor
International Atomic Energy Agency (IAEA)

Exhibit IV

House Committee on Armed Services
Other Hearings on Arms Control Related Matters

February 1, 1985 (Full Committee)

Subject: Classified Worldwide Intelligence Briefing

(briefing not printed)

February 4, 1985 (Full Committee)

Subject: Classified Briefing on Soviet Military Trends and Capabilities

(briefing not printed)

February 27, 28, March 12, 13, 14 and 20, 1985 (Defense Policy Panel of Full Committee)

Subject: Hearings on Military Requirements for the Strategic Defense Initiative and MX Missile As They Relate to Overall Arms Control Negotiations and the Fiscal Year 1986 Defense Budget

(See H.A.S.C. No. 99-14 for printed hearings)

May 22, 1985 (Full Committee)

Subject: Classified Briefing on the Status of U.S./Soviet Negotiations on Nuclear and Space Arms

(Briefing not printed)

June 6, 1985 (Full Committee)

Subject: Classified Briefing on the Strategic Defense Initiative Program.

(Briefing not printed)

June 11, 1985 (Defense Policy Panel of Full Committee)

Subject: Hearing on Avoiding Nuclear War

(See H.A.S.C. No. 99-15 for printed hearings)

July 23, 24, 25, 1985 (Research and Development Subcommittee joint session with Space Science and Applications Subcommittee of the Committee on Science and Technology)

Subject: Hearings on Assured Access to Space during the 1990's

(See H.A.S.C. No. 99-9 for printed hearings)

September 12 and 18, 1985 (Defense Policy Panel of Full Committee)

Subject: Classified Briefing on Antisatellite Weapons

(Briefings not printed)

Exhibit V

Arms Control Related Provisions Contained in S. 1160
Department of Defense Authorization Act, 1986
(House Conference Report 99-235, Public Law 99-145)

Title I--Procurement

Sec. 141. MX missile program

Title II--Research, Development, Test, and Evaluation

Sec. 208. Testing of Antisatellite Weapons and Space Survivability Program
Sec. 221. Strategic Defense Initiative, Funding for Fiscal Year 1986
Sec. 222. Requirement for Specific Authorization for Deployment of Strategic Defense Initiative Systems
Sec. 223. Reports on Strategic Defense Initiative
Sec. 224. Congressional Policy Regarding Consultation with Other Members of NATO on the Strategic Defense Initiative
Sec. 225. Congressional Expression on the Strategic Defense Initiative and the ABM Treaty
Sec. 226. Report on Strategic and Theater Ballistic Missile Defenses

Title X--Matters Relating to Arms Control

Sec. 1001. Policy on Compliance with Existing Strategic Offensive Arms Agreements
Sec. 1002. Annual Report on Soviet Compliance with Arms Control Commitments
Sec. 1003. Study of Arms Control Verification Capabilities
Sec. 1004. Sense of Congress Relating to United States-Soviet Negotiations on Reduction in Nuclear Arms
Sec. 1005. Pilot Program for Exchange of Certain High-Ranking Military and Civilian Personnel With the Soviet Union
Sec. 1006. Report on Nuclear Winter Findings and Policy Implications

Title XIV--General Provisions

Sec. 1411. Conditions on Spending Funds for Binary Chemical Munitions
Sec. 1412. Destruction of Existing Stockpile of Lethal Chemical Agents and Munitions
Sec. 1413. Report Concerning the Testing of Chemical Warfare Agents
Sec. 1425. Strategic Bomber Programs
Sec. 1426. Restrictions on Certain Nuclear Programs

Exhibit VI

I

99TH CONGRESS
1ST SESSION

H. R. 3100

To provide for a comprehensive bilateral and verifiable freeze between the United States and the Soviet Union on the testing, production, and deployment of nuclear weapons systems.

IN THE HOUSE OF REPRESENTATIVES

JULY 30, 1985

Mr. MARKEY (for himself, Mr. MAVROULES, Mr. MCKINNEY, Mrs. SCHNEIDER, Mr. ADDABBO, Mr. ST GERMAIN, Mr. EDGAR, Mrs. BURTON of California, Mr. YATES, Mr. HAYES, Mr. ROYBAL, Mr. LELAND, Mr. FRANK, Mr. OBERSTAR, Mr. KASTENMEIER, Mr. OWENS, Mr. BOLAND, Mr. MILLER of California, Mr. DIXON, Mr. LEHMAN of Florida, Mr. MARTINEZ, Mr. WHEAT, Mr. STUDDS, Mr. TOWNS, Mr. MOAKLEY, Mr. FORD of Michigan, Mr. MRAZEK, Mr. TORRES, Mr. RAHALL, Mrs. KENNELLY, Mr. KOSTMAYER, Mr. DOWNEY of New York, Mrs. BOXER, Mr. EVANS of Illinois, Mr. SAVAGE, Mr. FAUNTROY, Mr. MORRISON of Connecticut, Mr. ATKINS, Mr. WEAVER, Mr. KILDEE, Mr. SCHUMER, Mr. DELLUMS, Mr. WEISS, Mr. MITCHELL, Mr. EDWARDS of California, Mr. BATES, Mr. DURBIN, Mr. TORRICELLI, Mr. RODINO, Mr. SCHEUER, Mr. FEIGHAN, Mr. AUCOIN, Mr. VENTO, Mr. PANETTA, Mr. LEHMAN of California, Mr. GEJDENSON, Mr. MINETA, Mr. BROWN of California, Mr. SABO, Mr. MCHUGH, Mr. MATSUI, Mr. ACKERMAN, Mr. LEVINE of California, Mr. JACOBS, Mr. SIKORSKI, Mr. CARR, Mr. CLAY, Mr. UDALL, Mrs. COLLINS, Ms. KAPTUR, Mr. HOWARD, Mr. LAFALCE, Mr. BARNES, Mr. CONYERS, Mr. WILLIAMS, Mr. BRUCE, Mr. CROCKETT, Mr. WALGREN, Mr. GARCIA, Mr. BOSCO, Mr. BIAGGI, Mr. LOWRY of Washington, Mr. BONIOR of Michigan, Mr. ROSTENKOWSKI, Mr. RANGEL, Mr. MANTON, Mr. RUSSO, Mr. LANTOS, Mr. MOODY, Mr. WAXMAN, Mr. WIRTH, and Mr. FORD of Tennessee) introduced the following bill; which was referred jointly to the Committees on Foreign Affairs, Rules, and Armed Services

---

A BILL

To provide for a comprehensive bilateral and verifiable freeze between the United States and the Soviet Union on the

testing, production, and deployment of nuclear weapons systems.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Comprehensive Nuclear Weapons Freeze and Arms Reduction Act of 1985".

SEC. 2. FINDINGS.

The Congress makes the following findings and declarations:

(1) The greatest challenge facing human civilization is to prevent the occurrence of nuclear war by accident or design.

(2) The effects of nuclear explosions directed at military targets would not be confined to these targets and would inevitably cause catastrophic damage to human society and the natural environment on a scale unprecedented in history.

(3) The testing, production, and deployment of nuclear weapons systems with the accuracy and explosive power to destroy an adversary's heavily protected missiles and command centers heightens mutual fears of a "first strike" and fosters a preemptive nuclear warfighting mentality which is dangerously removed from the real-life consequences of nuclear explosions.

(4) A comprehensive, mutual, and verifiable nuclear weapons freeze would halt new destabilizing developments in nuclear weaponry, diminish fears of preemptive nuclear attack, improve the deterrent effectiveness of existing nuclear forces by enhancing their survivability, and put an end to the wasteful and, in the eyes of the global community, immoral competition in nuclear armaments.

(5) National verification techniques, operating in conjunction with International Atomic Energy Agency safeguards on civilian nuclear facilities and supplemented by negotiated cooperative procedures for the inspection of ambiguous events and facilitates, would be sufficient to detect any change in the status of Soviet nuclear forces during a comprehensive freeze that would represent a threat to our national security.

(6) An immediate, mutual pause by the United States and the Soviet Union in the testing and deployment of nuclear weapon systems will break the momentum of the arms race, build confidence on both sides, and facilitate negotiations to halt and reverse the arms race.

SEC. 3. NEGOTIATIONS CONCERNING THE COMPREHENSIVE FREEZE.

(a) CALL FOR IMMEDIATE FREEZE NEGOTIATIONS.—It is the sense of the Congress that the President should immediately invite the Soviet Union to enter into serious negotiations with the United States in order to reach agreement at the earliest possible date on the terms of a comprehensive freeze.

(b) NOTIFICATION TO SOVIET UNION OF U.S. INTENTIONS TO ENGAGE IN A BILATERAL HALT IN TESTING, PRODUCTION, AND DEPLOYMENT.—The President should communicate to the Soviet Union the intention of the United States to engage in a bilateral halt, in accordance with this Act, in the testing, production, and deployment of nuclear weapons systems.

SEC. 4. NEGOTIATIONS CONCERNING NUCLEAR WEAPONS REDUCTIONS.

It is the sense of the Congress that—

(1) both during and after negotiations for a comprehensive freeze, the President should pursue mutual, steady, annual, percentage reductions in nuclear arsenals; and

(2) a comprehensive freeze is entirely consistent with, and an essential component of, mutual stabilizing reductions in nuclear forces.

57-357 O - 86 - 4

SEC. 5. CONGRESSIONAL OVERSIGHT OF VERIFICATION PROCEDURES.

(a) REQUIREMENT FOR HEARINGS ON VERIFICATION PROCEDURES.—The Permanent Select Committee on Intelligence of the House of Representatives and the Select Committee on Intelligence of the Senate shall each begin oversight hearings on verification procedures for the comprehensive freeze.

(b) PARTICIPATION BY OTHER COMMITTEES IN HEARINGS.—

(1) SENATE.—The Select Committee on Intelligence of the Senate shall allow members of the Senate Committee on Armed Services, members of the Senate Committee on Foreign Relations, and members of the Subcommittee on Defense of the Senate Committee on Appropriations to participate in its hearings pursuant to subsection (a).

(2) HOUSE OF REPRESENTATIVES.—The Permanent Select Committee on Intelligence of the House of Representatives shall allow members of the House Committee on Armed Services, members of the House Committee on Foreign Affairs, and members of the Subcommittee on Defense of the House Committee on Appropriations to participate in its hearings pursuant to subsection (a).

(c) REQUIREMENT FOR REPORT ON VERIFICATION PROCEDURES.—Following the hearings pursuant to subsection (a), but no later than 6 months after the date of enactment of this Act, the Permanent Select Committee on Intelligence of the House of Representatives and the Select Committee on Intelligence of the Senate shall each submit a report to their respective House on the adequacy of United States monitoring systems and existing agreed procedures for verifying Soviet compliance with the comprehensive freeze.

(d) INFORMATION TO BE INCLUDED IN REPORT.—The report required by subsection (c), which shall be prepared in both a classified and an unclassified form, shall include—

(1) an assessment of the nature and extent of Soviet activities and installations involved in the testing, production, and deployment of nuclear weapons systems;

(2) an assessment of current United States capabilities to monitor changes, that would pose a threat to our national security, in the status of Soviet nuclear forces under the comprehensive freeze; and

(3) an assessment of additional monitoring systems and cooperative procedures that may be required to increase monitoring confidence of certain aspects of a comprehensive freeze.

SEC. 6. OPERATIONAL PLAN FOR UNITED STATES IMPLEMENTATION OF THE COMPREHENSIVE FREEZE.

(a) PREPARATION OF OPERATIONAL PLAN.—The Director of the United States Arms Control and Disarmament Agency shall immediately begin preparing an operational plan for implementation by the United States of the comprehensive freeze.

(b) CONSULTATION.—In preparing the plan required by subsection (a), the Director shall consult with the Secretary of Defense, the Secretary of Energy, and other appropriate federal officials.

(c) REPORT ON OPERATIONAL PLAN.—No later than 9 months after the date of enactment of this Act, the Director shall submit to the Congress a report on operational plan prepared pursuant to subsection (a). This report shall specify—

(1) procedures for the cessation of activities and closure or conversion of facilities affected by the comprehensive freeze;

(2) a program for the retraining and re-employment of Government and defense industry personnel directly affected by the termination of nuclear weapons-related activities; and

(3) a program of economic adjustment assistance for those communities whose local economy may be ad-

versely affected by the sudden shift in the pattern of Government expenditure.

SEC. 7. SEMIANNUAL REPORTS ON FREEZE NEGOTIATIONS, SOVIET COMPLIANCE, AND VERIFICATION.

(a) REQUIREMENT FOR SUBMISSION OF REPORTS.—At the times specified in subsection (b), the President shall submit to the Congress a report, in both classified and unclassified versions, which describes in detail—

(1) the status of United States and Soviet efforts to negotiate a comprehensive freeze;

(2) Soviet military activities during the preceding 6 months relating to the testing, production, and deployment of nuclear weapons systems; and

(3) any uncertainties concern verification of the comprehensive freeze, the status of efforts to reduce those uncertainties, and the national security implications of those uncertainties.

(b) TIMES FOR SUBMISSION OF REPORT.—The first report pursuant to subsection (a) shall be submitted no earlier than 7 months and no later than 8 months after the date of enactment of this Act, and subsequent reports shall be submitted at 6-month intervals thereafter.

SEC. 8. FUNDING RESTRICTIONS ON TESTING, PRODUCTION, AND DEPLOYMENT OF NUCLEAR WEAPONS SYSTEMS.

(a) RESTRICTIONS CONDITIONED ON SOVIET WILLINGNESS TO OBSERVE A BILATERAL HALT IN TESTING, PRODUCTION, AND DEPLOYMENT.—The restrictions contained in this section shall take effect only if, during the 30-day period beginning on the date of enactment of this Act, the Government of the Soviet Union communicates to the President that the Soviet Union will join with the United States in observing a bilateral halt in the testing, production, and deployment of nuclear weapons systems.

(b) RESTRICTIONS ON TESTING AND DEPLOYMENT.—

(1) IN GENERAL.—Appropriated funds may not be obligated or expended for the testing or deployment of nuclear weapons systems, unless the Congress expressly provides otherwise in a joint resolution enacted pursuant to section 10 following a Presidential request pursuant to section 9.

(2) EFFECTIVE DATES OF RESTRICTIONS ON TESTING AND DEPLOYMENT.—

(A) IN GENERAL.—Except as provided in subparagraph (B), the restrictions on testing and deployment contained in paragraph (1) shall take effect 30 days after the date of enactment of this Act.

(B) SPECIAL RULE FOR CERTAIN NUCLEAR MISSILES.—The restrictions contained in paragraph (1) shall not take effect with respect to the testing and deployment of nuclear missiles with a range of 600 kilometers or less until one year after the date of enactment of this Act.

(c) RESTRICTION ON PRODUCTION.—

(1) IN GENERAL.—Appropriated funds may not be obligated or expended for the production of nuclear weapons systems, unless the Congress expressly provides otherwise in a joint resolution enacted pursuant to section 10 following a Presidential request pursuant to section 9.

(2) EFFECTIVE DATE OF RESTRICTION ON PRODUCTION.—The restriction on production contained in paragraph (1) shall take effect one year after the date of enactment of this Act.

(d) INTERPRETATION OF PROVISIONS.—The restrictions contained in this section—

(1) apply with respect to any funds appropriated or otherwise made available by the Congress for any fiscal year, including any funds which have been obligated but not expended;

(2) apply notwithstanding any other provision of law, including any Act authorizing the appropriation of

funds for the testing, production, or deployment of nuclear weapons systems and any Act or joint resolution appropriating funds for the testing, production, or deployment of nuclear weapons systems; and

(3) do not preclude the use of funds for necessary expenses resulting from the suspension or cancellation of existing contracts relating to the testing, production, or deployment of nuclear weapons systems.

SEC. 9. PRESIDENTIAL REQUEST FOR FUNDING FOR NUCLEAR WEAPONS SYSTEMS.

(a) SUBMISSION OF REQUEST.—Subject to subsection (b), the President may request that the Congress remove, in whole or in part, funding restrictions contained in section 8 on the testing of nuclear weapons systems, on the production of nuclear weapons systems, and on the deployment of nuclear weapons systems.

(b) CERTIFICATION WHICH MUST ACCOMPANY REQUEST.—A request may be made pursuant to subsection (a) only if the President certifies to the Congress that—

(1) the Soviet Union has failed to demonstrate a restraint with respect to nuclear weapons systems which corresponds to the restraint being shown by the United States pursuant to this Act; or

(2) continuation of the funding restrictions would cause significant and irreparable damage to the national security of the United States.

(c) TIME FOR SUBMISSION OF REQUEST.—Except in exceptional circumstances, a request pursuant to subsection (a) should not be submitted to the Congress before the first semiannual report is submitted pursuant to section 7.

SEC. 10. REQUIREMENT FOR EXPEDITIOUS CONGRESSIONAL ACTION ON PRESIDENTIAL REQUEST FOR FUNDING OF NUCLEAR WEAPONS SYSTEMS.

If the President submits a request pursuant to section 9 for the removal (in whole or in part) of funding restrictions contained in section 8, the Congress shall promptly begin consideration of a joint resolution which would grant that request and shall complete its consideration of that joint resolution (including such amendments as the Congress considers appropriate) no later than 30 days after receiving the request.

SEC. 11. DEFINITIONS.

(a) DEFINITION OF COMPREHENSIVE FREEZE.—For purposes of this Act, the term "comprehensive freeze" means a bilateral and adequately verifiable halt by the United States and the Soviet Union in all testing, production, and deployment of nuclear weapons systems. Included in a comprehensive freeze would be all weapons systems designed primarily for use in a nuclear conflict.

(b) DEFINITIONS OF TESTING, PRODUCTION, AND DEPLOYMENT OF NUCLEAR WEAPONS SYSTEMS.—The following definitions apply for purposes of this Act:

(1) TESTING.—The term "testing of nuclear weapons systems" means—

(A) the testing of nuclear explosive devices;

(B) the flight testing of nuclear missiles; and

(C) the flight testing against targets in space of anti-satellite (ASAT) and anti-ballistic missile (ABM) weapons.

(2) PRODUCTION.—The term "production of nuclear weapons systems" means—

(A) the operation of facilities for the production of plutonium and highly enriched uranium for use in nuclear explosive devices;

(B) the operation of facilities for the manufacture of nuclear fission and fusion components for nuclear explosive devices;

(C) the operation of final assembly facilities for nuclear explosive devices;

(D) the operation of facilities for the final assembly of strategic bombers.

(E) the operation of facilities for final assembly of missile stages for nuclear missiles;

(F) the operation of facilities for the manufacture of individual stages for nuclear missiles; and

(G) the production of other components dedicated for nuclear weapons systems.

(3) DEPLOYMENT.—

(A) IN GENERAL.—The term "deployment of nuclear weapons systems" means—

(i) the deployment of any new strategic bomber type, or the deployment of any units of an existing strategic bomber type above the number deployed as of the freeze date;

(ii) the deployment of any modification of existing strategic bomber types which would be verifiable by the other nation, unless the modification is primarily for the purposes of safety or deployment of the modification was begun before the freeze date;

(iii) any deployment or modification of ballistic-missile submarines which would cause the aggregate number of missile launch tubes deployed to be greater than the number deployed on the freeze date;

(iv) the deployment of new nuclear missile types, or the deployment of any missiles of an existing nuclear missile type above the number deployed on the freeze date;

(v) the deployment of any launchers for new nuclear missile types, or the deployment of any fixed or mobile launchers for an existing nuclear missile type above the number deployed on the freeze date; and

(vi) the deployment of new types of nuclear explosive devices, or the deployment of any units of an existing type of nuclear explosive device above the number deployed on the freeze date.

(B) CLARIFYING PROVISIONS.—

(i) BALLISTIC MISSILE SUBMARINES.—Subject to the limitations in subparagraph (A)(iii), nothing in subparagraph (A) shall be construed to prevent ballistic missile submarines from being replaced or modified in any way.

(ii) HARDENING OF FIXED MISSILE LAUNCHERS.—Improved hardening of fixed missile launchers shall not be considered to

be a deployment of nuclear weapons systems for purposes of subparagraph (A).

(iii) NEGOTIATED REDUCTIONS.—Nothing in subparagraph (A) shall be construed to impede a negotiated agreement on reductions in any nuclear weapons system permitted to be deployed under the definition contained in subparagraph (A).

(c) DEFINITIONS OF OTHER TERMS.—The following definitions apply for purposes of this Act:

(1) NUCLEAR MISSILE.—The term "nuclear missile" means a missile whose primary mission requires it to deliver a nuclear explosive device.

(2) STRATEGIC BOMBER.—The term "strategic bomber" means the following aircraft (which have as their primary mission the delivery of nuclear weapons):

(A) The Soviet Backfire, Bear, Bison, Blackjack, and Fencer aircraft.

(B) The United States B-52, B-1B, FB-111, F-111, and Advanced Technology Bomber aircraft.

(C) Any other aircraft of comparable range-payload equipped with internal bomb bays or external weapon-carrying hard points.

(3) NUCLEAR EXPLOSIVE DEVICE.—The term "nuclear explosive device" means any warhead, bomb, or other explosive device which uses fissionable materials.

(4) EXISTING TYPE.—The terms "existing nuclear missile type", "existing strategic bomber type", and "existing type of nuclear explosive device" mean a type of missile, bomber, or explosive device that was deployed by the nation as of the freeze date.

(5) NEW TYPE.—The terms "new nuclear missile type", "new strategic bomber type", and "new type of nuclear explosive device" mean a type of missile, bomber, or explosive device that was not deployed by the nation as of the freeze date.

(6) FREEZE DATE.—The term "freeze date" means—

(A) for purposes of negotiations between the United States and the Soviet Union concerning the comprehensive freeze and reductions, the date agreed to for implementation of the comprehensive freeze; and

(B) for purposes of the funding restrictions contained in this Act, the date of enactment of this Act.

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Exhibit VII

I

99TH CONGRESS
1ST SESSION

H. R. 3442

To provide for a mutual, simultaneous, verifiable cessation of the testing of nuclear warheads effective on or before January 1, 1986, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 26, 1985

Mrs. SCHROEDER (for herself, Mr. FRANK, Mr. HAYES, Mr. EDWARDS of California, Mr. STUDDS, Mr. DELLUMS, Mr. KOLTER, Mr. LELAND, Mr. FAUNTROY, Mr. WEAVER, Mr. SAVAGE, Mr. MITCHELL, Mr. LOWRY of Washington, Mr. MURPHY, Mr. MRAZEK, Mr. CROCKETT, Ms. KAPTUR, Mrs. BURTON of California, Mr. SEIBERLING, Mr. CLAY, Mr. CONYERS, Mr. WEISS, Mr. KASTENMEIER, Mr. TOWNS, Mr. RAHALL, Mr. LEVINE of California, Mr. VENTO, Mr. BOSCO, Mrs. KENNELLY, Mr. MOODY, Mr. LEHMAN of Florida, Mr. MARTINEZ, Mr. WIRTH, Mr. RANGEL, Mrs. COLLINS, Mrs. BOXER, Mr. OBERSTAR, and Mr. MINETA) introduced the following bill; which was referred jointly to the Committees on Foreign Affairs and Armed Services

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A BILL

To provide for a mutual, simultaneous, verifiable cessation of the testing of nuclear warheads effective on or before January 1, 1986, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Simultaneous Nuclear Test-Ban Act".

SEC. 2. FINDINGS.

The Congress finds—

(1) that the mutual and simultaneous cessation of the testing of nuclear warheads by the United States and the Soviet Union would give a positive indication of a sincere desire by both nations to end the nuclear arms race;

(2) that such an indication would provide the proper climate for current and future nuclear arms control negotiations; and

(3) that the Soviet Union has declared a cessation on the testing of nuclear warheads beginning on August 6, 1985, to last for a 5-month period and has stated that if the United States joins in the cessation, it will remain in effect indefinitely.

SEC. 3. SENSE OF CONGRESS.

(a) CESSATION OF NUCLEAR TESTING.—(1) It is the sense of Congress that the President, before January 1, 1986, should declare that the United States will cease the testing of nuclear warheads and will invite the Soviet Union to meet with the United States to enter into negotiations for the conclusion of a Comprehensive Test Ban Treaty at the earliest possible date.

(2) If such a cessation of the testing of nuclear warheads takes effect, the United States should continue the cessation of the testing of nuclear warheads so long as the Soviet

Union refrains from the testing of nuclear warheads and substantive Comprehensive Test Ban Treaty negotiations are in progress.

(b) RESUMPTION OF COMPREHENSIVE TEST BAN TALKS.—It is the sense of Congress that during a cessation of the testing of nuclear warheads described in subsection (a) the President should actively seek resumption of the comprehensive test ban talks between the United States, Great Britain, and the Soviet Union in order to achieve a Comprehensive Test Ban Treaty.

SEC. 4. LIMITATION ON USE OF FUNDS.

(a) IN GENERAL.—If the President does not declare a cessation of testing nuclear warheads as described in section 3(a), then during the six-month period beginning on January 1, 1986, no funds appropriated or otherwise made available by Congress may be obligated or expended by the United States for the testing of nuclear warheads.

(b) AUTHORITY IF SOVIET UNION TESTS.—(1) If the President certifies to Congress after January 1, 1986, that the Soviet Union has on or after that date tested a nuclear warhead, then beginning on such date funds may be obligated or expended by the United States for such testing.

(2) The President shall include with any certification under this subsection—

(A) an unclassified report summarizing the basis for the certification; and

(B) a classified report describing in detail the activities of the Soviet Union that are the basis for the certification.

SEC. 5. VERIFICATION OF CESSATION OF TESTING.

The Congress determines that—

(1) existing national technical means of verification are adequate to provide confidence during the six-month period of the cessation of nuclear testing referred to in section 4(a) that no nuclear test can be conducted that would lead to a military advantage for either participant;

(2) the comprehensive test ban talks referred to in section 3(b) can build upon verification procedures already developed and incorporated in previous treaties and agreements to provide long-term mutually acceptable verification measures; and

(3) these verification measures would include, at a minimum, provisions for on-site inspection, cooperative measures for the exchange of seismic data, and the establishment of a monitoring committee of experts.

SEC. 6. ANNUAL REPORT.

Three months after a cessation of the testing of nuclear warheads takes effect under this Act and annually thereafter

while such cessation remains in effect, the President shall report to Congress—

(1) on the progress being made by the United States in negotiating nuclear arms control agreements with the Soviet Union; and

(2) on whether the President believes that continuation of the cessation of nuclear testing is in the national security interest of the United States.

SEC. 7. DEFINITION.

For purposes of this Act, the term "testing of nuclear warheads" means the detonation of a nuclear explosive device.

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Exhibit VIII

House Calendar No. 53

99TH CONGRESS
1ST SESSION

H. J. RES. 3

[Report No. 99–221]

To prevent nuclear explosive testing.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 3, 1985

Mr. BEDELL (for himself, Mr. LEACH of Iowa, and Mr. MARKEY) introduced the following joint resolution; which was referred to the Committee on Foreign Affairs

JULY 24, 1985

Additional sponsors: Mr. ZSCHAU, Mr. ADDABBO, Mr. COUGHLIN, Mr. HAMILTON, Mrs. SCHNEIDER, Mr. DOWNEY of New York, Mr. DICKS, Mr. AUCOIN, Mr. ASPIN, Mr. SMITH of Iowa, Mr. MAVROULES, Mr. JEFFORDS, Mr. GREEN, Mr. STUDDS, Mr. BARNES, Mr. WOLPE, Mr. MILLER of California, Mr. BROWN of California, Mr. FRANK, Mr. EDWARDS of California, Mr. STARK, Mr. BEILENSON, Mr. EVANS of Illinois, Mr. HALL of Ohio, Mr. CLAY, Mr. CROCKETT, Mr. GEJDENSON, Mr. EDGAR, Mr. LOWRY of Washington, Mr. DORGAN of North Dakota, Mr. TORRICELLI, Mr. BERMAN, Mrs. BOXER, Mr. GARCIA, Mr. DELLUMS, Mr. LELAND, Mr. ROYBAL, Mr. KASTENMEIER, Mr. TOWNS, Mr. MORRISON of Connecticut, Mr. RAHALL, Mrs. COLLINS, Mr. BATES, Mr. SEIBERLING, Mr. WEISS, Mr. BONIOR of Michigan, Mr. MITCHELL, Mr. FAZIO, Ms. KAPTUR, Mr. SYNAR, Mr. FORD of Tennessee, Mr. LEHMAN of Florida, Mr. OWENS, Mr. MARTINEZ, Mr. DYMALLY, Mr. WYDEN, Mr. LUNDINE, Mr. PENNY, Mr. WALGREN, Mr. DWYER of New Jersey, Mr. FAUNTROY, Mr. MCKINNEY, Mr. FORD of Michigan, Mr. SABO, Mr. RODINO, Mr. MINETA, Mr. DURBIN, Mr. BOSCO, Mr. CONYERS, Mr. RUSSO, Mr. MOAKLEY, Mr. VENTO, Mr. PANETTA, Mr. UDALL, Mr. WIRTH, Mr. HUGHES, Mr. KILDEE, Mr. FISH, Mrs. BURTON of California, Mr. FEIGHAN, Mr. PEASE, Mr. LEHMAN of California, Mr. LEVINE of California, Mr. SAVAGE, Mr. WEAVER, Mr. MRAZEK, Mr. WHEAT, Mr. HOYER, Mr. OBERSTAR, Mrs. SCHROEDER, Mr. RICHARDSON, Mr. SCHUMER, Mr. GLICKMAN, Mr. TRAXLER, Mr. WAXMAN, Ms. OAKAR, Mr. FASCELL, Mr. LEVIN of Michigan, Mr. DIXON, Mr. DASCHLE, Mr. MATSUI, Mr. MOODY, Mr. NEAL, Mr. KOSTMAYER, Mr. FOGLIETTA, Mr. SIKORSKI, Mr. HOWARD, Mr. BONKER, Mr. SMITH of Florida, Mr. ACKERMAN, Mr.

LANTOS, Mr. STOKES, Mr. MCHUGH, Mr. AKAKA, Mrs. KENNELLY, Mr. LAFALCE, Mr. ALEXANDER, Mr. SOLARZ, Mr. GRAY of Pennsylvania, Mr. TAUKE, Ms. SNOWE, Mr. OBEY, Mr. MURPHY, Mr. SUNIA, Mr. FAWELL, Mr. JACOBS, Mr. BOLAND, Mr. SWIFT, Mr. MCKERNAN, Mr. BOEHLERT, Mr. MCCLOSKEY, Mr. WISE, Mr. FLORIO, Mr. HAYES, Mr. OLIN, Mr. SCHEUER, Mr. GIBBONS, Mr. RANGEL, Mr. WILLIAMS, Mr. FOWLER, Mr. FOLEY, Mr. GEPHARDT, Mrs. JOHNSON, Mr. PERKINS, Mr. GUARINI, Mr. STAGGERS, Mr. ATKINS, Mr. GALLO, Mr. YATES, Mr. FROST, Mr. BOUCHER, Mr. KOLTER, Mr. CARPER, Mr. BRUCE, Mr. SHARP, Mr. COELHO, Mr. HEFTEL of Hawaii, Mr. ROSE, Mr. JONES of Tennessee, Mr. EARLY, Mr. ST GERMAIN, Mr. JONES of North Carolina, Mrs. BOGGS, Mr. COOPER, Mrs. LONG, Mr. TORRES, Mr. HAWKINS, Mr. KLECZKA, Mr. HENRY, Mr. BIAGGI, Mr. YATRON, Mr. DONNELLY, Mr. HERTEL of Michigan, Mr. TRAFICANT, Mr. DERRICK, Mr. PETRI, Mr. GILMAN, Mr. PURSELL, Mr. MANTON, Mr. STRANG, Mr. GUNDERSON, Mr. BUSTAMANTE, Mr. GONZALEZ, Mr. ROE, Mr. MOLLOHAN, Mr. SLATTERY, Mr. MACKAY, Mr. NOWAK, Mr. LUKEN, Mr. VOLKMER, Mr. ECKART of Ohio, Mr. WHITLEY, Mr. APPLEGATE, Mr. PEPPER, and Mr. COYNE

July 24, 1985

Referred to the House Calendar and ordered to be printed

JOINT RESOLUTION

To prevent nuclear explosive testing.

Whereas the United States is committed in the Limited Test Ban Treaty of 1963 and in the Non-Proliferation Treaty of 1968 to seek to achieve the discontinuance of all test explosions of nuclear weapons for all time;

Whereas a comprehensive test ban treaty would promote the security of the United States by constraining the United States-Soviet nuclear arms competition and by strengthening efforts to prevent the proliferation of nuclear weapons;

Whereas the Threshold Test Ban Treaty was signed in 1974 and the Peaceful Nuclear Explosions Treaty was signed in 1976, and both have yet to be considered by the full Senate for its advice and consent to ratification;

Whereas the entry into force of the Peaceful Nuclear Explosions Treaty and the Threshold Test Ban Treaty will ensure full implementation of significant new verification procedures and so make completion of a comprehensive test ban treaty more probable;

Whereas a comprehensive test ban treaty must be adequately verifiable, and significant progress has been made in methods for detection of underground nuclear explosions by seismological and other means;

Whereas, at present, negotiations are not being pursued by the United States and the Soviet Union toward completion of a comprehensive test ban treaty; and

Whereas the past five administrations have supported the achievement of a comprehensive test ban treaty: Now, therefore, be it

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled,

That at the earliest possible date, the President of the United States should—

(1) request advice and consent of the Senate to ratification (with a report containing any plans the President may have to negotiate supplemental verification procedures, or if the President believes it necessary, any understanding or reservation on the subject of verification which should be attached to the treaty) of the Threshold Test Ban and Peaceful Nuclear Explosions Treaties, signed in 1974 and 1976, respectively; and

(2) propose to the Soviet Union the immediate resumption of negotiations toward conclusion of a verifiable comprehensive test ban treaty.

In accordance with international law, the United States shall have no obligation to comply with any bilateral arms control agreement with the Soviet Union that the Soviet Union is violating.

Exhibit IX
House Armed Services Committee Library

Paul H. Nitze

Current
Policy
No. 770

The Nuclear and Space Arms Talks: Where We Are After the Summit

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

Following is an address by Paul H. Nitze, Special Adviser to the President and the Secretary of State on Arms Control Matters, before the Atlantic Council, Washington, D.C., December 5, 1985.

We stand today at the edge of what we hope can be a fresh start in the U.S.-Soviet relationship, ushered in by the summit meeting between President Reagan and General Secretary Gorbachev. We are poised not just between rounds III and IV of the Geneva talks but also, in a sense, between the first summit and the beginning of preparations for the second.

It does not detract from the worthwhile nature of the November summit to reflect on the difficult issues which continue to divide the two sides at the Geneva negotiations on nuclear and space arms. It is my intent to review the positions of the two sides in the talks and to dwell for a moment on those differences which appear most intractable.

The November summit and the autumn events leading up to it represent not only the possibility for a fresh start in the U.S.-Soviet relationship but mark what we hope is the beginning of a genuine process of give-and-take in the nuclear and space arms talks. The barriers to agreement are, however, substantial.

Soviet Counterproposal

The first break in the ice came at the end of September with the tabling of a Soviet counterproposal to our March 1985 offer. While the effects of that counterproposal would be inequitable and destabilizing, it also contains, as the President expressed it, "seeds which should be nurtured."

The Soviet offer consists of various bans and freezes, as well as limits on and reductions in offensive forces.

• "Strategic delivery systems" would be reduced by 50%, to a level of 1,250 for the U.S.S.R. and 1,680 for the United States. However, the Soviet definition of strategic delivery vehicles would also cover, on the U.S. side, LRINF missiles and "medium-range" nuclear-capable aircraft in Europe, in Asia, and on all of our aircraft carriers, while about 2,000 comparable Soviet nuclear delivery vehicles, as well as 300 Backfire bombers, would not be limited. Thus, were the United States to retain equality in strategic nuclear delivery vehicles, it would have to cut LRINF missiles and dual-capable aircraft to 430, 20% of the current Soviet level. If the United States were to retain LRINF missiles and dual-capable aircraft at current levels, it would have to cut strategic nuclear delivery vehicles to less than half the allowed Soviet number.

• "Nuclear charges" would be sharply reduced to a level of 6,000. However, they would be defined to include the gravity bombs and short-range attack missiles carried by U.S. heavy and medium-range bombers. By counting such bomber weapons as equivalent to Soviet ballistic missile RVs, despite the massive Soviet air defenses faced by bombers and the lower readiness rate of bombers compared to ballistic missiles, the United States would be significantly penalized.

• "Charges" on any one component (that is, ICBMs, SLBMs, or bombers) would be reduced to 60% of the total, leading to a maximum level of 3,600 ICBM RVs. Although this sublimit would represent a major reduction, Soviet prompt counterforce capabilities would actually grow against the reduced number of U.S. hardened facilities.

• All cruise missiles with ranges above 600 kilometers would be banned,

Acronyms

ABM—Anti-Ballistic Missile Treaty
ALCM—air-launched cruise missile
GLCM—ground-launched cruise missile
ICBM—intercontinental ballistic missile
INF—intermediate-range nuclear forces
LRINF—longer range INF
RV—reentry vehicle
SALT—strategic arms limitation talks
SDI—Strategic Defense Initiative
SLBM—submarine-launched ballistic missile
SLCM—sea-launched cruise missile
START—strategic arms reduction talks

terminating the U.S. ALCM, SLCM, and GLCM programs.

• All "new" nuclear delivery systems would be banned, probably precluding the U.S. D-5 and Midgetman missiles and advanced technology bomber, while allowing the Soviet SS-25, SS-X-24 and SS-NX-23 missiles and Blackjack heavy bomber.

• Research, development, and deployment of "space-strike arms" would be banned, halting the U.S. SDI program and allowing many Soviet ABM activities to continue.

In sum, despite significant reductions, the Soviet counterproposal would block U.S. strategic defense programs while allowing Soviet programs to proceed; it would halt the modernization of U.S. strategic offensive forces; and it would include in reductions U.S. systems which defend our allies and exclude Soviet systems which threaten them. The net effect would be a lopsided nuclear balance, a weakened U.S. deterrent, and decreased stability for both sides.

However, in spite of its numerous flaws, the detailed Soviet counterproposal did include the principle of deep cuts in strategic offensive arms and, along with subsequent offers in Geneva, seemed to contemplate an interim INF outcome which would allow for U.S. LRINF missiles in Europe. Building on such positive elements, President Reagan directed that a new U.S. proposal be advanced at the negotiations on November 1.

U.S. November Proposal

Strategic Offensive Arms. The new U.S. proposal builds on the 50% reduction concept in a constructive and equitable way.

• Reentry vehicles on ICBMs and SLBMs would be reduced to a limit of 4,500—about 50% below current levels.

• Reentry vehicles on ICBMs would be reduced to 3,000—about 50% below the current Soviet level and roughly halfway between our earlier proposal for a limit of 2,500 and their proposed limit of 3,600.

• The highest overall strategic ballistic missile throw-weight of either side would be reduced by 50%, in this case, from the Soviet level of 11.9 million pounds. (By way of comparison, the United States has 4.4 million pounds.)

• Contingent upon acceptance of RV and throw-weight limits, the United States would accept equal limits of 1,500 on the number of long-range ALCMs carried by U.S. and Soviet heavy bombers—about 50% below planned U.S. deployment levels.

• For reasons previously alluded to, the United States cannot agree to one common limit on ballistic missile RVs and ALCMs. But if the Soviets were to accept our proposed limit of 4,500 RVs along with our proposed limit of 1,500 ALCMs, it would result in reduction to a total of 6,000 ballistic missile RVs and ALCMs on each side.

With respect to strategic nuclear delivery vehicles, the United States has proposed a reduction in strategic ballistic missiles to a limit of 1,250–1,450, or about 40–45% below the current higher Soviet level. In this context, the United States could accept further reduction of heavy bomber limits to 350 (compared to our earlier proposal of 400)—about 40% below the current U.S. SALT-accountable level.

For reasons similar to those applying to an RV and ALCM aggregate, the United States cannot agree to the Soviet proposal to include in a single aggregate strategic ballistic missiles and heavy bombers. However, if agreement were reached on a range of 1,250–1,450 for ICBMs and SLBMs, and on heavy bomber limits of 350, it would result in reduction of the total of strategic ballistic missiles and heavy bombers to between 1,600 and 1,800.

The U.S. proposal also contains a ban on the development and deployment of all new heavy strategic ballistic missiles and on the modernization of existing heavy missiles due to the destabilizing character of such systems. All mobile ICBMs would also be banned because of inherent verification difficulties and asymmetries in deployment opportunities between the sides. "Build-down" is the suggested means of implementing the agreed reductions.

Intermediate-Range Nuclear Forces. With respect to intermediate-range nuclear forces, the United States continues to prefer total elimination of the entire class of U.S. and Soviet LRINF missiles. Thus, our previous proposals remain on the table. We have also made a new proposal as an interim step toward this goal.

• The United States would cap its own LRINF missile launcher deployments in Europe at the number deployed as of December 31, 1985 (140 Pershing II and GLCM) in return for Soviet agreement to reduce SS-20 missile launchers within range of NATO Europe to the same number.

• There would be freedom to mix between systems deployed as of December 31, 1985, but the mix would be a subject for discussion. For example, we could agree on a mix giving the United States an approximately equal number at around 420 to 450 LRINF missile warheads in NATO Europe (based on 4 warheads per GLCM launcher, 1 warhead per Pershing II launcher, and 3 warheads per SS-20 launcher).

• The Soviets would be required to reduce SS-20 launchers in Asia (not within range of NATO Europe) by the same proportion as the reduction of launchers within range of NATO Europe. The end result would be equal global LRINF warhead limits.

• Appropriate constraints would also be applied to shorter range INF missiles.

Defense and Space. With respect to defense and space, the United States has made clear that we are committed to the SDI research program, which is being carried out in compliance with the ABM Treaty. We seek a Soviet commitment to explore with us now how a cooperative transition could be accomplished, should new defensive technologies prove feasible. We are also proposing that the Soviets join us, even now, in an "open laboratories" arrangement under which both sides would provide information on each other's strategic defense research programs and provide reciprocal opportunities for visiting associated research facilities and laboratories.

Verification and Compliance. The United States continues to stress the critical importance of agreeing to effective means of verification so as to be able to assess with confidence compliance with provisions of all agreements resulting from the negotiations. The importance of verification is more evident now than it was before, given Soviet violations of existing arms control agreements.

The United States continues to stress the need for the Soviets to take necessary steps to correct current instances of noncompliance with existing arms control agreements, for noncompliance is both politically corrosive and militarily hazardous. Restoring compliance is, thus, a critical step.

The Soviet Union must alter current practices which obstruct U.S. verification of compliance. One initial step is for Soviets to alter their current encryption of telemetry and revert to telemetry practices in use at the time of signing of

SALT II. This is militarily important in its own right and is also of considerable political significance.

The November Summit

You know the duration of the sessions at the November summit between President Reagan and General Secretary Gorbachev: some 5 hours of one-on-one dialogue and more than 8 hours of discussion in plenary. The two leaders had an intensive and frank examination of the issues in all four agenda categories. The potential intangible benefits to be derived from the development of personal rapport between these two men is obvious, so I will confine my observations to the language relating to the nuclear and space talks which appeared in the joint statement published at the conclusion of the summit and to a discussion of issues it addresses.

We were able in the joint statement to achieve Soviet commitment to early progress in the negotiations, focusing particularly on "the principle of 50% reductions in the nuclear arms of the U.S. and USSR appropriately applied" and "the idea of an interim INF agreement." As I have already mentioned, these concepts are common elements in the fall proposals of the two sides, but it is not clear that the Soviets do not still link such language to termination of the U.S. Strategic Defense Initiative. SDI is, of course, not mentioned at all in the joint statement. The Soviets were content, in the end, to repeat the language of the joint agreement of January 8, 1985, which included the goal of preventing an arms race in space. We have made abundantly clear to the Soviets that, in our view, SDI is consistent with this goal; we are calling for a cooperative approach to the deployment of defensive systems—as opposed to a "race"—were our research, or theirs, to demonstrate that such systems could help the world get rid of the threat of mutual destruction.

I would highlight another passage in the joint statement: "During the negotiation of these agreements, effective measures for verification of compliance with obligations assumed will be agreed upon." It will be useful for us during the negotiations to have this acknowledgment that effective verification measures must be devised concurrently with the resolution of other issues. It represents another modest step in our efforts to put verification concerns on a par with the reductions or limitations themselves.

One of the less encouraging aspects of the summit was Gorbachev's unwavering opposition to SDI. There were, indeed, no signs of movement from even the most untenable elements of the Soviet position on strategic defenses, such as the proposed ban on all research. The Soviets also refused to move from any of their fundamentally unacceptable positions on START and on INF. More encouraging are the growing indications that the Soviets may be willing seriously to discuss all three aspects of the negotiations concurrently when the nuclear and space arms talks resume in Geneva in January without demanding a prior agreement on a ban on SDI research.

It is also noteworthy that the President seems to have made some progress in convincing Gorbachev that he is sincere in his stated intentions for SDI, even though the Soviet leader vigorously disputed the President's conclusions about its consequences.

During the next round of the nuclear and space arms talks, commencing on January 16, 1986, we will be able to judge the Soviet implementation of our mutual commitment to accelerate work. We plan to spend the opening weeks describing our November 1 proposal in greater detail. Max Kampelman[1], Senator Tower[2], and Mike Glitman[3] will have authority to explore opportunities for give-and-take. We hope to elicit constructive responses from the Soviet side so that we may then be able to report that they are engaged in a genuine process of serious negotiation toward balanced and verifiable agreements which will improve stability and reduce the risk of war.

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[1]Max M. Kampelman, Head of U.S. Delegation on Arms Control Negotiations and U.S. Negotiator on Defense and Space Arms.

[2]John Tower, U.S. Negotiator on Strategic Nuclear Arms.

[3]Maynard W. Glitman, U.S. Negotiator on Intermediate-Range Nuclear Arms.

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Exhibit X

Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems

Signed at Moscow May 26, 1972
Ratification advised by U.S. Senate August 3, 1972
Ratified by U.S. President September 30, 1972
Proclaimed by U.S. President October 3, 1972
Instruments of ratification exchanged October 3, 1972
Entered into force October 3, 1972

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, would contribute to the creation of more favorable conditions for further negotiations on limiting strategic arms,

Mindful of their obligations under Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons,

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.

Article II

1. For the purpose 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, not to modify deployed launchers to provide them with such a capability, not 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 the 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.

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.

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

RICHARD NIXON

President of the United States of America

FOR THE UNION OF SOVIET SOCIALIST REPUBLICS

L. I. BREZHNEV

General Secretary of the Central Committee of the CPSU

Agreed Statements, Common Understandings, and Unilateral Statements Regarding the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missiles

1. Agreed Statements

The document set forth below was agreed upon and initialed by the Heads of the Delegations on May 26, 1972 (letter designations added);

AGREED STATEMENTS REGARDING THE TREATY BETWEEN THE UNITED STATES OF AMERICA AND THE UNION OF SOVIET SOCIALIST REPUBLICS ON THE LIMITATION OF ANTI-BALLISTIC MISSILE SYTEMS

[A]

The Parties understand that, in addition to the ABM radars which may be deployed in accordance with subparagraph (a) of Article III of the Treaty, those non-phased- array ABM radars operational on the date of signature of the Treaty within the ABM system deployment area for defense of the national capital may be retained.

[B]

The Parties understand that the potential (the product of mean emitted power in watts and antenna area in square meters) of the smaller of the two large phased-array ABM radars referred to in subparagraph (b) of Article III of the Treaty is considered for purposes of the Treaty to be three million.

[C]

The Parties understand that the center of the ABM system deployment area centered on the national capital and the center of the ABM system deployment area containing ICBM silo launchers for each Party shall be separated by no less than thirteen hundred kilometers.

[D]

In order to insure fulfillment of the obligation not to deploy ABM systems and their components except as provided in Article III of the Treaty, 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 and agreement in accordance with Article XIV of the Treaty.

[E]

The Parties understand that Article V of the Treaty includes obligations not to develop, test or deploy ABM interceptor missiles for the delivery by each ABM interceptor missile of more than one independently guided warhead.

[F]

The Parties agree not to deploy phased-array radars having a potential (the product of mean emitted power in watts and antenna area in square meters) exceeding three million, except as provided for in Articles III, IV and VI of the Treaty, or except for the purposes of tracking objects in outer space or for use as national technical means of verification.

[G]

The Parties understand that Article IX of the Treaty includes the obligation of the US and the USSR not to provide to other States technical descriptions or blue prints specially worked out for the construction of ABM systems and their components limited by the Treaty.

2. Common Understandings

Common understanding of the Parties on the following matters was reached during the negotiations:

A. Location of ICBM Defenses

The U.S. Delegation made the following statement on May 26, 1972:

Article III of the ABM Treaty provides for each side one ABM system deployment area centered on its national capital and one ABM system deployment area containing ICBM silo launchers. The two sides have registered agreement on the following statement: "The Parties understand that the center of the ABM system deployment area centered on the national capital and the center of the ABM system deployment area containing ICBM silo launchers for each Party shall be separated by no less than thirteen hundred kilometers." In this connection, the U.S. side notes that its ABM system deployment area for defense of ICBM silo launchers, located west of the Mississippi River, will be centered in the Grand Forks ICBM silo launcher deployment area. (See Agreed Statement [C].)

B. ABM Test Ranges

The U.S. Delegation made the following statement on April 26, 1972:

Article IV of the ABM Treaty provides that "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." We believe it would be useful to assure that there is no misunderstanding as to current ABM test ranges. It is our understanding that ABM test ranges encompass the area within which ABM components are located for test purposes. The current U.S. ABM test ranges are at White Sands, New Mexico, and at Kwajalein Atoll, and the current Soviet ABM test range is near Sary Shagan in Kazakhstan. We consider that non-phased array radars of types used for range safety or instrumentation purposes may be located outside of ABM test ranges. We interpret the reference in Article IV to "additionally agreed test

ranges" to mean that ABM components will not be located at any other test ranges without prior agreement between our Governments that there will be such additional ABM test ranges.

On May 5, 1972, the Soviet Delegation stated that there was a common understanding on what ABM test ranges were, that the use of the types of non-ABM radars for range safety or instrumentation was not limited under the Treaty, that the reference in Article IV to "additionally agreed" test ranges was sufficiently clear, and that national means permitted identifying current test ranges.

C. Mobile ABM Systems

On January 29, 1972, the U.S. Delegation made the following statement:

Article V(1) of the Joint Draft Text of the ABM Treaty includes an undertaking not to develop, test, or deploy mobile land-based ABM systems and their components. On May 5, 1971, the U.S. side indicated that, in its view, a prohibition on deployment of mobile ABM systems and components would rule out the deployment of ABM launchers and radars which were not permanent fixed types. At that time, we asked for the Soviet view of this interpretation. Does the Soviet side agree with the U.S. side's interpretation put forward on May 5, 1971?

On April 13, 1972, the Soviet Delegation said there is a general common understanding on this matter.

D. Standing Consultative Commission

Ambassador Smith made the following statement on May 22, 1972:

The United States proposes that the sides agree that, with regard to initial implementation of the ABM Treaty's Article XIII on the Standing Consultative Commission (SCC) and of the consultation Articles to the Interim Agreement on offensive arms and the Accidents Agreement,[1] agreement establishing the SCC will be worked out early in the follow-on SALT negotiations; until that is completed, the following arrangements will prevail: when SALT is in session, any consultation desired by either side under these Articles can be carried out by the two SALT Delegations; when SALT is not in session, *ad hoc* arrangements for any desired consultations under these Articles may be made through diplomatic channels.

Minister Semenov replied that, on an *ad referendum* basis, he could agree that the U.S. statement corresponded to the Soviet understanding.

E. Standstill

On May 6, 1972, Minister Semenov made the following statement:

In an effort to accommodate the wishes of the U.S. side, the Soviet Delegation is prepared to proceed on the basis that the two sides will in fact observe the obligations of both the Interim Agreement and the ABM Treaty beginning from the date of signature of these two documents.

In reply, the U.S. Delegation made the following statement on May 20, 1972:

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[1]See Article 7 of Agreement to Reduce the Risk of Outbreak of Nuclear War Between the United States of America and the Union of Soviet Socialist Republics, signed Sept. 30, 1971.

The U.S. agrees in principle with the Soviet statement made on May 6 concerning observance of obligations beginning from date of signature but we would like to make clear our understanding that this means that, pending ratification and acceptance, neither side would take any action prohibited by the agreements after they had entered into force. This understanding would continue to apply in the absence of notification by either signatory of its intention not to proceed with ratification or approval.

The Soviet Delegation indicated agreement with the U.S. statement.

3. Unilateral Statements

The following noteworthy unilateral statements were made during the negotiations by the United States Delegation:

A. Withdrawal from the ABM Treaty

On May 9, 1972, Ambassador Smith made the following statement:

The U.S. Delegation has stressed the importance the U.S. Government attaches to achieving agreement on more complete limitations on strategic offensive arms, following agreement on an ABM Treaty and on an Interim Agreement on certain measures with respect to the limitation of strategic offensive arms. The U.S. Delegation believes that an objective of the follow-on negotiations should be to constrain and reduce on a long-term basis threats to the survivability of our respective strategic retaliatory forces. The USSR Delegation has also indicated that the objectives of SALT would remain unfulfilled without the achievement of an agreement providing for more complete limitations on strategic offensive arms. Both sides recognize that the initial agreements would be steps toward the achievement of more complete limitations on strategic arms. If an agreement providing for more complete strategic offensive arms limitations 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. The U.S. does not wish to see such a situation occur, nor do we believe that the USSR does. It is because we wish to prevent such a situation that we emphasize the importance the U.S. Government attaches to achievement of more complete limitations on strategic offensive arms. The U.S. Executive will inform the Congress, in connection with Congressional consideration of the ABM Treaty and the Interim Agreement, of this statement of the U.S. position.

B. Tested in ABM Mode

On April 7, 1972, the U.S. Delegation made the following statement:

Article II of the Joint Text Draft uses the term "tested in an ABM mode," in defining ABM components, and Article VI includes certain obligations concerning such testing. We believe that the sides should have a common understanding of this phrase. First, we would note that the testing provisions of the ABM Treaty are intended to apply to testing which occurs after the date of signature of the Treaty, and not to any testing which may have occurred in the past. Next, we would amplify the remarks we have made on this subject during the previous Helsinki phase by setting forth the objectives which govern the U.S. view on the subject, namely, while prohibiting testing of non-ABM components for ABM purposes: not to prevent testing of ABM components, and not to prevent testing of non-ABM components for

non-ABM purposes. To clarify our interpretation of "tested in an ABM mode," we note that we would consider a launcher, missile or radar to be "tested in an ABM mode" if, for example, any of the following events occur: (1) a launcher is used to launch an ABM interceptor missile, (2) an interceptor missile is flight tested against a target vehicle which has a flight trajectory with characteristics of a strategic ballistic missile flight trajectory, or is flight tested in conjunction with the test of an ABM interceptor missile or an ABM radar at the same test range, or is flight tested to an altitude inconsistent with interception of targets against which air defenses are deployed, (3) a radar makes measurements on a cooperative target vehicle of the kind referred to in item (2) above during the reentry portion of its trajectory or makes measurements in conjunction with the test of an ABM interceptor missile or an ABM radar at the same test range. Radars used for purposes such as range safety or instrumentation would be exempt from application of these criteria.

C. No-Transfer Article of ABM Treaty

On April 18, 1972, the U.S. Delegation made the following statement:

In regard to this Article [IX], I have a brief and I believe self-explanatory statement to make. The U.S. side wishes to make clear that the provisions of this Article do not set a precedent for whatever provision may be considered for a Treaty on Limiting Strategic Offensive Arms. The question of transfer of strategic offensive arms is a far more complex issue, which may require a different solution.

D. No Increase in Defense of Early Warning Radars

On July 28, 1970, the U.S. Delegation made the following statement:

Since Hen House radars [Soviet ballistic missile early warning radars] can detect and track ballistic missile warheads at great distances, they have a significant ABM potential. Accordingly, the U.S. would regard any increase in the defenses of such radars by surface-to-air missiles as inconsistent with an agreement.

Exhibit XI

Paul H. Nitze

Current
Policy
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SDI: Its Nature and Rationale

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

Following is an address by Paul H. Nitze, Special Adviser to the President and Secretary of State on Arms Control Matters, before the North Atlantic Assembly, San Francisco, California, October 15, 1985.

The U.S. Strategic Defense Initiative (SDI) has been an important part of the public debate about arms control here, and in Europe, for the last year. It now is one of the central issues in the current negotiations with the U.S.S.R.

Serious debate about SDI was to be expected. The goal President Reagan has set for the SDI research effort is challenging. SDI is a program whose success could have major implications for Western security policy. The debate is desirable; democracies make their wisest and most durable decisions when all aspects of an issue are weighed and considered in an open and rigorous manner.

But the debate should be an informed one, free of fixed preconceptions or erroneous assumptions. Regrettably, the discussion of SDI is often burdened by confusion, some based on honest misconception, some resulting from a pervasive Soviet propaganda campaign. I, therefore, welcome the opportunity to clarify the background and rationale for SDI.

Genesis of the Program

Two years ago President Reagan directed that the U.S. Government undertake a close examination of the possibilities of strategic defense. That decision resulted from several factors.

First. The first was the deterioration of the strategic balance since the signing of SALT I [strategic arms limitation talks], in contrast to our expectations at the time.

In 1972, the United States and the Soviet Union signed the Anti-Ballistic Missile, or ABM, Treaty. It was then our hope and assumption that, with the stringent limits on defenses against ballistic missiles embodied in that treaty, it would be possible to negotiate significant reductions in strategic offensive nuclear arms.

It was believed that the nuclear relationship would be stable if each side had survivable retaliatory offensive forces roughly equal in capability to those of the other side and was, at the same time, virtually defenseless against ballistic missile attack—and, therefore, open to the other's retaliatory blow. In such a situation, neither side would have an incentive to strike first, even in the most dire circumstances. It was felt the way would then be open for strategically significant limitations on and reductions in offensive arms.

Unfortunately, that has not proved to be possible. The Soviets—during SALT II and the 1982-83 START [strategic arms reduction talks] negotiations—showed little genuine readiness to discuss meaningful limits on or cuts in offensive arms. Instead, strategic offensive arsenals have expanded greatly since 1972. The Soviet Union has taken full advantage of the combination of multiple warheads, large ballistic missiles, and increasing missile accuracy permitted by SALT I and SALT II. The Soviets have used this combination to deploy the most worrisome element of the current strategic equation—a ballistic missile force capable of threatening virtually the entire range of targets in the United States that comprise the fixed land-based portion of our retaliatory forces.

The number of warheads on Soviet strategic ballistic missiles today is four times the number when SALT I was concluded. Furthermore, the Soviet capability to destroy hard targets quickly has increased by a factor of more than ten. This growth in offensive capabilities is contrary to what we had in mind in 1972.

At the same time, the Soviets have been pursuing major efforts on the defensive side. In fact, over the past 20 years, they have spent roughly as much for strategic defense as they have for their massive offensive nuclear buildup. They have poured millions of tons of concrete to provide passive defenses, they have deployed extensive air defenses, and they have deployed the world's only operational ABM and antisatellite systems.

Moreover, the Soviets have for many years devoted extensive resources and energy to investigating many of the same technologies that we are now examining in SDI. This Soviet effort has gone forward without any public debate of the type that has accompanied SDI in the West.

The aggregate of Soviet offensive and defense activities since 1972—some of which are in violation of, or raise troubling questions for, compliance with existing arms control agreements—is persuasive evidence that they did not accept the concept of stable mutual deterrence on which we believed the ABM Treaty to be premised.

Second. A second factor leading to SDI was the technological advances which have taken place since 1972. In the late 1960s, when we were examining ABM systems, we concluded that the then-existing technology was such that ABM systems could be overcome by additional offensive systems at less cost. Technology has come a long way since then, and it may well be possible in the future to reverse that conclusion.

Great strides have been made in effectiveness and reduced cost in many areas relevant to ballistic missile defense, such as microelectronics, data processing, and sensors. These may now make possible defensive systems that were beyond the reach of the technology of 15 years ago.

Let me cite one example. In the late 1960s the only feasible exoatmospheric ABM system was based on a ground-based interceptor, the accuracy of which was limited. It could destroy an incoming warhead only if the interceptor itself was armed with a large, multimegaton nuclear warhead. Last year, in the homing overlay experiment, it was proved possible to destroy a mock incoming warhead by direct impact with an interceptor containing no explosive of any kind.

Technology is thus opening new possibilities for strategic defense and may, in fact, offer survivable and cost-effective defensive systems.

Third. The third factor behind SDI was the President's strongly held belief that, while deterrence based on the threat of offensive nuclear retaliation must form the basis of Western security policy as long as there is no better deterrent at hand, we should not be content necessarily to confine ourselves to that goal in perpetuity. He asked, instead, whether it might not be possible to offer a better and brighter vision for the future—one in which deterrence would be based more on the ability to defend rather than to retaliate with predictably tragic devastation. If a better way is possible, we have an obligation to search for it.

These three factors prompted the President's decision in early 1983 to launch SDI.

Nature of the Program

Let me be clear as to exactly what SDI is. SDI is a research program that is investigating the feasibility of new defensive technologies, both earth and space based. The program is and will continue to be conducted in full conformity with the ABM Treaty. The treaty's text, the agreed statements accompanying it, the negotiating record, and official statements made since 1972 have been variously interpreted as to what kinds of development and testing, as well as what kinds of research, are permitted, particularly with respect to future systems and components based on new physical principles.

Because of the great potential contribution that SDI could make to our security, and because of our interest in a rigorous implementation of the ABM Treaty by both sides, we have devoted much attention to the question of how to interpret the treaty. It is our view, based on a careful analysis of the treaty text and the negotiating record, that a broader interpretation of our authority than that which we have applied to restrict our SDI research program would be fully justified. This is, however, a moot point; our SDI research program has been structured and will continue to be conducted in accordance with a restrictive interpretation of the treaty's obligations.

Should SDI prove new defensive technologies feasible, by indicating that defensive systems can meet demanding criteria of survivability and cost effectiveness, we believe the strategic balance could be made more stable by greater reliance on such defenses. Survivable and cost-effective defenses could so complicate a potential attacker's planning for a first strike that such an attack could not be seriously contemplated and deterrence would thus be significantly enhanced. Additionally, such defenses could render a continued offensive buildup futile.

Looking to the more distant future, strategic defenses might make an important contribution toward the eventual elimination of nuclear arms. Achieving that ultimate objective would, of course, presuppose a much more cooperative overall East-West relationship, one in which, for example, efforts to establish conventional force balances at lower levels and to enhance mutual confidence should also prove fruitful.

Even should all nuclear arms be eliminated, the technical knowledge required to make such weapons would remain, and we would need to deal with the danger of cheating or exploitation by irresponsible elements. Non-nuclear defensive systems would serve that purpose.

We have no preconceived judgments about the outcome of the research program, about whether it will yield practical new defensive options, or, if so, exactly what kind of defensive options those would be. We recognize that we have much to learn before we can make hard judgments as to the capabilities, costs, and value of such defenses. Accordingly, the research will take a number of years.

During this period, deterrence must continue to rest almost exclusively on offensive nuclear retaliatory capabilities. Thus, our near-term arms control objective is to restore the situation envisioned in the 1970s: sharply reduced offensive forces and full compliance with the ABM Treaty.

The results of the SDI research program will provide the information and data base necessary for a future administration and Congress to make an informed decision, sometime in the next decade, about whether to begin to shift toward an offense-defense mix placing greater reliance on defense than at present.

What SDI Is Not

Let me now address a few words as to what SDI is not.

First, SDI is not a deployment program; it is a research program only. We have made no decisions to go beyond what is permitted under the ABM Treaty.

I might note that the Soviet position on research has been inconsistent. The Soviets used to insist that limits on research were neither verifiable nor desirable. In his last two meetings in January and May with Secretary Shultz, then-Foreign Minister Gromyko did not challenge our view that research limits could not be verified. And the scope and scale of Soviet research into advanced defensive technologies, an effort comparable to SDI, indicates that the Soviets see potential benefits in these new technologies.

Nevertheless, since the beginning of the Geneva negotiations in March, the Soviets have called for a ban on research directed toward creating what they call "space-strike" arms. Mr Gorbachev in his *Time* magazine interview said that fundamental research could go on, but he continued to call for a ban on U.S. SDI development, including research focused on SDI.

The Soviets have justified their position on research by admitting that they are carrying out work within the frame-

work of the ABM Treaty but asserting that they are not engaged in work on "space-strike" arms. They have claimed that our research, on the contrary, is directed toward systems that would counter their forces and must, therefore, be regarded as "offensive." Our research should, therefore, be prohibited while theirs should be allowed. Such an interpretation would lead to a one-sided outcome that would leave them with a near monopoly in research in new defensive technologies.

In addition, SDI is not, as the Soviets regularly assert, an attempt to obtain superiority, and the President has made this clear. Our purpose with SDI and other defense programs, such as our strategic modernization and INF [intermediate-range nuclear forces] deployments, is to maintain balance and assure U.S. and allied security in the face of the undesirable and dangerous trends in the strategic equation that I described earlier.

We have stated publicly, as well as to the Soviets, that we wish to discuss with them now and, should SDI indicate that new defensive systems are feasible, negotiate with them pursuant to the terms of the ABM Treaty as to how new defensive systems might be phased into the force structures of both sides. What we have in mind is a jointly managed transition, one in which the United States and the Soviet Union would together phase in new defenses in a controlled manner while continuing to reduce offensive nuclear arms.

In this regard, let me emphasize the importance we place on strategically significant reductions in the number and effectiveness of offensive nuclear weapons. The present levels of effectiveness of offensive weaponry, particularly on the Soviet side, are entirely too high, to the point that the survivability of each side's land-based retaliatory forces will become increasingly threatened. Significant reductions in destabilizing systems can be crucially important to enhancing stability. They should be carried out now, regardless of whether or not SDI proves successful.

If new defensive technologies are shown to be infeasible, strategically significant offensive reductions would, nonetheless, reduce destabilizing elements in the current strategic equation. And if SDI proves successful, such reductions in offensive forces would help enhance stability during a transition, by decreasing concerns that growth of defenses could support, rather than discourage, a first-strike strategy. Furthermore, the reductions would simplify the task of defenses, thereby offering both sides increased security at lower costs.

Finally, let me emphasize that SDI is not designed to produce a regime that would replace deterrence but rather to shift its means. Deterrence requires that a potential opponent be convinced that the problems, risks, and costs of aggression far outweigh the gains he might hope to achieve. A popular view of deterrence is that it is almost solely a matter of facing an aggressor with high potential costs in the form of the threat of devastating nuclear retaliation. Today, there is no available alternative to this means of deterrence, and thus it is the necessary and moral course for us to take.

But deterrence can also function effectively if one has the ability to deny the attacker the gains he might otherwise hope to realize. It is our hope and belief that a deterrent balance based on a greater contribution by defense would provide a sounder basis for a stable and reliable strategic relationship.

Conclusion

I am not suggesting that SDI will have no potential impact on Western strategy. A more defense-reliant deterrent posture could, indeed, have implications for our future defense policies. But that does not mean we should shy away from considering such a posture.

What we should do—with clear, objective, and open minds—is consider the implications of greater reliance on defenses. Those implications will weigh heavily in any decision we might take to proceed to deploy new defensive systems.

President Reagan has stressed that the SDI research program is designed to enhance allied as well as U.S. security. Because we are examining systems that could defend both European and U.S. territory, Europe would receive the direct benefits which result from increased uncertainty for potential aggressors. Moreover, since our allies benefit from the extended deterrence of the United States, a program that enhances U.S. security and U.S. confidence in the viability of its strategic deterrent will increase the effectiveness of the U.S. commitment to Europe as well.

The President has emphasized our commitment to close consultations with our allies as we proceed through each step of the program. This is the manner in which the Western coalition of democracies works best. I am confident that, with such discussion, we will make the right choices. ■

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Exhibit XII

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Some Little-Publicized Difficulties with a Nuclear Freeze

October 1983

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I. INTRODUCTION

Various persons in the United States and elsewhere have proposed a seemingly simple beginning to further arms control--a "mutual, verifiable U.S.-Soviet nuclear-arms freeze." The present movement for a nuclear freeze received early promotion with the brief tract Call to Halt the Nuclear Arms Race by Randall Forsberg, first published April 1980 by the Institute for Defense and Disarmament Studies. This was expanded in the November 1982 issue of Scientific American in an article by Forsberg, "A Bilateral Nuclear-Weapon Freeze." Further writings have included a report entitled "Model Freeze," which appeared as the September 1982 issue of F.A.S. Public Interest Report, a journal of the Federation of American Scientists. A more recent discussion is presented in Seeds of Promise (published by Brick House Publishing Company), which is mainly a transcript of hearings in September 1982 organized by the Federation of American Scientists.

To persons who are not well-informed on many aspects of nuclear weapons, the proposed freeze appears to offer a simple, safe start toward desirable future reductions in nuclear arms. Actually, it does not. There are a great number of difficulties and hazards that would accompany the freeze as proposed--difficulties in negotiability, verification, and in the resulting strategic balance. This paper will put aside most of these serious, probably fatal, difficulties with the proposed freeze and discuss only one limited but potentially crucial aspect--the maintenance of a reliable nuclear weapon stockpile.

II. THREE PARTICULAR BANS PROPOSED FOR A FREEZE

Three particular, interrelated bans relative to nuclear warheads have been put forward as parts of a freeze. The bans are three of the several freeze components presented in Call to Halt the Nuclear Arms Race and are stated or implied components of most other freeze proposals. These three propositions are individually impractical, and in combination, they present significant dangers. These proposed parts of a nuclear freeze would ban:

(1) any production of weapon-grade nuclear material for weapon purposes;

(2) any manufacture of nuclear weapons, and

(3) any tests of nuclear explosives.

To most non-specialists these prohibitions would appear reasonable and desirable. They seem to be plausible means to prevent the addition of further weapons to the U.S. and Soviet inventories. But, there are important objections that relate to a vital precaution for the U.S. in arms control: the U.S. should avoid any important loss of its ability to deter nuclear attack or major war. These three particular proposed bans could actually promote unilateral disarmament by the U.S. and potentially dissipate U.S. deterrence of the Soviet Union.

The basic problem with the three proposed bans is that they severely undercut the capability of the U.S. to maintain a reliable nuclear weapon stockpile. Judging from past experience, we can expect that, with time, significant uncertainties will arise about the operability of many nuclear weapons in stockpile. Worse than that, there could arise the definite certainty that some particular weapons

would not operate, perhaps all weapons of a particular type. If the U.S. cannot maintain a reliable nuclear stockpile, it is unlikely that the U.S. can maintain a dependable strategic deterrent.

The problem is simple: nuclear weapons are very complex devices that are perishable; they deteriorate and become inoperable. U.S. experience has been that often nuclear weapons must be rebuilt to be maintained in operable condition. This rebuilding of nuclear weapons requires the same sort of facilities as are used in their initial manufacture. The maintenance and operation of such facilities would be banned under the proposed freeze on production of nuclear weapons.

To correct some problems found in stockpile, there may be need to add further nuclear material to a weapon type. The production of this weapon-grade nuclear material would not be permitted under the proposed freeze on the production of nuclear material for nuclear weapon purposes.

Adequate assessment of deterioration that is observed in stockpile and assessment of possible corrective measures can at times require nuclear tests. Weapon experts have stated that the U.S. cannot maintain a reliable nuclear weapon stockpile without the opportunity to test, an opportunity that would be foreclosed under the freeze on testing of nuclear weapons.

All of these requirements for maintenance of a reliable stockpile would be denied the U.S. under the proposed freeze: there would be no production of weapon-grade nuclear material for weapon purposes, no facilities for fabrication of nuclear weapons (and so no facilities for re-fabrication of nuclear weapons), and no testing of nuclear explosives. The sections below consider these prohibitions in more detail and point out their incompatibility with maintaining a reliable deterrent. In this, the discussion draws on some important past examples of problems with the U.S. nuclear stockpile.

III. THE PERISHABILITY OF NUCLEAR WEAPONS

1. GENERAL

Like other, very much simpler equipment such as automobiles and home appliances, nuclear weapons deteriorate with time. For nuclear weapons, it is not necessarily a matter of "wearing out": they are required to operate only once. There is essentially no wear except for that associated with their transport and handling. However, like some home appliances that have been stored unused in a family's basement, when they are closely inspected they may be found to have deteriorated into an unusable condition.

This susceptibility to deterioration tends to be much higher for nuclear weapons than for other equipment. Various features of their design must be guided mainly by the desired weapon performance and by safety considerations rather than by demands for resistance to deterioration. Many of the weapon materials have a low resistance to deterioration. Certain chemically reactive materials are inherently required in nuclear weapons, such as uranium or plutonium, high explosives, and plastics. The fissile materials, both plutonium and uranium, are subject to corrosion. Plastic-bonded high explosives and other plastics tend to decompose over extended periods of time.

Deterioration can take various forms: portions of materials can dissociate into simpler substances. Vapors given off by one material can migrate to another region of the weapon and react chemically there. One potential source of effluent is the thermonuclear fuel lithium deuteride, which can react with water vapor and release hydrogen gas. Materials in the warhead electrical system such as insulators, batteries, capacitors, squibs, and lubricants can produce effluents that can migrate to regions in the nuclear explosive portion of a weapon.

Over an extended period of time, plastic components in the explosive portion of a weapon can be the source of effluents. These components include plastic-bonded explosives and plastic pads and cushions. The plastics may decompose, or they may give off gases with which they were impregnated during production processes.

As one form of deterioration, corrosion can create fissures and perforations that would have undesirable effects on weapon operation. Mechanical components can have unacceptable friction introduced by corrosion or by other chemical effects. Corrosion products can flake off the surface of some components, and vibration and other movements of the weapon can distribute these flakes ("dust") to locations where they could spoil the weapon's operation.

The characteristics of high explosives can change with time. Materials can creep and become distorted. Vital electrical components can change in character; electrical circuits can open or become shorted. Some changes can be such that they will obviously cause a weapon to dud; other changes can be more subtle, and their effects on weapon performance can be difficult to predict.

The weapon developers have seen and studied many past examples of deterioration and have applied what they have learned to the detailed design of new weapons. However, while the materials scientists and weapon engineers have given great attention to improving the resistance of weapons to deterioration, there is no means to prevent it absolutely. In any event, many examples of earlier technology will remain in the stockpile.

Despite efforts to lengthen the service life of weapons, there is general agreement that an effective life of more than 20 years or so is doubtful and that some weapons may

show unexpected early deterioration, as has happened in the past. As matters stand, many of the weapons in stockpile are approaching an age where their continued ability to function will become increasingly questionable.

2. RESPONSES TO DETERIORATION

Past U.S. practice has been to monitor the nuclear stockpile closely in order to detect any deterioration at an early stage. This monitoring involves a regular sample inspection of samples of each weapon type in stockpile. This requires the disassembly of a weapon and the inspection of its internal components. The disassembly is not simple; it is not a matter of undoing some bolts and screws to separate the various parts. U.S. nuclear warheads in large part are brazed, welded, and cemented together. To disassemble a modern weapon is to destroy it; many portions have to be machined apart. Few of the components could be reassembled and used again in a rebuilt weapon. Generally only the nuclear material is worth recovering, and the fissile material usually must be melted down if it is to be refabricated into a weapon.

The weapon-sampling operations in the U.S. have involved considerable use of the weapon production facilities. The initial major disassembly is done at the complex of facilities that are used for final assembly during weapon production. Component parts are then usually disassembled elsewhere, likely at the facilities where they were originally assembled. In this way, the handling fixtures, gauges, and other equipment used in the production of the weapons are potentially available for use in the disassembly and inspection operations.

While there is no absolute requirement that the same facilities be used for weapon disassembly and inspection that are used for weapon production, there are distinct benefits and conveniences from this dual use. There would probably be no achievable arms-control benefit from requiring that the facilities be different. Adequate stockpile sampling requires substantial facilities for the disassembly and inspection operations. If such facilities are permitted, they could potentially be used clandestinely for production of new weapons. Certainly, such facilities could not be well monitored: it is unimaginable that stockpile-sampling operations would be opened to inspection by foreign personnel.

3. TESTING

Leaving aside the development of new warheads, the U.S. needs a nuclear test program in order to monitor and maintain the U.S. nuclear stockpile effectively. Such tests, which would be banned under the proposed freeze, would at times be required to determine the effects of the deterioration that is observed and to evaluate possible corrections of the weapon design. Weapon scientists may propose design changes in order to ameliorate the effects of the deterioration without a complete rebuilding. If a major rebuilding is necessary, the weapon scientists may need to alter the design in order to avoid an early repetition of the deterioration. Any design changes present some degree of uncertainty, which may need to be resolved by nuclear test.

If U.S. weapon scientists observe serious deterioration when there is a prohibition of nuclear testing, the possibilities for effective response would be much more

limited and more uncertain than they would be with nuclear tests. Unless there were strong reason to do otherwise, the weapon managers would need to accept the worst credible estimate of the consequences of the observed defects and to respond accordingly. For deterioration that potentially would reduce the yield significantly, the DoE would need either to substitute a different model warhead or to rebuild the existing model. Either choice demands new weapon production, which is inconsistent with the proposed freeze.

The substitution of a different warhead would probably involve a great time delay. To use another warhead model requires adapting that model to the particular carrier vehicle. Such adaptation usually necessitates a considerable development program--for example, one that requires developmental flight tests, which are not permitted under the proposed freeze. The adaptation of a different warhead would almost assuredly demand changes to that warhead,* which could introduce considerable uncertainty if there are no nuclear tests.

If serious deterioration is observed among a particular type of warhead in stockpile, the most likely response during a ban on nuclear testing would be to retrofit the stockpile by producing a new version of the same warhead. However, the weapon managers would probably elect to make some changes to avoid early reappearance of the same deterioration. No doubt they would make as minor changes

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* If weapon engineers are to package a nuclear warhead into a new environment, such as a different carrier vehicle, they usually need to make changes to mounting structures, which can affect weapon operation. They also usually need to alter the warhead interior if it has to withstand any increase in the harshness of the warhead environment, such as higher g-loads (accelerations), higher or lower temperatures, or more-intense vibrations.

as possible, since any change will introduce some uncertainty. Weapon-design experts would be called on to evaluate the proposed changes to determine their effect on warhead performance. Presumably, the changes would be limited to ones that the experts certify to have almost zero effect, but such certification is unlikely to be possible without some accompanying uncertainty.

4. SOME DIFFICULTIES IN REBUILDING WEAPONS

Even if the responsible weapon organizations decide to produce duplicate warheads without any changes, they are likely to find that impossible. Various difficulties are likely to arise in attempting to produce new examples of an old weapon design. One probable difficulty is that complete-enough documentation of the earlier production will not be available. For example, some materials may not be characterized adequately. Material properties can depend on minor impurities and on details of the past processing of the material. For many materials, there may not be sufficient documentation of the processing that their properties can be closely reproduced.

It might be said that one need not describe the material itself completely; that, instead, one need describe only its required performance. However, it is probably not feasible to do that in useful terms. The performance required is, of course, that which would lead to proper overall nuclear operation of the weapon, which can be confirmed only by nuclear test. Measurements in the laboratory of partial, non-nuclear phases of a weapon's operation cannot go far in confirming correct overall performance.

Another possible difficulty in reproducing weapons comes from the fact that proprietary commercial products may be used in their production. The original production may have

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used one particular batch or formulation of a commercial product, and that formulation may no longer be available after many years. For various reasons, the specifications of commercial products change with time.

Still another possible difficulty is that certain materials may no longer be available because their handling or production is impractical under new OSHA rules. Some materials in weapons are potentially carcinogenic, others are toxic. Some have become subject to tighter and tighter controls, with their continued practical availability becoming questionable.

In addition to problems in reproducing materials, there are other problems in replicating components. Some components represent subtle fabrication technologies that were put aside years ago. To reproduce them now could require the reinvention of an old, outmoded technology. There would be great impetus to go to new, "superior" components, instead of attempting to reproduce old, outdated components.

5. UNCERTAINTIES WITHOUT NUCLEAR TESTS

All of these difficulties in replication mean that there are likely to be a variety of subtle, poorly known differences and perhaps some clear, intentional differences between old and new versions of a given weapon type. If a nuclear test of the new version is not possible, there can be serious uncertainty about its performance, including in some instances the possibility of its giving no appreciable yield.

Some proponents of a freeze would argue that such uncertainty would be acceptable, if not actually desirable. They presume that the Soviets would be subject to similar uncertainties about Soviet weapons. Freeze advocates argue

that, with uncertainties in the performance of its weapons, each nation would be less likely to launch a first strike. In addition, some argue that if the U.S. were uncertain that U.S. weapons would operate successfully then assuredly the Soviets would also be uncertain about U.S. weapons. Not knowing definitely that U.S. weapons would not operate adequately, the Soviets would still be deterred.

These arguments, as presented, ignore various possible dangerous situations that could arise in place of the assumed safe symmetry. It may be that uncertainties would develop much earlier and more extensively with the U.S. weapons than with the Soviet weapons. In some circumstances, there may come to be clear evidence that certain U.S. weapons will not operate correctly, evidence that with time would become known to the Soviets.

While this paper will not consider the difficulties of verifying Soviet adherence to a freeze, it can be noted that the Soviets would be able to cheat in many ways, including the clandestine testing of their nuclear weapons. For example, past U.S. studies indicate that it would be feasible for the Soviets to test in space, up to very high yields, without detection, and it is conceivable that the Soviet Union has already confirmed that feasibility by conducting such tests. Nuclear tests by the Soviets and other possible asymmetries in observance of a freeze could allow the Soviets to retain full confidence in their stockpile while the reliability of the U.S. stockpile degenerated.

IV. SOME PAST EXAMPLES OF STOCKPILE PROBLEMS

1. INTRODUCTION

The sections above note, in general terms, difficulties that can occur with nuclear weapons in the U.S. stockpile. Here, we review some specific past instances of stockpile problems. Our choice of illustrative examples has been limited by security considerations, and in the discussion below, we have had to avoid various items of classified information. Nevertheless, the information that can be presented can provide some lessons. For the first examples, we consider the nuclear warheads of the Fleet Ballistic Missile System (FBM), which have had a series of problems in the past.

Freeze advocates often stress the importance of the U.S. ballistic missile submarines, which are presented as being, at present, an assuredly invulnerable and reliable force--a force that would help make a nuclear freeze advantageous and safe for the U.S. In actuality, at times in the past the warheads for a large part of the U.S. FBM force have been found to be badly deteriorated. At different times, a large fraction of the warheads either obviously or potentially would not work; they were obvious or potential duds. Under the restrictions of a nuclear freeze, as proposed, these situations would have become desperate, because there would have been no means to rehabilitate the FBM force.

2. PROBLEMS WITH THE FIRST POLARIS WARHEAD

Some early difficulties occurred with the first Polaris warhead, the W47, now retired. In scheduled surveillance of W47 warheads in stockpile in December 1961, weapon engineers observed that significant corrosion had occurred in the fissile material of the weapon. This observation and

subsequent inspection of additional W47 warheads indicated a possible problem with the yields of the stockpile weapons. There was the possibility that some weapons would give only a trivial fraction of their rated yield.

To obtain a dependable estimate of the resulting stockpile capability, the Atomic Energy Commission (AEC) conducted an underground nuclear test in Nevada. The test device was a modified W47 with man-made alterations of the fissile material to represent an extreme example of the corrosion that had been observed. The weapon scientists measured the yield to be somewhat low but still in an acceptable range. This satisfactory test result restored confidence in the W47 stockpile and permitted a limited, non-urgent retrofit program.

In the retrofitting, weapon engineers inspected each warhead by means of radiographs at a convenient time in the Polaris operations schedule. As a result, the AEC replaced 20 percent of the W47 warheads in stockpile with new production and made a slight design change in all the W47 warheads to prevent further similar corrosion.

In this instance of deterioration, the capability to conduct a nuclear test allowed the weapon scientists to respond in a moderate manner. Without a test, it could have been argued that all the weapons would be duds, and seemingly there would have been a need for an urgent rebuilding of all the W47s. A test allowed a less urgent, far more limited response.

A later, more difficult, problem with the Polaris W47 warhead grew out of certain earlier restrictions on nuclear testing. The weapon was put into stockpile during the nuclear-test moratorium of 1958-1961, without having had enough tests to fully resolve certain design problems. The

particular troubles that we recount here eventually had to be cured by further nuclear tests.

Nuclear tests conducted shortly before the 1958-1961 moratorium were insufficient to provide an inherently one-point-safe* warhead in the Polaris Mk 1 reentry body. The situation arose because of a surprise result in a nuclear one-point-safety test of the W47 just before the moratorium. Instead of giving negligible yield, the test gave about one hundred tons yield. To counter this safety problem, the Livermore warhead developers provided a mechanical one-point-safety arrangement. Production of the W47Y1 warhead with this mechanical safing system began in May 1960.

During surveillance sampling of the W47 stockpile in 1963 (after the end of the moratorium), weapon engineers discovered in some sample weapons that the mechanical system did not fully complete its arming operation; this lack of complete arming would result in a dud weapon. The engineers attributed this failure to a growth in friction caused by some chemical reactions on the surfaces of components, to some crimping of one component during production, and to marginal power in the driving motor. The engineers were able to resolve this early problem with the safing mechanism by radiographing the W47 stockpile for evidence of crimping and by installing a more powerful motor. This was an

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* A nuclear weapon that is "one-point-safe" has a negligible probability of giving any appreciable nuclear yield if detonation is initiated at any one point in its high explosive system. (A one-point detonation is to be contrasted with correct, intentional detonation initiated by means of the firing set.)

example of a stockpile problem where the cure did not require nuclear test. However, as matters turned out, the cure was not effective against certain later instances of deterioration.

Beginning in February 1963, a new version of the W47 began to enter stockpile, supplementing the old version, which remained in stockpile. The new version, the W47Y2 Mod 2, had the same mechanical safing system, but the warhead yield was higher, and the character of some of the fissile material was changed. In August 1965, in the first stockpile-surveillance (non-nuclear) test of the arming operation in the new-version warhead, the mechanical safing system operated only halfway, which would have dudded the weapon. This failure appeared exceptional, because in further tests both the old and new versions operated successfully. Nevertheless, concern remained when, even after a year of investigation, there was no agreed-upon explanation of the observed failure. This concern proved justified when further tests of the mechanical safing system in late 1966 resulted in additional failures with the new-version warhead.

From the time of the first failure in 1965 until early 1967, the weapon scientists concentrated great attention on assessing the Polaris warhead problem and finding a reasonable explanation and cure. They were unable to find a clear, full explanation. (There is still no completely satisfactory explanation.) Friction appeared to increase in the safing system as it aged, with more-rapid increase in the new-version warhead but with evidence that the old version would eventually also show failures.

At the time of this stockpile problem, three quarters of the W47 warheads were the new version. The observed failure rate was about three-out-of-four for the new version and, at that time, zero for the old version. Based on these observations, the overall failure rate for W47 warheads would have been about 50 percent. This rate would no doubt have become worse with time, possibly approaching 100 percent, with failures in the safing systems of even the old-version warheads.

Proposed engineering fixes were questionable. For example, there appeared to be no compatible lubricant that could be added to improve operation. Tests of proposed "improvements" also showed failures. Because of the on-going engineering difficulties, the weapon scientists sought a solution by means of nuclear tests. They first tested the new version for inherent one-point safety, without the mechanical safing system. A yield of about one hundred tons showed that, indeed, even the new version of the W47 was not inherently one-point safe.

Earlier, a nuclear test of a different, but similar, warhead had shown that warhead to be inherently one-point safe. The Livermore designers proposed to modify the W47 to give it certain features of the other type warhead. This they were able to do when new nuclear tests showed that the redesigned W47 without mechanical safing would be both one-point safe and capable of proper full-yield operation. The AEC proceeded to rebuild the entire W47 stockpile, converting all warheads to the revised version, W47Y2 Mod 3, by late 1967.

If the above problems with corrosion and with operation of the mechanical safing system had been discovered under the conditions of the proposed freeze, they could not have been solved while the freeze continued. The weapon scientists

would not have been able to conduct a nuclear test to assess the effects of the observed corrosion in the fissile material; they would not have been able to conduct a nuclear test to evaluate their proposed solution to the problems with the mechanical safing system; and they would not have been permitted to rebuild the warheads.

It is to be noted that the freeze would have presented a still further impediment to the solution: without production of reserve nuclear material, the W47 could not have been converted to the Mod 3 design. That design version required the addition of more weapon-grade plutonium, the production of which would be banned under the freeze.

3. PROBLEMS WITH THE SECOND POLARIS WARHEAD

The precarious circumstances described for the Polaris W47 have not been the only difficulties with warheads for the Fleet Ballistic Missile System, and further difficulties have not been confined to the distant past. For example, during the 1970s, there were problems with corrosion in the W58 warhead for the later Polaris Mk2 reentry body. The AEC (later ERDA) and the Navy were able to counter these problems by certain minor changes to the warheads at Navy maintenance facilities, without any further nuclear tests being required or any major rebuilding.

4. PROBLEMS WITH THE FIRST POSEIDON WARHEAD

More recently, there were problems with the warhead for the Poseidon missile that were solved by a major rebuilding of the entire Poseidon stockpile, thousands of warheads. The warheads in trouble were the W68 warheads developed by the Lawrence Livermore National Laboratory (LLNL) for the Mk3 reentry bodies carried by the Poseidon C-3 missile.

The AEC began production of the W68 in 1970 and ended its original production in 1975. As we noted earlier, weapon scientists closely monitor the health of weapons entering and residing in stockpile. Over a seven-year period, as part of the stockpile-reliability program, Livermore scientists dismantled and evaluated portions of about one hundred W68 warheads. The weapon scientists found that the mechanical properties of the high explosive in the warhead degraded with time and that the high explosive began to give off a distinct odor, indicating some chemical change. Effluents from the high explosive interacted with other materials: the mechanical properties of a plastic component near the high explosive changed, and a uranium-alloy component close to the high explosive developed corrosion spots. These changes alone would not have caused the warhead to fail, but there was another associated change that did become a concern: effluents from the high explosive interacted with the adiprene adhesive in the detonators, causing it to soften. The Livermore scientists feared that products from this reaction could interact with the detonator bridgewire and eventually cause the detonator to fail.

In the time period 1977-1979, Livermore, in conjunction with ERDA (later DoE) and the Navy, evaluated the W68 situation more fully and considered possible remedies. Early in the development program for the W68 there had been two candidate high explosives for the weapon; these were LX-09, which was adopted, and LX-10. LLNL had fired two successful W68 development tests with LX-10, and the high explosive had performed adequately. Even after eliminating LX-10 from the W68 program, the Livermore scientists had continued to develop and evaluate it. By the late 1970s, the scientists were confident that LX-10 was free of the problems that were then appearing with the LX-09.

In 1979, on LLNL's recommendation, the DoE and DOD agreed to a complete time-phased retrofit of the W68 stockpile. The DoE weapons-production complex rebuilt all the W68 weapons, a few thousand, replacing the LX-09 with LX-10.

On the basis of the earlier nuclear tests, LLNL was confident of the reliability of the modified warheads, and the Laboratory did not require a new nuclear test. However, as a "final development test," LLNL did test the W68 again after the retrofit. In the test, LLNL used a weapon that was in many ways at the edge of acceptable tolerances and that had one limited-life component with an age that was over that of any to be used in stockpile. This extreme test device performed successfully, confirming the Laboratory's confidence.

The above examples of stockpile problems involved some of the most important strategic military systems of the U.S. The Polaris system and its successors, the Poseidon system and the Trident system, have constituted what arms-control experts consider the most crucial unit of the U.S. strategic triad. This sea-based component, which complements the land-based-ICBM and strategic-aircraft components of the triad, has been considered the least vulnerable unit of the three, hence the most survivable strategic force. However, as the above examples indicate, this force is susceptible to possible disablement under the proposed conditions of a freeze.

5. PROBLEMS WITH A MINUTEMAN WARHEAD

Difficulties do not arise only with the strategic warheads that are carried in the sea-based portion of the U.S. strategic triad. Problems have also occurred with the

warheads for the land-based ICBMs. For example, in late 1963 the AEC had to rebuild all the W56 warheads of the Minuteman ICBM force.

The W56 warhead, like the Polaris W47 warhead, developed problems in stockpile with a mechanical component associated with arming operations. The weapon engineers discovered the W56 problems sooner and were able to resolve them more easily and quickly than was possible with the mechanical problems of Polaris.

LLNL developed the W56 warhead for the Minuteman Mk11 reentry vehicle in large part during the 1958-1961 test moratorium, when the Laboratory could not test the nuclear device. For certain reasons related to the inability to test, LLNL provided a mechanical arming arrangement as part of the basic nuclear structure.

In 1962, shortly after the end of the moratorium, LLNL successfully conducted nuclear tests of the W56 developmental design with its mechanical arming component, and the first production unit entered stockpile in March 1963. As part of a regular stockpile monitoring program, weapon engineers subjected certain W56 components to non-nuclear tests and found problems in stockpile with the mechanical arming component. In several tests, the arming mechanism did not fully complete its operation, presenting the possibility of duds. This was after the AEC had produced over one hundred warheads.

In a reasonably short time the weapons engineers were able to arrive at an acceptable redesign, one that had so little change that it did not require evaluation in a nuclear test. By the time the weapon engineers completed the redesign and the AEC could begin the retrofitting, over 160 weapons needed to be returned from stockpile to be

rebuilt. That redesign has stood the test of time: further stockpile sampling has not shown any problems with the W56 arming mechanism.

6. PROBLEMS WITH THE W45 TACTICAL NUCLEAR WEAPON

Past instances of deterioration and other problems in the stockpile have not been limited to the warheads for strategic nuclear systems. Probably all types of nuclear warheads, including those for tactical weapon systems, have exhibited some degree of deterioration, leading in some instances to serious difficulties. Examples of problems with tactical nuclear weapons can be found in the history of the W45, which was the warhead for Little John, once a tactical missile of the U.S. Army. The W45 is still the warhead for both Terrier, a U.S. Navy surface-to-air missile, and the Army's and Marine Corps' atomic demolition munition (ADM).

In separate periods during the career of the W45, weapon engineers have discovered significant deterioration in the W45 stockpile. In surveillance of that stockpile during the early 1960s, weapon engineers found serious corrosion of the fissile material in W45 warheads. The corrosion was altering the geometry of the weapon enough to raise considerable question about the continued operability of the weapons. The AEC instituted a substantial review program in which weapon engineers inspected each W45 in stockpile and, using a criterion based on a related nuclear test, eliminated many of the corroded warheads from stockpile. For the units remaining in stockpile and for new production units, weapon scientists made certain design adjustments that have proved to provide adequate long-term protection against further similar corrosion in the W45.

In about the same time period, the engineers found dimensional changes in W45 weapons due to creep in the high explosive. To counter this problem, the AEC conducted a retrofit program in which LLNL engineers and scientists modified the warhead design, and the production plants rebuilt every W45 in stockpile.

Because the W45 was incorporated into three different weapon systems, and because individual systems needed more than one yield option, there were various yield versions of the W45. Early in the career of the W45, LLNL tested it under circumstances that were similar to those of an earlier test but with certain small changes that occur with aging in stockpile. The result was a rude surprise: the test device gave only about half its rated yield.

Because of this unexpected result and because of the design changes in the W45 retrofit programs mentioned earlier, LLNL tested the W45 in a series of five underground nuclear events in the mid 1960s. It was only on the basis of actual tests that the AEC and the military services could have confidence in the performances of the various yield versions at different stockpile ages.

7. PROBLEM WITH THE SERGEANT W52 HIGH EXPLOSIVE

The W52 was a thermonuclear warhead for the Army's now-retired Sergeant surface-to-surface tactical ballistic missile. The warhead design was being readied for production when two fatal accidents occurred in 1959 at what is now the Los Alamos National Laboratory (LANL), killing a total of four people. Both accidents involved large pieces of high explosive of the type to be in the W52. The two explosions revealed an unexpected susceptibility to accidental detonation of large pieces of that particular high explosive.

The pieces of high explosive to go into the W52 were also large, like the pieces in the accidents. For reasons of safety, especially during production, Los Alamos decided to change the HE system in the W52 to a less-sensitive high explosive, which was also somewhat less energetic. The Laboratory staff made this decision during the nuclear-test moratorium, 1958-1961, when they could not test the new design in a nuclear event. The weapon scientists based the redesign on non-nuclear hydrodynamic (high explosive) tests in the laboratory and on the results of calculations with computer programs. They had high confidence in the revised warhead, despite the lack of a new nuclear proof test.

After U.S. nuclear testing resumed in late 1961, Los Alamos gave higher priority to other test objectives than to a test of W52. This in part was because of the high confidence that the Laboratory had in the W52 redesign, which began to enter stockpile in April 1962. After more than a year of tests of other nuclear devices, LANL in early 1963 tested a partial-yield version of the W52. Proper performance of the partial-yield device would indicate, but not prove, proper performance of the full-yield weapon. On the other hand, poor performance of the test device would show that the full-yield design would not perform adequately. The result was calamitous: the test device gave only a small fraction of its expected yield. From the results of the nuclear test it was apparent that instead of the Sergeant missile system having its rated yield, its nuclear explosive energy would be only about one percent of that value, and the system would be militarily useless.

To restore the Sergeant system to its previously rated yield, Los Alamos scientists made a rapid redesign and added substantially to the content of special nuclear material. Within three months after the surprise test failure, Los

Alamos scientists tested the revised design, again in a partial-yield version. This time the nuclear test result was satisfactory, and the AEC replaced the W52 stockpile with the new design.

The problems with the Sergeant nuclear warhead were a severe example of potential difficulties with the stockpile if nuclear tests are not permitted. Before the corrective actions that resulted from the nuclear-test failure, every Sergeant nuclear missile was without any effective capability. Without the nuclear test, this ineffective version of the Sergeant force would have grown in number and remained deployed for years. The difficulties with the W52 warhead provide a dramatic illustration of the limitations of non-nuclear experiments and computer programs in the evaluation of even moderate changes in nuclear warhead designs.

V. CONCLUSIONS

1. INTRODUCTION

The past examples noted above of serious problems with nuclear weapons in the U.S. stockpile point up some of the basic deficiencies of the proposed nuclear freeze. Each of the three particular proposed prohibitions discussed here presents immediate difficulties and potential serious risks. These difficulties cannot be regarded lightly, nor can they be considered desirable on the basis that they will occur for both the U.S. and the Soviet Union. Acceptance of the prohibitions leaves too much to happenstance and to unknown characteristics of the weapons of both nations. The extent of possible asymmetries between the U.S. nuclear weapon program and that of the Soviet Union is not definitely known to U.S. intelligence organizations. For example, the U.S. nuclear weapon systems may be far more susceptible to difficulties than are Soviet systems.

The occurrence of stockpile problems is to a large extent a matter of unknown probabilities; specific examples cannot be foreseen. For the U.S. to agree to do away with the means to respond to stockpile problems is to take the risk that the U.S. by chance will become far more weakened by the proposed prohibitions than will the Soviets. Beyond possible asymmetries that may result by happenstance or from basic differences in U.S. and Soviet weapons, there are definite possibilities of asymmetry by cheating. If in secrecy the Soviets violate the agreed prohibitions, they might maintain their weapons in known reliable working order while the U.S. weapons deteriorated, possibly in dramatic

ways that become known to Soviet intelligence as well as to the U.S. military. The following sections briefly review the three particular proposed prohibitions addressed by this paper and again note the consequent difficulties.

2. FREEZE ON PRODUCTION OF NUCLEAR WEAPON MATERIALS

A prohibition against production of nuclear material for weapons would present severe problems for the U.S. For one, the U.S. needs to be able to operate production reactors to produce the tritium required to keep its weapons operable. Some freeze proponents have made note of this problem. Call to Halt the Nuclear Arms Race calls for a halt only to the "production of fissionable material (enriched uranium and plutonium) for weapon purposes." Randall Forsberg in her 1982 Scientific American article notes the need to replace tritium components in weapons and states, "This implies that the freeze should allow the operation of tritium-component assembly facilities and the running of perhaps one military nuclear reactor to produce tritium."

The U.S. also needs to maintain a reserve of weapon-grade plutonium. At the very least, this is necessary to permit the rebuilding of nuclear weapons that may require an increase in plutonium-content to correct some problem. The U.S. must operate uranium-isotope separation plants to produce weapon-grade uranium, which is required to fuel the ship-propulsion reactors of the U.S. Navy, including those of the Poseidon and Trident submarines. In addition, if development of breeder reactors is to continue in the U.S. and in the Soviet Union, both nations will need to be able to reprocess reactor spent fuel to separate plutonium. This plutonium, which would be used to manufacture fuel elements for use in breeder reactors, would not be weapon grade, but it would still be usable as the nuclear material in certain types of nuclear weapons.

Some freeze advocates have noted that it can be difficult to monitor any agreed level of production òther than a zero level. However, zero levels of production of nuclear materials are out of the question, because of the requirements noted above. One cannot imagine the Soviet Union or other nations agreeing not to refuel nuclear submarines or not to reprocess reactor fuel and, hence, not to operate breeder reactors.

3. FREEZE ON PRODUCTION OF NUCLEAR WEAPONS

A prohibition against the fabrication of nuclear weapons would place unacceptable constraints on the U.S. There would then be no way to respond effectively to deterioration when it is observed in the nuclear stockpile. Again, some freeze advocates have argued that it is important that no nuclear weapon production be permitted. They note that a low level of production would be more difficult to monitor than zero production. Under the proposed freeze there would be no weapon-fabrication facility in operation and, in some proposals, even no weapon-fabrication facility capable of operation.

Such a prohibition of production goes directly against the needs of the U.S. to keep its nuclear weapon stockpile in operable condition and, hence, to maintain deterrence. Even for effective stockpile monitoring the U.S. needs fabrication-type facilities, since stockpile sampling requires carefully controlled machining to disassemble weapons and requires elaborate inspection and gauging equipment.

The U.S. needs to operate weapon-fabrication facilities to rebuild weapon systems that have deteriorated. To keep from revealing serious military deficiencies, the U.S. needs

to keep any serious deterioration secret, at least until it is corrected. For this reason and other reasons, the specific rebuilding itself needs to be kept secret, and the facilities, while in operation, cannot be subject to Soviet or other foreign inspection.

4. FREEZE ON TESTING OF NUCLEAR WEAPONS

A prohibition of tests of nuclear explosives also would seriously inhibit the U.S. in maintaining a reliable stockpile of nuclear weapons. In addition to other reasons for nuclear tests, the U.S. needs the option of nuclear tests to assess the effects of weapon deterioration that may be found. Tests can be needed to determine whether an urgent or moderate response is required and to evaluate possible responses. If the deterioration is serious, all weapons of the type involved may need to be rebuilt or to be replaced by a different type, both of which are likely to require some alterations of warhead design. To make the alterations with confidence, the weapon managers will likely need one or more nuclear tests of the altered warhead.

If the warhead requires replacement by a different type, the replacement warhead will need various certification tests in its new role. It will require at least non-nuclear operational tests in the environment of the carrier vehicle, which could mean developmental flight tests, which are also prohibited under most freeze proposals.

5. OVERALL CONCLUSION

Whatever the other difficulties of a "nuclear freeze," the proposed bans that we have discussed would present great risks to the U.S. Under such a freeze there would be no assurance that major nuclear weapon systems could be kept in

working order. As in the past, serious difficulties with a particular types of nuclear warheads could abruptly become apparent. With bans in effect on rebuilding and testing, the U.S. would have no effective means to rehabilitate the weapon systems.

Any nation faced with that situation would expend great efforts to keep the difficulties secret and would have almost irresistible incentive to violate the bans. While the U.S. would have great difficulty in maintaining the required secrecy and in violating the bans without being detected, there is strong reason to believe that the Soviets could do both. There would be a major asymmetry between the U.S. and the U.S.S.R in the risks involved in entering into such a freeze agreement. The U.S. needs to seek a more realistic, less simplistic, and less risky path to the reduction of tensions between the U.S. and the Soviet Union than the path offered by the freeze proposals.

Exhibit XIII

1985 NPT REVIEW CONFERENCE

FINAL DECLARATION

THE STATES PARTY TO THE TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS WHICH MET IN GENEVA FROM 27 AUGUST TO 21 SEPTEMBER 1985 TO REVIEW THE OPERATION OF THE TREATY SOLEMNLY DECLARE:

- THEIR CONVICTION THAT THE TREATY IS ESSENTIAL TO INTERNATIONAL PEACE AND SECURITY,

- THEIR CONTINUED SUPPORT FOR THE OBJECTIVES OF THE TREATY WHICH ARE:

- THE PREVENTION OF PROLIFERATION OF NUCLEAR WEAPONS OR OTHER NUCLEAR EXPLOSIVE DEVICES;

- THE CESSATION OF THE NUCLEAR ARMS RACE, NUCLEAR DISARMAMENT AND A TREATY ON GENERAL AND COMPLETE DISARMAMENT;

- THE PROMOTION OF CO-OPERATION BETWEEN STATES PARTIES IN THE FIELD OF THE PEACEFUL USES OF NUCLEAR ENERGY,

- THE REAFFIRMATION OF THEIR FIRM COMMITMENT TO THE PURPOSES OF THE PREAMBLE AND THE PROVISIONS OF THE TREATY,

- THEIR DETERMINATION TO ENHANCE THE IMPLEMENTATION OF THE TREATY AND TO FURTHER STRENGTHEN ITS AUTHORITY.

REVIEW OF THE OPERATION OF THE TREATY AND RECOMMENDATIONS

ARTICLES I AND II AND PREAMBULAR PARAGRAPHS 1-3

1. THE CONFERENCE NOTED THE CONCERNS AND CONVICTIONS EXPRESSED IN PREAMBULAR PARAGRAPHS 1 TO 3 AND AGREED THAT THEY REMAIN VALID. THE STATES PARTY TO THE TREATY REMAIN RESOLVED IN THEIR BELIEF IN THE NEED TO AVOID THE DEVASTATION THAT A NUCLEAR WAR WOULD BRING. THE CONFERENCE REMAINS CONVINCED THAT ANY PROLIFERATION OF NUCLEAR WEAPONS WOULD SERIOUSLY INCREASE THE DANGER OF A NUCLEAR WAR.

2. THE CONFERENCE AGREED THAT THE STRICT OBSERVANCE OF THE TERMS OF ARTICLES I AND II REMAINS CENTRAL TO ACHIEVING THE SHARED OBJECTIVES OF PREVENTING UNDER ANY CIRCUMSTANCES THE FURTHER PROLIFERATION OF NUCLEAR WEAPONS AND PRESERVING THE TREATY'S VITAL CONTRIBUTION TO PEACE AND SECURITY, INCLUDING TO THE PEACE AND SECURITY OF NON-PARTIES.

3. THE CONFERENCE ACKNOWLEDGED THE DECLARATIONS BY NUCLEAR-WEAPONS STATES PARTY TO THE TREATY THAT THEY HAD FULFILLED THEIR OBLIGATIONS UNDER ARTICLE I. THE CONFERENCE FURTHER

ACKNOWLEDGED THE DECLARATIONS THAT NON-NUCLEAR-WEAPONS STATES PARTY TO THE TREATY HAD FULFILLED THEIR OBLIGATIONS UNDER ARTICLE II. THE CONFERENCE WAS OF THE VIEW THEREFORE THAT ONE OF THE PRIMARY OBJECTIVES OF THE TREATY HAD BEEN ACHIEVED IN THE PERIOD UNDER REVIEW.

4. THE CONFERENCE ALSO EXPRESSED DEEP CONCERN THAT THE NATIONAL NUCLEAR PROGRAMMES OF SOME STATES NON-PARTY TO THE TREATY MAY LEAD THEM TO OBTAIN A NUCLEAR WEAPON CAPABILITY. STATES PARTY TO THE TREATY STATED THAT ANY FURTHER DETONATION OF A NUCLEAR EXPLOSIVE DEVICE BY ANY NON-NUCLEAR-WEAPON STATE WOULD CONSTITUTE A MOST SERIOUS BREACH OF THE NON-PROLIFERATION OBJECTIVE.

5. THE CONFERENCE NOTED THE GREAT AND SERIOUS CONCERNS EXPRESSED ABOUT THE NUCLEAR CAPABILITY OF SOUTH AFRICA AND ISRAEL. THE CONFERENCE FURTHER NOTED THE CALLS ON ALL STATES FOR THE TOTAL AND COMPLETE PROHIBITION OF THE TRANSFER OF ALL NUCLEAR FACILITIES, RESOURCES OR DEVICES TO SOUTH AFRICA AND ISRAEL AND TO STOP ALL EXPLOITATION OF NAMIBIAN URANIUM, NATURAL OR ENRICHED, UNTIL THE ATTAINMENT OF NAMIBIAN INDEPENDENCE.

ARTICLE III AND PREAMBULAR PARAGRAPHS 4 AND 5

1. THE CONFERENCE AFFIRMS ITS DETERMINATION TO STRENGTHEN FURTHER THE BARRIERS AGAINST THE PROLIFERATION OF NUCLEAR WEAPONS AND OTHER NUCLEAR EXPLOSIVE DEVICES TO ADDITIONAL STATES. THE SPREAD OF NUCLEAR EXPLOSIVE CAPABILITIES WOULD ADD IMMEASURABLY TO REGIONAL AND INTERNATIONAL TENSIONS AND SUSPICIONS. IT WOULD INCREASE THE RISKS OF NUCLEAR WAR AND LESSEN THE SECURITY OF ALL STATES. THE PARTIES REMAIN CONVINCED THAT UNIVERSAL ADHERENCE TO THE NON-PROLIFERATION TREATY IS THE BEST WAY TO STRENGTHEN THE BARRIERS AGAINST PROLIFERATION AND THEY URGE ALL STATES NOT PARTY TO THE TREATY TO ACCEDE TO IT. THE TREATY AND THE REGIME OF NON-PROLIFERATION IT SUPPORTS PLAY A CENTRAL ROLE IN PROMOTING REGIONAL AND INTERNATIONAL PEACE AND SECURITY, INTER ALIA, BY HELPING TO PREVENT THE SPREAD OF NUCLEAR EXPLOSIVES. THE NON-PROLIFERATION AND SAFEGUARDS COMMITMENTS IN THE TREATY ARE ESSENTIAL ALSO FOR PEACEFUL NUCLEAR COMMERCE AND CO-OPERATION.

2. THE CONFERENCE EXPRESSES THE CONVICTION THAT IAEA SAFEGUARDS PROVIDE ASSURANCE THAT STATES ARE COMPLYING WITH THEIR UNDERTAKINGS AND ASSIST STATES IN DEMONSTRATING THIS COMPLIANCE. THEY THEREBY PROMOTE FURTHER CONFIDENCE AMONG STATES AND, BEING A FUNDAMENTAL ELEMENT OF THE TREATY, HELP TO STRENGTHEN THEIR COLLECTIVE SECURITY. IAEA SAFEGUARDS PLAY A KEY ROLE IN PREVENTING THE PROLIFERATION OF NUCLEAR WEAPONS AND OTHER NUCLEAR EXPLOSIVE DEVICES. UNSAFEGUARDED NUCLEAR ACTIVITIES IN NON-NUCLEAR-WEAPON STATES POSE SERIOUS PROLIFERATION DANGERS.

3. THE CONFERENCE DECLARES THAT THE COMMITMENT TO NON-PROLIFERATION BY NUCLEAR-WEAPON STATES PARTY TO THE TREATY PURSUANT TO ARTICLE I, BY NON-NUCLEAR-WEAPON STATES PARTY TO THE TREATY PURSUANT TO ARTICLE II, AND BY THE ACCEPTANCE OF IAEA SAFEGUARDS ON ALL PEACEFUL NUCLEAR ACTIVITIES WITHIN NON-NUCLEAR-WEAPON STATES PARTY TO THE TREATY PURSUANT TO ARTICLE III IS A MAJOR CONTRIBUTION BY THOSE STATES TO REGIONAL AND INTERNATIONAL SECURITY. THE CONFERENCE NOTES WITH SATISFACTION THAT THE COMMITMENTS IN ARTICLES I-III HAVE BEEN MET AND HAVE GREATLY HELPED PREVENT THE SPREAD OF NUCLEAR EXPLOSIVES.

4. THE CONFERENCE THEREFORE SPECIFICALLY URGES ALL NON-NUCLEAR-WEAPON STATES NOT PARTY TO THE TREATY TO MAKE AN INTERNATIONAL LEGALLY-BINDING COMMITMENT NOT TO ACQUIRE NUCLEAR WEAPONS OR OTHER NUCLEAR EXPLOSIVE DEVICES AND TO ACCEPT IAEA SAFEGUARDS ON ALL THEIR PEACEFUL NUCLEAR ACTIVITIES, BOTH CURRENT AND FUTURE, TO VERIFY THAT COMMITMENT. THE CONFERENCE FURTHER URGES ALL STATES IN THEIR INTERNATIONAL NUCLEAR CO-OPERATION AND IN THEIR NUCLEAR EXPORT POLICIES AND, SPECIFICALLY AS A NECESSARY BASIS FOR THE TRANSFER OF RELEVANT NUCLEAR SUPPLIES TO NON-NUCLEAR-WEAPON STATES, TO TAKE EFFECTIVE STEPS TOWARDS ACHIEVING SUCH A COMMITMENT TO NON-PROLIFERATION AND ACCEPTANCE OF SUCH SAFEGUARDS BY THOSE STATES. THE CONFERENCE EXPRESSES ITS VIEW THAT ACCESSION TO THE NON-PROLIFERATION TREATY IS THE BEST WAY TO ACHIEVE THAT OBJECTIVE.

5. THE CONFERENCE EXPRESSES ITS SATISFACTION THAT FOUR OF THE FIVE NUCLEAR-WEAPON STATES HAVE VOLUNTARILY CONCLUDED SAFEGUARDS AGREEMENTS WITH THE IAEA, COVERING ALL OR PART OF THEIR PEACEFUL NUCLEAR ACTIVITIES. THE CONFERENCE REGARDS THOSE AGREEMENTS AS FURTHER STRENGTHENING THE NON-PROLIFERATION REGIME AND INCREASING THE AUTHORITY OF IAEA AND THE EFFECTIVENESS OF ITS SAFEGUARDS SYSTEM. THE CONFERENCE CALLS ON THE NUCLEAR-WEAPON STATES TO CONTINUE TO CO-OPERATE FULLY WITH THE IAEA IN THE IMPLEMENTATION OF THESE AGREEMENTS AND CALLS ON IAEA TO TAKE FULL ADVANTAGE OF THIS CO-OPERATION. THE CONFERENCE URGES THE PEOPLE'S REPUBLIC OF CHINA SIMILARLY TO CONCLUDE A SAFEGUARDS AGREEMENT WITH IAEA. THE CONFERENCE RECOMMENDS THE CONTINUED PURSUIT OF THE PRINCIPLE OF UNIVERSAL APPLICATION OF IAEA SAFEGUARDS TO ALL PEACEFUL NUCLEAR ACTIVITIES IN ALL STATES. TO THIS END, THE CONFERENCE RECOGNIZES THE VALUE OF VOLUNTARY OFFERS AND RECOMMENDS FURTHER EVALUATION OF THE ECONOMIC AND PRACTICAL POSSIBILITY OF EXTENDING APPLICATION OF SAFEGUARDS TO ADDITIONAL CIVIL FACILITIES IN THE NUCLEAR-WEAPON STATES AS AND WHEN IAEA RESOURCES PERMIT AND CONSIDERATION OF SEPARATION OF THE CIVIL AND MILITARY FACILITIES IN THE NUCLEAR-WEAPON STATES. SUCH AN EXTENDING OF SAFEGUARDS WILL ENABLE THE FURTHER DEVELOPMENT AND APPLICATION OF AN EFFECTIVE REGIME IN BOTH NUCLEAR-WEAPON STATES AND NON-NUCLEAR-WEAPON STATES.

6. THE CONFERENCE ALSO AFFIRMS THE GREAT VALUE TO THE NON-PROLIFERATION REGIME OF COMMITMENTS BY THE NUCLEAR-WEAPON STATES THAT NUCLEAR SUPPLIES PROVIDED FOR PEACEFUL USE WILL NOT BE USED FOR NUCLEAR WEAPONS OR OTHER NUCLEAR EXPLOSIVE PURPOSES. SAFEGUARDS IN NUCLEAR-WEAPON STATES PURSUANT TO THEIR SAFEGUARDS AGREEMENTS WITH IAEA CAN VERIFY OBSERVANCE OF THOSE COMMITMENTS.

7. THE CONFERENCE NOTES WITH SATISFACTION THE ADHERENCE OF FURTHER PARTIES TO THE TREATY AND THE CONCLUSION OF FURTHER SAFEGUARDS AGREEMENTS IN COMPLIANCE WITH THE UNDERTAKING OF THE TREATY AND RECOMMENDS THAT:

(A) THE NON-NUCLEAR-WEAPON STATES PARTY TO THE TREATY THAT HAVE NOT CONCLUDED THE AGREEMENTS REQUIRED UNDER ARTICLE III(4) CONCLUDE SUCH AGREEMENTS WITH IAEA AS SOON AS POSSIBLE;

(B) THE DIRECTOR-GENERAL OF IAEA INTENSIFY HIS INITIATIVE OF SUBMITTING TO STATES CONCERNED DRAFT AGREEMENTS TO FACILITATE THE CONCLUSION OF CORRESPONDING SAFEGUARDS AGREEMENTS, AND THAT PARTIES TO THE TREATY, IN PARTICULAR DEPOSITARY PARTIES, SHOULD ACTIVELY SUPPORT THESE INITIATIVES;

(C) ALL STATES PARTY TO THE TREATY MAKE STRENUOUS INDIVIDUAL AND COLLECTIVE EFFORTS TO MAKE THE TREATY TRULY UNIVERSAL.

8. THE CONFERENCE NOTES WITH SATISFACTION THAT IAEA IN CARRYING OUT ITS SAFEGUARDS ACTIVITIES HAS NOT DETECTED ANY DIVERSION OF A SIGNIFICANT AMOUNT OF SAFEGUARDED MATERIAL TO THE PRODUCTION OF NUCLEAR WEAPONS, OTHER NUCLEAR EXPLOSIVE DEVICES OR TO PURPOSES UNKNOWN.

9. THE CONFERENCE NOTES THAT IAEA SAFEGUARDS ACTIVITIES HAVE NOT HAMPERED THE ECONOMIC, SCIENTIFIC OR TECHNOLOGICAL DEVELOPMENT OF THE PARTIES TO THE TREATY, OR INTERNATIONAL CO-OPERATION IN PEACEFUL NUCLEAR ACTIVITIES AND IT URGES THAT THIS SITUATION BE MAINTAINED.

10. THE CONFERENCE COMMENDS IAEA ON ITS IMPLEMENTATION OF SAFEGUARDS PURSUANT TO THIS TREATY AND URGES IT TO CONTINUE TO ENSURE THE MAXIMUM TECHNICAL AND COST EFFECTIVENESS AND EFFICIENCY OF ITS OPERATIONS, WHILE MAINTAINING CONSISTENCY WITH THE ECONOMIC AND SAFE CONDUCT OF NUCLEAR ACTIVITIES.

11. THE CONFERENCE NOTES WITH SATISFACTION THE IMPROVEMENT OF IAEA SAFEGUARDS WHICH HAS ENABLED IT TO CONTINUE TO APPLY SAFEGUARDS EFFECTIVELY DURING A PERIOD OF RAPID GROWTH IN THE NUMBER OF SAFEGUARDED FACILITIES. IT ALSO NOTES THAT IAEA SAFEGUARDS APPROACHES ARE CAPABLE OF ADEQUATELY DEALING WITH FACILITIES UNDER SAFEGUARDS. IN THIS REGARD, THE RECENT CONCLUSION OF THE PROJECT TO DESIGN A SAFEGUARDS REGIME FOR CENTRIFUGE ENRICHMENT PLANTS AND ITS IMPLEMENTATION IS WELCOMED.

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THIS PROJECT ALLOWS THE APPLICATION OF AN EFFECTIVE REGIME TO ALL PLANTS OF THIS TYPE IN THE TERRITORIES BOTH OF NUCLEAR-WEAPON STATES AND NON-NUCLEAR-WEAPON STATES PARTIES TO THE TREATY.

12. THE CONFERENCE EMPHASIZES THE IMPORTANCE OF CONTINUED IMPROVEMENTS IN THE EFFECTIVENESS AND EFFICIENCY OF IAEA SAFEGUARDS, FOR EXAMPLE, BUT NOT LIMITED TO:

(A) UNIFORM AND NON-DISCRIMINATORY IMPLEMENTATION OF SAFEGUARDS;

(B) THE EXPEDITIOUS IMPLEMENTATION OF NEW INSTRUMENTS AND TECHNIQUES;

(C) THE FURTHER DEVELOPMENT OF METHODS FOR EVALUATION OF SAFEGUARDS EFFECTIVENESS IN COMBINATION WITH SAFEGUARDS INFORMATION;

(D) CONTINUED INCREASES IN THE EFFICIENCY OF THE USE OF HUMAN AND FINANCIAL RESOURCES AND OF EQUIPMENT.

13. THE CONFERENCE BELIEVES THAT FURTHER IMPROVEMENT OF THE LIST OF MATERIALS AND EQUIPMENT WHICH, IN ACCORDANCE WITH ARTICLE III(2) OF THE TREATY, CALLS FOR THE APPLICATION OF IAEA SAFEGUARDS SHOULD TAKE ACCOUNT OF ADVANCES IN TECHNOLOGY.

14. THE CONFERENCE RECOMMENDS THAT IAEA ESTABLISH AN INTERNATIONALLY AGREED EFFECTIVE SYSTEM OF INTERNATIONAL PLUTONIUM STORAGE IN ACCORDANCE WITH ARTICLE XII(A)5 OF ITS STATUTE.

15. THE CONFERENCE WELCOMES THE SIGNIFICANT CONTRIBUTIONS MADE BY STATES PARTIES IN FACILITATING THE APPLICATION OF IAEA SAFEGUARDS AND IN SUPPORTING RESEARCH, DEVELOPMENT AND OTHER SUPPORTS TO FURTHER THE APPLICATION OF EFFECTIVE AND EFFICIENT SAFEGUARDS. THE CONFERENCE URGES THAT SUCH CO-OPERATION AND SUPPORT BE CONTINUED AND THAT OTHER STATES PARTIES PROVIDE SIMILAR SUPPORT.

16. THE CONFERENCE CALLS UPON ALL STATES TO TAKE IAEA SAFE-GUARDS REQUIREMENTS FULLY INTO ACCOUNT WHILE PLANNING, DESIGNING AND CONSTRUCTING NEW NUCLEAR FUEL CYCLE FACILITIES AND WHILE MODIFYING EXISTING NUCLEAR FUEL CYCLE FACILITIES.

17. THE CONFERENCE ALSO CALLS ON STATES PARTIES TO THE TREATY TO ASSIST IAEA IN APPLYING ITS SAFEGUARDS, INTER ALIA, THROUGH THE EFFICIENT OPERATION OF STATES SYSTEMS OF ACCOUNTING FOR AND CONTROL OF NUCLEAR MATERIAL, AND INCLUDING COMPLIANCE WITH ALL NOTIFICATION REQUIREMENTS IN ACCORDANCE WITH SAFE-GUARDS AGREEMENTS.

18. THE CONFERENCE WELCOMES THE AGENCY'S ENDEAVORS TO RECRUIT AND TRAIN STAFF OF THE HIGHEST PROFESSIONAL STANDARDS FOR SAFEGUARDS IMPLEMENTATION WITH DUE REGARD TO THE WIDEST POSSIBLE GEOGRAPHICAL DISTRIBUTION, IN ACCORDANCE WITH ARTICLE VII(D) OF THE IAEA STATUTE. IT CALLS UPON STATES TO EXERCISE THEIR RIGHT REGARDING PROPOSALS OF DESIGNATION OF IAEA INSPECTORS IN SUCH A WAY AS TO FACILITATE THE MOST EFFECTIVE USE OF SAFEGUARDS MANPOWER.

19. THE CONFERENCE ALSO COMMENDS TO ALL STATES PARTIES THE MERITS OF ESTABLISHMENT OF INTERNATIONAL FUEL CYCLE FACILITIES, INCLUDING MULTINATION PARTICIPATION, AS A POSITIVE CONTRIBUTION TO REASSURANCE OF THE PEACEFUL USE AND NON-DIVERSION OF NUCLEAR MATERIALS. WHILE PRIMARILY A NATIONAL RESPONSIBILITY, THE CONFERENCE SEES ADVANTAGES IN INTERNATIONAL CO-OPERATION CONCERNING SPENT FUEL STORAGE AND NUCLEAR WASTE STORAGE.

20. THE CONFERENCE CALLS UPON STATES PARTIES TO CONTINUE THEIR POLITICAL, TECHNICAL AND FINANCIAL SUPPORT OF THE IAEA SAFEGUARDS SYSTEM.

21. THE CONFERENCE UNDERLINES THE NEED FOR IAEA TO BE PROVIDED WITH THE NECESSARY FINANCIAL AND HUMAN RESOURCES TO ENSURE THAT THE AGENCY IS ABLE TO CONTINUE TO MEET EFFECTIVELY ITS SAFEGUARDS RESPONSIBILITIES.

22. THE CONFERENCE URGES ALL STATES THAT HAVE NOT DONE SO TO ADHERE TO THE CONVENTION ON THE PHYSICAL PROTECTION OF NUCLEAR MATERIAL AT THE EARLIEST POSSIBLE DATE.

ARTICLE IV AND PREAMBULAR PARAGRAPHS 6 AND 7

1. THE CONFERENCE AFFIRMS THAT THE NPT FOSTERS THE WORLD-WIDE PEACEFUL USE OF NUCLEAR ENERGY AND REAFFIRMS THAT NOTHING IN THE TREATY SHALL BE INTERPRETED AS AFFECTING THE INALIENABLE RIGHT OF ANY PARTY TO THE TREATY TO DEVELOP RESEARCH, PRODUCTION AND USE OF NUCLEAR ENERGY FOR PEACEFUL PURPOSES WITHOUT DISCRIMINATION AND IN CONFORMITY WITH ARTICLES I AND II.

2. THE CONFERENCE REAFFIRMS THE UNDERTAKING BY ALL PARTIES TO THE TREATY, IN ACCORDANCE WITH ARTICLE IV AND PREAMBULAR PARAGRAPHS 6 AND 7, TO FACILITATE THE FULLEST POSSIBLE EXCHANGE OF EQUIPMENT, MATERIALS AND SCIENTIFIC AND TECHNOLOGICAL INFORMATION FOR THE PEACEFUL USES OF NUCLEAR ENERGY AND THE RIGHT OF ALL PARTIES TO THE TREATY TO PARTICIPATE IN SUCH EXCHANGE. IN THIS CONTEXT, THE CONFERENCE RECOGNIZES THE IMPORTANCE OF SERVICES. THIS CAN CONTRIBUTE TO PROGRESS IN GENERAL AND TO THE ELIMINATION OF TECHNOLOGICAL AND ECONOMIC GAPS BETWEEN THE DEVELOPED AND DEVELOPING COUNTRIES.

3. THE CONFERENCE REAFFIRMS THE UNDERTAKING OF THE PARTIES TO THE TREATY IN A POSITION TO DO SO TO CO-OPERATE IN

CONTRIBUTING, ALONE OR TOGETHER WITH OTHER STATES OR INTERNATIONAL ORGANIZATIONS, TO THE FURTHER DEVELOPMENT OF THE APPLICATIONS OF NUCLEAR ENERGY FOR PEACEFUL PURPOSES, ESPECIALLY IN THE TERRITORIES OF THE NON-NUCLEAR-WEAPON STATES PARTY TO THE TREATY, WITH DUE CONSIDERATION FOR THE NEEDS OF THE DEVELOPING AREAS OF THE WORLD. IN THIS CONTEXT THE CONFERENCE RECOGNIZES THE PARTICULAR NEEDS OF THE LEAST DEVELOPED COUNTRIES.

4. THE CONFERENCE REQUESTS THAT STATES PARTIES CONSIDER POSSIBLE BILATERAL CO-OPERATION MEASURES TO FURTHER IMPROVE THE IMPLEMENTATION OF ARTICLE IV. TO THIS END, STATES PARTIES ARE REQUESTED TO GIVE IN WRITTEN FORM THEIR EXPERIENCES IN THIS AREA IN THE FORM OF NATIONAL CONTRIBUTIONS TO BE PRESENTED IN A REPORT TO THE NEXT REVIEW CONFERENCE.

5. THE CONFERENCE RECOGNIZES THE NEED FOR MORE PREDICTABLE LONG-TERM SUPPLY ASSURANCES WITH EFFECTIVE ASSURANCE OF NON-PROLIFERATION.

6. THE CONFERENCE COMMENDS THE RECENT PROGRESS WHICH THE IAEA'S COMMITMENT ON ASSURANCES OF SUPPLY (CAS) HAS MADE TOWARDS AGREEING A SET OF PRINCIPLES RELATED TO THIS MATTER, AND EXPRESSES THE HOPE THAT THE COMMITTEE WILL COMPLETE THIS WORK SOON. THE CONFERENCE FURTHER NOTES WITH SATISFACTION THE MEASURES WHICH CAS HAS RECOMMENDED TO THE IAEA BOARD OF GOVERNORS FOR ALLEVIATING TECHNICAL AND ADMINISTRATIVE PROBLEMS IN INTERNATIONAL SHIPMENTS OF NUCLEAR ITEMS, EMERGENCY AND BACK-UP MECHANISMS, AND MECHANISMS FOR THE REVISION OF INTERNATIONAL NUCLEAR CO-OPERATION AGREEMENTS AND CALLS FOR THE EARLY COMPLETION OF THE WORK OF CAS AND THE IMPLEMENTATION OF ITS RECOMMENDATIONS.

7. THE CONFERENCE REAFFIRMS THAT IN ACCORDANCE WITH INTERNATIONAL LAW AND APPLICABLE TREATY OBLIGATIONS, STATES SHOULD FULFILL THEIR OBLIGATIONS UNDER AGREEMENTS IN THE NUCLEAR FIELD, AND ANY MODIFICATION OF SUCH AGREEMENTS, IF REQUIRED, SHOULD BE MADE ONLY BY MUTUAL CONSENT OF THE PARTIES CONCERNED.

8. THE CONFERENCE CONFIRMS THAT EACH COUNTRY'S CHOICES AND DECISIONS IN THE FIELD OF PEACEFUL USES OF NUCLEAR ENERGY SHOULD BE RESPECTED WITHOUT JEOPARDIZING THEIR RESPECTIVE FUEL CYCLE POLICIES. INTERNATIONAL CO-OPERATION IN THIS AREA, INCLUDING INTERNATIONAL TRANSFER AND SUBSEQUENT OPERATIONS SHOULD BE GOVERNED BY EFFECTIVE ASSURANCES OF NON-PROLIFERATION AND PREDICTABLE LONG-TERM SUPPLY ASSURANCES. THE ISSUANCE OF RELATED LICENSES AND AUTHORIZATION INVOLVED SHOULD TAKE PLACE IN A TIMELY FASHION.

9. WHILE RECOGNIZING THAT THE OPERATION AND MANAGEMENT OF THE BACK-END OF THE FUEL CYCLE INCLUDING NUCLEAR WASTE STORAGE ARE PRIMARILY A NATIONAL RESPONSIBILITY, THE CONFERENCE

ACKNOWLEDGES THE IMPORTANCE FOR THE PEACEFUL USES OF NUCLEAR ENERGY OF INTERNATIONAL AND MULTILATERAL COLLABORATION FOR ARRANGEMENTS IN THIS AREA.

10. THE CONFERENCE EXPRESSES ITS PROFOUND CONCERN ABOUT THE ISRAELI ATTACK ON IRAQ'S SAFEGUARDED NUCLEAR REACTOR ON 7 JUNE 1981. THE CONFERENCE RECALLS SECURITY COUNCIL RESOLUTION 487 OF 1981, STRONGLY CONDEMNING THE MILITARY ATTACK BY ISRAEL WHICH WAS UNANIMOUSLY ADOPTED BY THE COUNCIL AND WHICH CONSIDERED THAT THE SAID ATTACK CONSTITUTED A SERIOUS THREAT TO THE ENTIRE IAEA SAFEGUARDS REGIME WHICH IS THE FOUNDATION OF THE NON-PROLIFERATION TREATY. THE CONFERENCE ALSO TAKES NOTE OF THE DECISIONS AND RESOLUTIONS ADOPTED BY THE UNITED NATIONS GENERAL ASSEMBLY AND THE INTERNATIONAL ATOMIC ENERGY AGENCY ON THIS ATTACK, INCLUDING RESOLUTION 425 OF 1984 ADOPTED BY THE GENERAL CONFERENCE OF THE IAEA.

11. THE CONFERENCE RECOGNIZES THAT AN ARMED ATTACK ON A SAFEGUARDED NUCLEAR FACILITY, OR THREAT OF ATTACK, WOULD CREATE A SITUATION IN WHICH THE SECURITY COUNCIL WOULD HAVE TO ACT IMMEDIATELY IN ACCORDANCE WITH PROVISIONS OF THE UNITED NATIONS CHARTER. THE CONFERENCE FURTHER EMPHASIZES THE RESPONSIBILITIES OF THE DEPOSITARIES OF NPT IN THEIR CAPACITY AS PERMANENT MEMBERS OF THE SECURITY COUNCIL TO ENDEAVOR, IN CONSULTATION WITH THE OTHER MEMBERS OF THE SECURITY COUNCIL, TO GIVE FULL CONSIDERATION TO ALL APPROPRIATE MEASURES TO BE UNDERTAKEN BY THE SECURITY COUNCIL TO DEAL WITH THE SITUATION, INCLUDING MEASURES UNDER CHAPTER VII OF THE UNITED NATIONS CHARTER.

12. THE CONFERENCE ENCOURAGES PARTIES TO BE READY TO PROVIDE IMMEDIATE PEACEFUL ASSISTANCE IN ACCORDANCE WITH INTERNATIONAL LAW TO ANY PARTY TO THE NPT, IF IT SO REQUESTS, WHOSE SAFEGUARDED NUCLEAR FACILITIES HAVE BEEN SUBJECT TO AN ARMED ATTACK, AND CALLS UPON ALL STATES TO ABIDE BY ANY DECISIONS TAKEN BY THE SECURITY COUNCIL IN ACCORDANCE WITH THE UNITED NATIONS CHARTER IN RELATION TO THE ATTACKING STATE.

13. THE CONFERENCE CONSIDERS THAT SUCH ATTACKS COULD INVOLVE GRAVE DANGERS DUE TO THE RELEASE OF RADIOACTIVITY AND THAT SUCH ATTACKS OR THREATS OF ATTACK JEOPARDIZE THE DEVELOPMENT OF THE PEACEFUL USES OF NUCLEAR ENERGY. THE CONFERENCE ALSO ACKNOWLEDGES THAT THE MATTER IS UNDER CONSIDERATION BY THE CONFERENCE ON DISARMAMENT AND URGES CO-OPERATION OF ALL STATES FOR ITS SPEEDY CONCLUSION.

14. THE CONFERENCE ACKNOWLEDGES THE IMPORTANCE OF THE WORK OF THE INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA) AS THE PRINCIPAL AGENT FOR TECHNOLOGY TRANSFER AMONGST THE INTERNATIONAL ORGANIZATIONS REFERRED TO IN ARTICLE IV(2) AND WELCOMES THE SUCCESSFUL OPERATION OF THE AGENCY'S TECHNICAL ASSISTANCE AND CO-OPERATION PROGRAMMES. THE CONFERENCE RECORDS WITH

APPRECIATION THAT PROJECTS SUPPORTED FROM THESE PROGRAMMES COVERED A WIDE SPECTRUM OF APPLICATIONS, RELATED BOTH TO POWER AND NON-POWER USES OF NUCLEAR ENERGY NOTABLY IN AGRICULTURE, MEDICINE, INDUSTRY AND HYDROLOGY. THE CONFERENCE NOTES THAT THE AGENCY'S ASSISTANCE TO THE DEVELOPING STATES PARTY TO THE TREATY HAS BEEN CHIEFLY IN THE NON-POWER USES OF NUCLEAR ENERGY.

15. THE CONFERENCE WELCOMES THE ESTABLISHMENT BY THE IAEA, FOLLOWING A RECOMMENDATION OF THE FIRST REVIEW CONFERENCE OF THE PARTIES TO THE TREATY, OF A MECHANISM TO PERMIT THE CHANNELLING OF EXTRA-BUDGETARY FUNDS TO PROJECTS ADDITIONAL TO THOSE FINANCED FROM THE IAEA TECHNICAL ASSISTANCE AND CO-OPERATION FUND. THE CONFERENCE NOTES THAT THIS CHANNEL HAS BEEN USED TO MAKE ADDITIONAL RESOURCES AVAILABLE FOR A WIDE VARIETY OF PROJECTS IN DEVELOPING STATES PARTY TO THE TREATY.

16. IN THIS CONTEXT, THE CONFERENCE PROPOSES THE FOLLOWING MEASURES FOR CONSIDERATION BY THE IAEA:

(I) IAEA ASSISTANCE TO DEVELOPING COUNTRIES IN SITING, CONSTRUCTION, OPERATION AND SAFETY OF NUCLEAR POWER PROJECTS AND THE ASSOCIATED TRAINED MANPOWER PROVISION TO BE STRENGTHENED.

(II) TO PROVIDE, UPON REQUEST, ASSISTANCE IN SECURING FINANCING FROM OUTSIDE SOURCES FOR NUCLEAR POWER PROJECTS IN DEVELOPING COUNTRIES, AND IN PARTICULAR THE LEAST DEVELOPED COUNTRIES.

(III) IAEA ASSISTANCE IN NUCLEAR PLANNING SYSTEMS FOR DEVELOPING COUNTRIES TO BE STRENGTHENED IN ORDER TO HELP SUCH COUNTRIES DRAW UP THEIR OWN NUCLEAR DEVELOPMENT PLANS.

(IV) IAEA ASSISTANCE ON COUNTRY-SPECIFIC NUCLEAR DEVELOPMENT STRATEGIES TO BE FURTHER DEVELOPED, WITH A VIEW TO IDENTIFYING THE APPLICATION OF NUCLEAR TECHNOLOGY THAT CAN BE EXPECTED TO CONTRIBUTE MOST TO THE DEVELOPMENT BOTH OF INDIVIDUAL SECTORS AND DEVELOPING ECONOMIES AS WELL.

(V) GREATER SUPPORT FOR REGIONAL COOPERATIVE AGREEMENTS, PROMOTING REGIONAL PROJECTS BASED ON REGIONALLY AGREED PRIORITIES AND USING INPUTS FROM REGIONAL COUNTRIES.

(VI) EXPLORATION OF THE SCOPE FOR MULTI-YEAR, MULTI-DONOR PROJECTS FINANCED FROM THE EXTRA-BUDGETARY RESOURCES OF THE IAEA.

(VII) THE IAEA'S TECHNICAL CO-OPERATION EVALUATION ACTIVITY TO BE FURTHER DEVELOPED, SO AS TO ENHANCE THE AGENCY'S EFFECTIVENESS IN PROVIDING TECHNICAL ASSISTANCE.

17. THE CONFERENCE UNDERLINES THE NEED FOR THE PROVISION TO THE IAEA OF THE NECESSARY FINANCIAL AND HUMAN RESOURCES TO ENSURE THAT THE AGENCY IS ABLE TO CONTINUE TO MEET EFFECTIVELY ITS RESPONSIBILITIES.

18. THE CONFERENCE NOTES THE APPRECIABLE LEVEL OF BILATERAL CO-OPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY, AND URGES THAT STATES IN A POSITION TO DO SO SHOULD CONTINUE AND WHERE POSSIBLE INCREASE THE LEVEL OF THEIR CO-OPERATION IN THESE FIELDS.

19. THE CONFERENCE URGES THAT PREFERENTIAL TREATMENT SHOULD BE GIVEN TO THE NON-NUCLEAR-WEAPON STATES PARTY TO THE TREATY IN ACCESS TO OR TRANSFER OF EQUIPMENT, MATERIALS, SERVICES AND SCIENTIFIC AND TECHNOLOGICAL INFORMATION FOR THE PEACEFUL USES OF NUCLEAR ENERGY, TAKING PARTICULARLY INTO ACCOUNT NEEDS OF DEVELOPING COUNTRIES.

20. GREAT AND SERIOUS CONCERNS WERE EXPRESSED AT THE CONFERENCE ABOUT THE NUCLEAR CAPABILITY OF SOUTH AFRICA AND ISRAEL AND THAT THE DEVELOPMENT OF SUCH A CAPABILITY BY SOUTH AFRICA AND ISRAEL WOULD UNDERMINE THE CREDIBILITY AND STABILITY OF THE NON-PROLIFERATION TREATY REGIME. THE CONFERENCE NOTED THE DEMANDS MADE ON ALL STATES TO SUSPEND ANY CO-OPERATION WHICH WOULD CONTRIBUTE TO THE NUCLEAR PROGRAMME OF SOUTH AFRICA AND ISRAEL. THE CONFERENCE FURTHER NOTED THE DEMANDS MADE ON SOUTH AFRICA AND ISRAEL TO ACCEDE TO THE NPT, TO ACCEPT IAEA SAFEGUARDS ON ALL THEIR NUCLEAR FACILITIES AND TO PLEDGE THEMSELVES NOT TO MANUFACTURE OR AQUIRE NUCLEAR WEAPONS OR OTHER NUCLEAR EXPLOSIVE DEVICES.

21. THE CONFERENCE RECOGNIZES THE GROWING NUCLEAR ENERGY NEEDS OF THE DEVELOPING COUNTRIES AS WELL AS THE DIFFICULTIES WHICH THE DEVELOPING COUNTRIES FACE IN THIS REGARD, PARTICULARLY WITH RESPECT TO FINANCING THEIR NUCLEAR POWER PROGRAMMES. THE CONFERENCE CALLS UPON STATES PARTY TO THE TREATY TO PROMOTE THE ESTABLISHMENT OF FAVOURABLE CONDITIONS IN NATIONAL, REGIONAL AND INTERNATIONAL FINANCIAL INSTITUTIONS FOR FINANCING OF NUCLEAR ENERGY PROJECTS INCLUDING NUCLEAR POWER PROGRAMMES IN DEVELOPING COUNTRIES. FURTHERMORE, THE CONFERENCE CALLS UPON THE IAEA TO INITIATE AND THE PARTIES TO THE TREATY TO SUPPORT THE WORK OF AN EXPERT GROUP STUDY ON MECHANISMS TO ASSIST DEVELOPING COUNTRIES IN THE PROMOTION OF THEIR NUCLEAR POWER PROGRAMMES, INCLUDING THE ESTABLISHMENT OF A FINANCIAL ASSISTANCE FUND.

22. THE CONFERENCE RECOGNIZES THAT FURTHER IAEA ASSISTANCE IN THE PREPARATION OF FEASIBILITY STUDIES AND INFRASTRUCTURE DEVELOPMENT MIGHT ENHANCE THE PROSPECTS FOR DEVELOPING COUNTRIES FOR OBTAINING FINANCE, AND RECOMMENDS SUCH COUNTRIES AS ARE MEMBERS OF THE AGENCY TO APPLY FOR SUCH HELP UNDER THE AGENCY'S TECHNICAL ASSISTANCE AND CO-OPERATION PROGRAMMES.

THE CONFERENCE ALSO ACKNOWLEDGES THAT FURTHER SUPPORT FOR THE IAEA'S SMALL AND MEDIUM POWER REACTOR (SMPR) STUDY COULD HELP THE DEVELOPMENT OF NUCLEAR REACTORS MORE SUITED TO THE NEEDS OF SOME OF THE DEVELOPING COUNTRIES.

23. THE CONFERENCE EXPRESSES ITS SATISFACTION AT THE PROGRESS IN THE PREPARATIONS FOR THE UNITED NATIONS CONFERENCE FOR THE PROMOTION OF INTERNATIONAL CO-OPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY (UNCPICPUNE) AND ITS CONVICTION THAT UNCPICPUNE WILL FULLY REALIZE ITS GOALS IN ACCORDANCE WITH THE OBJECTIVES OF RESOLUTION 32/50 AND RELEVANT SUBSEQUENT RESOLUTIONS OF THE GENERAL ASSEMBLY FOR THE DEVELOPMENT OF NATIONAL PROGRAMMES OF PEACEFUL USES OF NUCLEAR ENERGY FOR ECONOMIC AND SOCIAL DEVELOPMENT, ESPECIALLY IN THE DEVELOPING COUNTRIES.

24. THE CONFERENCE CONSIDERS THAT ALL PROPOSALS RELATED TO THE PROMOTION AND STRENGTHENING OF INTERNATIONAL CO-OPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY WHICH HAVE BEEN PRODUCED BY THE THIRD REVIEW CONFERENCE OF THE NPT, BE TRANSMITTED TO THE PREPARATORY COMMITTEE OF THE UNCPICPUNE.

ARTICLE V

1. THE CONFERENCE REAFFIRMS THE OBLIGATION OF PARTIES TO THE TREATY TO TAKE APPROPRIATE MEASURES TO ENSURE THAT POTENTIAL BENEFITS FROM ANY PEACEFUL APPLICATIONS OF NUCLEAR EXPLOSIONS ARE MADE AVAILABLE TO NON-NUCLEAR-WEAPON STATES PARTY TO THE TREATY IN FULL ACCORDANCE WITH THE PROVISIONS OF ARTICLE V AND OTHER APPLICABLE INTERNATIONAL OBLIGATIONS, THAT SUCH SERVICES SHOULD BE PROVIDED TO NON-NUCLEAR-WEAPON STATES PARTY TO THE TREATY ON A NON-DISCRIMINATORY BASIS AND THAT THE CHARGE TO SUCH PARTIES FOR THE EXPLOSIVE DEVICES USED SHOULD BE AS LOW AS POSSIBLE AND EXCLUDE ANY CHARGE FOR RESEARCH AND DEVELOPMENT.

2. THE CONFERENCE CONFIRMS THAT THE IAEA WOULD BE THE APPROPRIATE INTERNATIONAL BODY THROUGH WHICH ANY POTENTIAL BENEFITS OF THE PEACEFUL APPLICATIONS OF NUCLEAR EXPLOSIONS COULD BE MADE AVAILABLE TO NON-NUCLEAR-WEAPON STATES UNDER THE TERMS OF ARTICLE V OF THE TREATY.

3. THE CONFERENCE NOTES THAT THE POTENTIAL BENEFITS OF THE PEACEFUL APPLICATIONS OF NUCLEAR EXPLOSIONS HAVE NOT BEEN DEMONSTRATED AND THAT NO REQUESTS FOR SERVICES RELATED TO THE PEACEFUL APPLICATIONS OF NUCLEAR EXPLOSIONS HAVE BEEN RECEIVED BY THE IAEA SINCE THE SECOND NPT REVIEW CONFERENCE.

ARTICLE VI AND PREAMBULAR PARAGRAPHS 8-12

A.

1. THE CONFERENCE RECALLED THAT UNDER THE PROVISIONS OF ARTICLE VI ALL PARTIES HAVE UNDERTAKEN TO PURSUE NEGOTIATIONS IN GOOD FAITH:

- ON EFFECTIVE MEASURES RELATING TO CESSATION OF THE NUCLEAR ARMS RACE AT AN EARLY DATE;

- ON EFFECTIVE MEASURES RELATING TO NUCLEAR DISARMAMENT;

- ON A TREATY ON GENERAL AND COMPLETE DISARMAMENT UNDER STRICT AND EFFECTIVE INTERNATIONAL CONTROL.

2. THE CONFERENCE UNDERTOOK AN EVALUATION OF THE ACHIEVEMENTS IN RESPECT TO EACH ASPECT OF THE ARTICLE IN THE PERIOD UNDER REVIEW, AND PARAGRAPHS 8 TO 12 OF THE PREAMBLE, AND IN PARTICULAR WITH REGARD TO THE GOALS SET OUT IN PREAMBULAR PARAGRAPH 10 WHICH RECALLS THE DETERMINATION EXPRESSED BY THE PARTIES TO THE PARTIAL TEST BAN TREATY TO:

- CONTINUE NEGOTIATIONS TO ACHIEVE THE DISCONTINUANCE OF ALL TEST EXPLOSIONS OF NUCLEAR WEAPONS FOR ALL TIME.

3. THE CONFERENCE RECALLED THE DECLARED INTENTION OF THE PARTIES TO THE TREATY TO ACHIEVE AT THE EARLIEST POSSIBLE DATE THE CESSATION OF THE NUCLEAR ARMS RACE AND TO UNDERTAKE EFFECTIVE MEASURES IN THE DIRECTION OF NUCLEAR DISARMAMENT AND THEIR URGING MADE TO ALL STATES PARTIES TO CO-OPERATE IN THE ATTAINMENT OF THIS OBJECTIVE. THE CONFERENCE ALSO RECALLED THE DETERMINATION EXPRESSED BY THE PARTIES TO THE 1963 TREATY BANNING NUCLEAR WEAPONS TESTS IN THE ATMOSPHERE, IN OUTER SPACE AND UNDER WATER IN ITS PREAMBLE TO SEEK TO ACHIEVE THE DISCONTINUANCE OF ALL TEST EXPLOSIONS ON NUCLEAR WEAPONS FOR ALL TIME AND THE DESIRE TO FURTHER THE EASING OF INTERNATIONAL TENSION AND THE STRENGTHENING OF TRUST BETWEEN STATES IN ORDER TO FACILITATE THE CESSATION OF THE MANUFACTURE OF NUCLEAR WEAPONS, THE LIQUIDATION OF ALL EXISTING STOCKPILES, AND THE ELIMINATION FROM NATIONAL ARSENALS OF NUCLEAR WEAPONS AND THE MEANS OF THEIR DELIVERY.

4. THE CONFERENCE NOTES THAT THE TENTH SPECIAL SESSION OF THE GENERAL ASSEMBLY OF THE UNITED NATIONS CONCLUDED, IN PARAGRAPH 50 OF ITS FINAL DOCUMENT, THAT THE ACHIEVEMENT OF NUCLEAR DISARMAMENT WILL REQUIRE URGENT NEGOTIATIONS OF AGREEMENTS AT APPROPRIATE STAGES AND WITH ADEQUATE MEASURES OF VERIFICATION SATISFACTORY TO THE STATES CONCERNED FOR:

(A) CESSATION OF THE QUALITATIVE IMPROVEMENT AND DEVELOPMENT OF NUCLEAR-WEAPON SYSTEMS;

(B) CESSATION OF THE PRODUCTION OF ALL TYPES OF NUCLEAR WEAPONS AND THEIR MEANS OF DELIVERY, AND OF THE PRODUCTION OF FISSIONABLE MATERIAL FOR WEAPONS PURPOSES;

(C) A COMPREHENSIVE, PHASED PROGRAMME WITH AGREED TIME-TABLES WHENEVER FEASIBLE, FOR PROGRESSIVE AND BALANCED REDUCTION OF STOCKPILES OF NUCLEAR WEAPONS AND THEIR MEANS OF DELIVERY, LEADING TO THEIR ULTIMATE AND COMPLETE ELIMINATION AT THE EARLIEST POSSIBLE TIME.

5. THE CONFERENCE ALSO RECALLED THAT IN THE FINAL DECLARATION OF THE FIRST REVIEW CONFERENCE, THE PARTIES EXPRESSED THE VIEW THAT THE CONCLUSION OF A TREATY BANNING ALL NUCLEAR-WEAPON TESTS WAS ONE OF THE MOST IMPORTANT MEASURES TO HALT THE NUCLEAR ARMS RACE AND EXPRESSED THE HOPE THAT THE NUCLEAR-WEAPON STATES PARTY TO THE TREATY WOULD TAKE THE LEAD IN REACHING AN EARLY SOLUTION OF THE TECHNICAL AND POLITICAL DIFFICULTIES OF THIS ISSUE.

6. THE CONFERENCE EXAMINED DEVELOPMENTS RELATING TO THE CESSATION OF THE NUCLEAR ARMS RACE, IN THE PERIOD UNDER REVIEW AND NOTED IN PARTICULAR THAT THE DESTRUCTIVE POTENTIALS OF THE NUCLEAR ARSENALS OF NUCLEAR-WEAPON STATES PARTIES, WERE UNDERGOING CONTINUING DEVELOPMENT, INCLUDING A GROWING RESEARCH AND DEVELOPMENT COMPONENT IN MILITARY SPENDING, CONTINUED NUCLEAR TESTING, DEVELOPMENT OF NEW DELIVERY SYSTEMS AND THEIR DEPLOYMENT.

7. THE CONFERENCE NOTED THE CONCERNS EXPRESSED REGARDING DEVELOPMENTS WITH FAR REACHING IMPLICATIONS AND THE POTENTIAL OF A NEW ENVIRONMENT, SPACE, BEING DRAWN INTO THE ARMS RACE. IN THAT REGARD THE CONFERENCE ALSO NOTED THE FACT THAT THE UNITED STATES OF AMERICA AND THE UNION OF SOVIET SOCIALIST REPUBLICS ARE PURSUING BILATERAL NEGOTIATIONS ON A BROAD COMPLEX OF QUESTIONS CONCERNING SPACE AND NUCLEAR ARMS, WITH A VIEW TO ACHIEVING EFFECTIVE AGREEMENTS AIMED AT PREVENTING AN ARMS RACE IN SPACE AND TERMINATING IT ON EARTH.

8. THE CONFERENCE NOTED WITH REGRET THAT THE DEVELOPMENT AND DEPLOYMENT OF NUCLEAR WEAPON SYSTEMS HAD CONTINUED DURING THE PERIOD OF REVIEW.

9. THE CONFERENCE ALSO TOOK NOTE OF NUMEROUS PROPOSALS AND ACTIONS, MULTILATERAL AND UNILATERAL, ADVANCED DURING THE PERIOD UNDER REVIEW BY MANY STATES WITH THE AIM OF MAKING PROGRESS TOWARDS THE CESSATION OF THE NUCLEAR ARMS RACE AND NUCLEAR DISARMAMENT.

10. THE CONFERENCE EXAMINED THE EXISTING SITUATION IN THE LIGHT OF THE UNDERTAKING ASSUMED BY THE PARTIES IN ARTICLE VI TO PURSUE NEGOTIATIONS IN GOOD FAITH ON EFFECTIVE MEASURES RELATING TO CESSATION OF THE NUCLEAR ARMS RACE AT AN EARLY

DATE AND TO NUCLEAR DISARMAMENT. THE CONFERENCE RECALLED THAT A STAGE OF NEGOTIATIONS ON THE STRATEGIC ARMS LIMITATION TALKS (SALT II) HAD BEEN CONCLUDED IN 1979, BY THE SIGNING OF THE TREATY WHICH HAD REMAINED UNRATIFIED. THE CONFERENCE NOTED THAT BOTH THE UNION OF SOVIET SOCIALIST REPUBLICS AND THE UNITED STATES OF AMERICA HAD DECLARED THAT THEY ARE ABIDING BY THE PROVISIONS OF SALT II.

11. THE CONFERENCE RECALLED THAT THE BILATERAL NEGOTIATIONS BETWEEN THE UNION OF SOVIET SOCIALIST REPUBLICS AND THE UNITED STATES OF AMERICA WHICH WERE HELD BETWEEN 1981 AND 1983 WERE DISCONTINUED WITHOUT ANY CONCRETE RESULTS.

12. THE CONFERENCE NOTED THAT BILATERAL NEGOTIATIONS BETWEEN THE UNION OF SOVIET SOCIALIST REPUBLICS AND THE UNITED STATES OF AMERICA HAD BEEN HELD IN 1985 TO CONSIDER QUESTIONS CONCERNING SPACE AND NUCLEAR ARMS, BOTH STRATEGIC AND INTERMEDIATE-RANGE, WITH ALL THE QUESTIONS CONSIDERED AND RESOLVED IN THEIR INTERRELATIONSHIP. NO AGREEMENT HAS EMERGED SO FAR. THESE NEGOTIATIONS ARE CONTINUING.

13. THE CONFERENCE EVALUATED THE PROGRESS MADE IN MULTILATERAL NUCLEAR DISARMAMENT NEGOTIATIONS IN THE PERIOD OF THE REVIEW.

14. THE CONFERENCE RECALLED THAT THE TRILATERAL NEGOTIATIONS ON A COMPREHENSIVE TEST BAN TREATY, BEGUN IN 1977 BETWEEN THE UNION OF SOVIET SOCIALIST REPUBLICS, THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND AND THE UNITED STATES OF AMERICA, HAD NOT CONTINUED AFTER 1980, THAT THE COMMITTEE ON DISARMAMENT AND LATER THE CONFERENCE ON DISARMAMENT HAD BEEN CALLED UPON BY THE GENERAL ASSEMBLY OF THE UNITED NATIONS IN SUCCESSIVE YEARS TO BEGIN NEGOTIATIONS ON SUCH A TREATY, AND NOTED THAT SUCH NEGOTIATIONS HAD NOT BEEN INITIATED, DESPITE THE SUBMISSION OF DRAFT TREATIES AND DIFFERENT PROPOSALS TO THE CONFERENCE ON DISARMAMENT IN THIS REGARD.

15. THE CONFERENCE NOTED THE LACK OF PROGRESS ON RELEVANT ITEMS OF THE AGENDA OF THE CONFERENCE ON DISARMAMENT, IN PARTICULAR THOSE RELATING TO THE CESSATION OF THE NUCLEAR ARMS RACE AND NUCLEAR DISARMAMENT, THE PREVENTION OF NUCLEAR WAR INCLUDING ALL RELATED MATTERS AND EFFECTIVE INTERNATIONAL ARRANGEMENTS TO ASSURE NON-NUCLEAR-WEAPON STATES AGAINST THE USE OR THREAT OF USE OF NUCLEAR WEAPONS.

16. THE CONFERENCE NOTED THAT TWO REVIEW CONFERENCES HAD TAKEN PLACE SINCE 1980, ONE OF THE SEA-BED TREATY AND ONE ON THE ENVIRONMENTAL MODIFICATION TREATY AND THREE GENERAL CONFERENCES OF THE AGENCY FOR THE PROHIBITION OF NUCLEAR WEAPONS IN LATIN AMERICA. IN 1982, A SPECIAL UNITED NATIONS GENERAL ASSEMBLY SESSION ON DISARMAMENT TOOK PLACE WITHOUT ANY RESULTS IN MATTERS DIRECTLY LINKED TO NUCLEAR DISARMAMENT.

17. THE CONFERENCE ALSO NOTED THE LAST FIVE YEARS HAD THUS NOT GIVEN ANY RESULTS CONCERNING NEGOTIATIONS ON EFFECTIVE MEASURES RELATING TO CESSATION OF THE NUCLEAR ARMS RACE AND TO NUCLEAR DISARMAMENT.

B.

1. THE CONFERENCE CONCLUDED THAT, SINCE NO AGREEMENTS HAD BEEN REACHED IN THE PERIOD UNDER REVIEW ON EFFECTIVE MEASURES RELATING TO THE CESSATION OF AN ARMS RACE AT AN EARLY DATE, ON NUCLEAR DISARMAMENT AND ON A TREATY ON GENERAL AND COMPLETE DISARMAMENT UNDER STRICT AND EFFECTIVE INTERNATIONAL CONTROL, THE ASPIRATIONS CONTAINED IN PREAMBULAR PARAGRAPHS 8 TO 12 HAD STILL NOT BEEN MET, AND THE OBJECTIVES UNDER ARTICLE VI HAD NOT YET BEEN ACHIEVED.

2. THE CONFERENCE REITERATED THAT THE IMPLEMENTATION OF ARTICLE VI IS ESSENTIAL TO THE MAINTENANCE AND STRENGTHENING OF THE TREATY, REAFFIRMED THE COMMITMENT OF ALL STATES PARTIES TO THE IMPLEMENTATION OF THIS ARTICLE AND CALLED UPON THE STATES PARTIES TO INTENSIFY THEIR EFFORTS TO ACHIEVE FULLY THE OBJECTIVES OF THE ARTICLE. THE CONFERENCE ADDRESSED A CALL TO THE NUCLEAR-WEAPON STATES PARTIES IN PARTICULAR TO DEMONSTRATE THIS COMMITMENT.

3. THE CONFERENCE WELCOMES THE FACT THAT THE UNITED STATES OF AMERICA AND THE UNION OF SOVIET SOCIALIST REPUBLICS ARE CONDUCTING BILATERAL NEGOTIATIONS ON A COMPLEX OF QUESTIONS CONCERNING SPACE AND NUCLEAR ARMS - BOTH STRATEGIC AND INTERMEDIATE-RANGE - WITH ALL THESE QUESTIONS CONSIDERED AND RESOLVED IN THEIR INTERRELATIONSHIP. IT HOPES THAT THESE NEGOTIATIONS WILL LEAD TO EARLY AND EFFECTIVE AGREEMENTS AIMED AT PREVENTING AN ARMS RACE IN SPACE AND TERMINATING IT ON EARTH, AT LIMITING AND REDUCING NUCLEAR ARMS, AND AT STRENGTHENING STRATEGIC STABILITY. SUCH AGREEMENTS WILL COMPLEMENT AND ENSURE THE POSITIVE OUTCOME OF MULTILATERAL NEGOTIATIONS ON DISARMAMENT, AND WOULD LEAD TO THE REDUCTION OF INTERNATIONAL TENSIONS AND THE PROMOTION OF INTERNATIONAL PEACE AND SECURITY. THE CONFERENCE RECALLS THAT THE TWO SIDES BELIEVE THAT ULTIMATELY THE BILATERAL NEGOTIATIONS, JUST AS EFFORTS IN GENERAL TO LIMIT AND REDUCE ARMS, SHOULD LEAD TO THE COMPLETE ELIMINATION OF NUCLEAR ARMS EVERYWHERE.

4. THE CONFERENCE URGES THE CONFERENCE ON DISARMAMENT, AS APPROPRIATE, TO PROCEED TO EARLY MULTILATERAL NEGOTIATIONS ON NUCLEAR DISARMAMENT IN PURSUANCE OF PARAGRAPH 50 OF THE FINAL DOCUMENT OF THE FIRST SPECIAL SESSION OF THE GENERAL ASSEMBLY OF THE UNITED NATIONS DEVOTED TO DISARMAMENT.

5. THE CONFERENCE REAFFIRMS THE DETERMINATION EXPRESSED IN THE PREAMBLE OF THE 1963 PARTIAL TEST BAN TREATY, CONFIRMED IN ARTICLE I(B) OF THE SAID TREATY AND REITERATED IN PREAMBULAR

PARAGRAPH 10 OF THE NON-PROLIFERATION TREATY, TO ACHIEVE THE DISCONTINUANCE OF ALL TEST EXPLOSIONS OF NUCLEAR WEAPONS FOR ALL TIME.

6. THE CONFERENCE ALSO RECALLS THAT IN THE FINAL DOCUMENT OF THE FIRST REVIEW CONFERENCE, THE PARTIES EXPRESSED THE VIEW THAT THE CONCLUSION OF A TREATY BANNING ALL NUCLEAR WEAPONS TESTS WAS ONE OF THE MOST IMPORTANT MEASURES TO HALT THE NUCLEAR ARMS RACE. THE CONFERENCE STRESSES THE IMPORTANT CONTRIBUTION THAT SUCH A TREATY WOULD MAKE TOWARD STRENGTHENING AND EXTENDING THE INTERNATIONAL BARRIERS AGAINST THE PRO-LIFERATION OF NUCLEAR WEAPONS; IT FURTHER STRESSES THAT ADHERENCE TO SUCH A TREATY BY ALL STATES WOULD CONTRIBUTE SUBSTANTIALLY TO THE FULL ACHIEVEMENT OF THE NON-PROLIFERATION OBJECTIVE.

7. THE CONFERENCE ALSO TOOK NOTE OF THE APPEALS CONTAINED IN FIVE SUCCESSIVE UNITED NATIONS GENERAL ASSEMBLY RESOLUTIONS SINCE 1981 FOR A MORATORIUM ON NUCLEAR WEAPONS TESTING PENDING THE CONCLUSION OF A COMPREHENSIVE TEST BAN TREATY, AND OF SIMILAR CALLS MADE AT THIS CONFERENCE. IT ALSO TOOK NOTE OF THE MEASURE ANNOUNCED BY THE UNION OF SOVIET SOCIALIST REPUBLICS FOR A UNILATERAL MORATORIUM ON ALL NUCLEAR EXPLOSIONS FROM 6 AUGUST 1985 UNTIL 1 JANUARY 1986, WHICH WOULD CONTINUE BEYOND THAT DATE IF THE UNITED STATES OF AMERICA, FOR ITS PART, REFRAINED FROM CARRYING OUT NUCLEAR EXPLOSIONS. THE UNION OF SOVIET SOCIALIST REPUBLICS SUGGESTED THAT THIS WOULD PROVIDE AN EXAMPLE FOR OTHER NUCLEAR WEAPONS STATES AND WOULD CREATE FAVOURABLE CONDITIONS FOR THE CONCLUSION OF A COMPRE-HENSIVE TEST BAN TREATY AND THE PROMOTION OF THE FULLER IMPLEMENTATION OF THE NON-PROLIFERATION TREATY.

8. THE CONFERENCE TOOK NOTE OF THE UNCONDITIONAL INVITATION EXTENDED BY THE UNITED STATES OF AMERICA TO THE UNION OF SOVIET SOCIALIST REPUBLICS TO SEND OBSERVERS, WHO MAY BRING ANY EQUIPMENT THEY DEEM NECESSARY, TO MEASURE A UNITED STATES OF AMERICA NUCLEAR TEST IN ORDER TO BEGIN A PROCESS WHICH IN THE VIEW OF THE UNITED STATES OF AMERICA WOULD HELP TO ENSURE EFFECTIVE VERIFICATION OF LIMITATIONS ON UNDER-GROUND NUCLEAR TESTING.

9. THE CONFERENCE ALSO TOOK NOTE OF THE APPEALS CONTAINED IN FIVE UNITED NATIONS GENERAL ASSEMBLY RESOLUTIONS SINCE 1982 FOR A FREEZE ON ALL NUCLEAR WEAPONS IN QUANTITATIVE AND QUALITATIVE TERMS, WHICH SHOULD BE TAKEN BY ALL NUCLEAR-WEAPON STATES OR, IN THE FIRST INSTANCE AND SIMULTANEOUSLY, BY THE UNION OF SOVIET SOCIALIST REPUBLICS AND THE UNITED STATES OF AMERICA ON THE UNDERSTANDING THAT THE OTHER NUCLEAR-WEAPON STATES WOULD FOLLOW THEIR EXAMPLE, AND OF SIMILAR CALLS MADE AT THIS CONFERENCE.

10. THE CONFERENCE TOOK NOTE OF PROPOSALS BY THE UNION OF SOVIET SOCIALIST REPUBLICS AND THE UNITED STATES OF AMERICA FOR THE REDUCTION OF NUCLEAR WEAPONS.

11. THE CONFERENCE TOOK NOTE OF PROPOSALS SUBMITTED BY STATES PARTIES ON A NUMBER OF RELATED ISSUES RELEVANT TO ACHIEVING THE PURPOSES OF ARTICLE VI AND SET OUT IN ANNEX I TO THIS DOCUMENT AND IN THE STATEMENTS MADE IN THE GENERAL DEBATE OF THE CONFERENCE.

12. THE CONFERENCE REITERATED ITS CONVICTION THAT THE OBJECTIVES OF ARTICLE VI REMAINED UNFULFILLED AND CONCLUDED THAT THE NUCLEAR-WEAPON STATES SHOULD MAKE GREATER EFFORTS TO ENSURE EFFECTIVE MEASURES FOR THE CESSATION OF THE NUCLEAR ARMS RACE AT AN EARLY DATE, FOR NUCLEAR DISARMAMENT AND FOR A TREATY ON GENERAL AND COMPLETE DISARMAMENT UNDER STRICT AND EFFECTIVE INTERNATIONAL CONTROL.

13. THE CONFERENCE EXPRESSED THE HOPE FOR RAPID PROGRESS IN THE US-USSR BILATERAL NEGOTIATIONS.

14. THE CONFERENCE EXCEPT FOR CERTAIN STATES WHOSE VIEWS ARE REFLECTED IN THE FOLLOWING SUB-PARAGRAPH DEEPLY REGRETTED THAT A COMPREHENSIVE MULTILATERAL NUCLEAR TEST BAN TREATY BANNING ALL NUCLEAR TESTS BY ALL STATES IN ALL ENVIRONMENTS FOR ALL TIME HAD NOT BEEN CONCLUDED SO FAR AND, THEREFORE, CALLED ON THE NUCLEAR WEAPON STATES PARTY TO THE TREATY TO RESUME TRILATERAL NEGOTIATIONS IN 1985 AND CALLED ON ALL THE NUCLEAR-WEAPON STATES TO PARTICIPATE IN THE URGENT NEGOTIATION AND CONCLUSION OF SUCH A TREATY AS A MATTER OF THE HIGHEST PRIORITY IN THE CONFERENCE ON DISARMAMENT.

15. AT THE SAME TIME, THE CONFERENCE NOTED THAT CERTAIN STATES PARTY TO THE TREATY, WHILE COMMITTED TO THE GOAL OF AN EFFECTIVELY VERIFIABLE COMPREHENSIVE NUCLEAR TEST BAN TREATY, CONSIDERED DEEP AND VERIFIABLE REDUCTIONS IN EXISTING ARSENALS OF NUCLEAR WEAPONS AS THE HIGHEST PRIORITY IN THE PROCESS OF PURSUING THE OBJECTIVE OF ARTICLE VI.

16. THE CONFERENCE ALSO NOTED THE STATEMENT OF THE USSR, AS ONE OF THE NUCLEAR WEAPON STATES PARTY TO THE TREATY, RECALLING ITS REPEATEDLY EXPRESSED READINESS TO PROCEED FORTHWITH TO NEGOTIATIONS, TRILATERAL AND MULTILATERAL, WITH THE AIM OF CONCLUDING A COMPREHENSIVE NUCLEAR TEST BAN TREATY AND THE SUBMISSION BY IT OF A DRAFT TREATY PROPOSAL TO THIS END.

ARTICLE VII AND THE SECURITY OF NON-NUCLEAR-WEAPON STATES

1. THE CONFERENCE OBSERVES THE GROWING INTEREST IN UTILIZING THE PROVISIONS OF ARTICLE VII OF THE NON-PROLIFERATION TREATY, WHICH RECOGNIZES THE RIGHT OF ANY GROUP OF STATES TO CONCLUDE REGIONAL TREATIES IN ORDER TO ASSURE THE ABSENCE OF NUCLEAR WEAPONS IN THEIR RESPECTIVE TERRITORIES.

2. THE CONFERENCE CONSIDERS THAT THE ESTABLISHMENT OF NUCLEAR-WEAPON-FREE ZONES ON THE BASIS OF ARRANGEMENTS FREELY ARRIVED AT AMONG THE STATES OF THE REGION CONCERNED CONSTITUTES AN IMPORTANT DISARMAMENT MEASURE AND THEREFORE THE PROCESS OF ESTABLISHING SUCH ZONES IN DIFFERENT PARTS OF THE WORLD SHOULD BE ENCOURAGED WITH THE ULTIMATE OBJECTIVE OF ACHIEVING A WORLD ENTIRELY FREE OF NUCLEAR WEAPONS. IN THE PROCESS OF ESTABLISHING SUCH ZONES, THE CHARACTERISTICS OF EACH REGION SHOULD BE TAKEN INTO ACCOUNT.

3. THE CONFERENCE EMPHASIZES THE IMPORTANCE OF CONCLUDING NUCLEAR-WEAPON-FREE ZONE ARRANGEMENTS IN HARMONY WITH INTERNATIONALLY RECOGNIZED PRINCIPLES, AS STATED IN THE FINAL DOCUMENT OF THE FIRST SPECIAL SESSION OF THE UNITED NATIONS DEVOTED TO DISARMAMENT.

4. THE CONFERENCE HOLDS THE VIEW THAT, UNDER APPROPRIATE CONDITIONS, PROGRESS TOWARDS THE ESTABLISHMENT OF NUCLEAR-WEAPON-FREE ZONES WILL CREATE CONDITIONS MORE CONDUCIVE TO THE ESTABLISHMENT OF ZONES OF PEACE IN CERTAIN REGIONS OF THE WORLD.

5. THE CONFERENCE EXPRESSES ITS BELIEF THAT CONCRETE MEASURES OF NUCLEAR DISARMAMENT WOULD SIGNIFICANTLY CONTRIBUTE TO CREATING FAVOURABLE CONDITIONS FOR THE ESTABLISHMENT OF NUCLEAR-WEAPON-FREE ZONES.

6. THE CONFERENCE EXPRESSES ITS SATISFACTION AT THE CONTINUED SUCCESSFUL OPERATION OF THE TREATY FOR THE PROHIBITION OF NUCLEAR WEAPONS IN LATIN AMERICA (TREATY OF TLATELOLCO). IT REAFFIRMS THE REPEATED EXHORTATIONS OF THE GENERAL ASSEMBLY TO FRANCE, WHICH IS ALREADY A SIGNATORY OF ADDITIONAL PROTOCOL I, TO RATIFY IT, AND CALLS UPON THE LATIN AMERICAN STATES THAT ARE ELIGIBLE TO BECOME PARTIES TO THE TREATY TO DO SO. THE CONFERENCE WELCOMES THE SIGNATURE AND RATIFICATION OF ADDITIONAL PROTOCOL II TO THIS TREATY BY ALL NUCLEAR-WEAPON STATES.

7. THE CONFERENCE ALSO NOTES THE CONTINUED EXISTENCE OF THE ANTARCTIC TREATY.

8. THE CONFERENCE NOTES THE ENDORSEMENT OF THE SOUTH PACIFIC NUCLEAR FREE ZONE TREATY BY THE SOUTH-PACIFIC FORUM ON 6 AUGUST 1985 AT RAROTONGA AND WELCOMES THIS ACHIEVEMENT AS CONSISTENT WITH ARTICLE VII OF THE NON-PROLIFERATION TREATY. THE CONFERENCE ALSO TAKES NOTE OF THE DRAFT PROTOCOLS TO THE SOUTH PACIFIC NUCLEAR FREE ZONE TREATY AND FURTHER NOTES THAT AGREEMENT AT THE SOUTH PACIFIC FORUM THAT CONSULTATIONS ON THE PROTOCOLS SHOULD BE HELD BETWEEN MEMBERS OF THE FORUM AND THE NUCLEAR-WEAPON STATES ELIGIBLE TO SIGN THEM.

9. THE CONFERENCE TAKES NOTE OF THE EXISTING PROPOSALS AND THE ONGOING REGIONAL EFFORTS TO ACHIEVE NUCLEAR WEAPON-FREE ZONES IN DIFFERENT AREAS OF THE WORLD.

10. THE CONFERENCE RECOGNIZES THAT FOR THE MAXIMUM EFFECTIVENESS OF ANY TREATY ARRANGEMENTS FOR ESTABLISHING A NUCLEAR-WEAPON-FREE ZONE THE CO-OPERATION OF THE NUCLEAR WEAPON STATES IS NECESSARY. IN THIS CONNECTION, THE NUCLEAR-WEAPON STATES ARE INVITED TO ASSIST THE EFFORTS OF STATES TO CREATE NUCLEAR-WEAPON-FREE ZONES, AND TO ENTER INTO BINDING UNDERTAKINGS TO RESPECT STRICTLY THE STATUS OF SUCH A ZONE AND TO REFRAIN FROM THE USE OR THREAT OF USE OF NUCLEAR WEAPONS AGAINST THE STATES OF THE ZONE.

11. THE CONFERENCE WELCOMES THE CONSENSUS REACHED BY THE UNITED NATIONS GENERAL ASSEMBLY AT ITS THIRTY-FIFTH SESSION THAT THE ESTABLISHMENT OF A NUCLEAR-WEAPON-FREE ZONE IN THE REGION OF THE MIDDLE EAST WOULD GREATLY ENHANCE INTERNATIONAL PEACE AND SECURITY, AND URGES ALL PARTIES DIRECTLY CONCERNED TO CONSIDER SERIOUSLY TAKING THE PRACTICAL AND URGENT STEPS REQUIRED FOR THE IMPLEMENTATION OF THE PROPOSAL TO ESTABLISH A NUCLEAR-WEAPON-FREE ZONE IN THE REGION OF THE MIDDLE EAST.

12. THE CONFERENCE ALSO INVITES THE NUCLEAR-WEAPON STATES AND ALL OTHER STATES TO RENDER THEIR ASSISTANCE IN THE ESTABLISHMENT OF THE ZONE AND AT THE SAME TIME TO REFRAIN FROM ANY ACTION THAT RUNS COUNTER TO THE LETTER AND SPIRIT OF UNITED NATIONS GENERAL ASSEMBLY RESOLUTION 39/54.

13. THE CONFERENCE CONSIDERS THAT ACCEDING TO THE NON-PROLIFERATION TREATY AND ACCEPTANCE OF IAEA SAFEGUARDS BY ALL STATES IN THE REGION OF THE MIDDLE EAST WILL GREATLY FACILITATE THE CREATION OF A NUCLEAR-WEAPON-FREE ZONE IN THE REGION AND WILL ENHANCE THE CREDIBILITY OF THE TREATY.

14. THE CONFERENCE CONSIDERS THAT THE DEVELOPMENT OF A NUCLEAR WEAPON CAPABILITY BY SOUTH AFRICA AT ANY TIME FRUSTRATES THE IMPLEMENTATION OF THE DECLARATION ON THE DENUCLEARIZATION OF AFRICA AND THAT COLLABORATION WITH SOUTH AFRICA IN THIS AREA WOULD UNDERMINE THE CREDIBILITY AND THE STABILITY OF THE NON-PROLIFERATION TREATY REGIME. SOUTH AFRICA IS CALLED UPON TO SUBMIT ALL ITS NUCLEAR INSTALLATIONS AND FACILITIES TO IAEA SAFEGUARDS AND TO ACCEDE TO THE NON-PROLIFERATION TREATY. ALL STATES PARTIES DIRECTLY CONCERNED ARE URGED TO CONSIDER SERIOUSLY TAKING THE PRACTICAL AND URGENT STEPS REQUIRED FOR THE IMPLEMENTATION OF THE PROPOSAL TO ESTABLISH A NUCLEAR-WEAPON-FREE ZONE IN AFRICA. THE NUCLEAR-WEAPON STATES ARE INVITED TO ASSIST THE EFFORTS OF STATES TO CREATE A NUCLEAR-WEAPON-FREE ZONE IN AFRICA, AND TO ENTER INTO BINDING UNDERTAKINGS TO RESPECT STRICTLY THE STATUS OF SUCH A ZONE AND TO REFRAIN FROM THE USE OR THREAT OF USE OF NUCLEAR WEAPONS AGAINST THE STATES OF THE ZONE.

15. THE CONFERENCE CONSIDERS THAT THE MOST EFFECTIVE GUARANTEE AGAINST THE POSSIBLE USE OF NUCLEAR WEAPONS AND THE DANGER OF NUCLEAR WAR IS NUCLEAR DISARMAMENT AND THE COMPLETE ELIMINATION OF NUCLEAR WEAPONS. PENDING THE ACHIEVEMENT OF THIS GOAL ON A UNIVERSAL BASIS AND RECOGNIZING THE NEED FOR ALL STATES TO ENSURE THEIR INDEPENDENCE, TERRITORIAL INTEGRITY AND SOVEREIGNTY, THE CONFERENCE REAFFIRMS THE PARTICULAR IMPORTANCE OF ASSURING AND STRENGTHENING THE SECURITY OF NON-NUCLEAR-WEAPON STATES PARTIES WHICH HAVE RENOUNCED THE ACQUISITION OF NUCLEAR WEAPONS. THE CONFERENCE RECOGNIZES THAT DIFFERENT APPROACHES MAY BE REQUIRED TO STRENGTHEN THE SECURITY OF NON-NUCLEAR-WEAPON STATES PARTIES TO THE TREATY.

16. THE CONFERENCE UNDERLINES AGAIN THE IMPORTANCE OF ADHERENCE TO THE TREATY BY NON-NUCLEAR-WEAPON STATES AS THE BEST MEANS OF REASSURING ONE ANOTHER OF THEIR RENUNCIATION OF NUCLEAR WEAPONS AND AS ONE OF THE EFFECTIVE MEANS OF STRENGTHENING THEIR MUTUAL SECURITY.

17. THE CONFERENCE TAKES NOTE OF THE CONTINUED DETERMINATION OF THE DEPOSITARY STATES TO HONOUR THEIR STATEMENTS, WHICH WERE WELCOMED BY THE UNITED NATIONS SECURITY COUNCIL IN RESOLUTION 255 (1968), THAT, TO ENSURE THE SECURITY OF THE NON-NUCLEAR-WEAPON STATES PARTIES TO THE TREATY, THEY WILL PROVIDE OR SUPPORT IMMEDIATE ASSISTANCE, IN ACCORDANCE WITH THE CHARTER, TO ANY NON-NUCLEAR-WEAPON STATE PARTY TO THE TREATY WHICH IS A VICTIM OF AN ACT OR AN OBJECT OF A THREAT OF AGGRESSION IN WHICH NUCLEAR WEAPONS ARE USED.

18. THE CONFERENCE REITERATES ITS CONVICTION THAT, IN THE INTEREST OF PROMOTING THE OBJECTIVES OF THE TREATY, INCLUDING THE STRENGTHENING OF THE SECURITY OF NON-NUCLEAR WEAPON STATES PARTIES, ALL STATES, BOTH NUCLEAR-WEAPON AND NON-NUCLEAR-WEAPON STATES, SHOULD REFRAIN, IN ACCORDANCE WITH THE CHARTER OF THE UNITED NATIONS, FROM THE THREAT OR THE USE OF FORCE IN RELATIONS BETWEEN STATES, INVOLVING EITHER NUCLEAR OR NON-NUCLEAR WEAPONS.

19. THE CONFERENCE RECALLS THAT THE TENTH SPECIAL SESSION OF THE GENERAL ASSEMBLY IN PARAGRAPH 59 OF THE FINAL DOCUMENT TOOK NOTE OF THE DECLARATIONS MADE BY THE NUCLEAR-WEAPON STATES REGARDING THE ASSURANCE OF NON-NUCLEAR-WEAPON STATES AGAINST THE USE OR THREAT OF USE OF NUCLEAR WEAPONS AND URGED THEM TO PURSUE EFFORTS TO CONCLUDE, AS APPROPRIATE, EFFECTIVE ARRANGEMENTS TO ASSURE NON-NUCLEAR-WEAPON STATES AGAINST THE USE OR THREAT OF USE OF NUCLEAR WEAPONS.

20. BEING AWARE OF THE CONSULTATIONS AND NEGOTIATIONS ON EFFECTIVE INTERNATIONAL ARRANGEMENTS TO ASSURE NON-NUCLEAR WEAPON STATES AGAINST THE USE OR THREAT OF USE OF NUCLEAR WEAPONS, WHICH HAVE BEEN UNDER WAY IN THE CONFERENCE ON DISARMAMENT FOR SEVERAL YEARS, THE CONFERENCE REGRETS THAT

THE SEARCH FOR A COMMON APPROACH WHICH COULD BE INCLUDED IN AN INTERNATIONAL LEGALLY BINDING INSTRUMENT, HAS BEEN UNSUCCESSFUL. THE CONFERENCE TAKES NOTE OF THE REPEATEDLY EXPRESSED INTENTION OF THE CONFERENCE ON DISARMAMENT TO CONTINUE TO EXPLORE WAYS AND MEANS TO OVERCOME THE DIFFICULTIES ENCOUNTERED IN ITS WORK AND TO CARRY OUT NEGOTIATIONS ON THE QUESTION OF EFFECTIVE INTERNATIONAL ARRANGEMENTS TO ASSURE NON-NUCLEAR-WEAPON STATES AGAINST THE USE OR THREAT OF USE OF NUCLEAR WEAPONS. IN THIS CONNECTION, THE CONFERENCE CALLS UPON ALL STATES, PARTICULARLY THE NUCLEAR-WEAPON STATES, TO CONTINUE THE NEGOTIATIONS IN THE CONFERENCE ON DISARMAMENT DEVOTED TO THE SEARCH FOR A COMMON APPROACH ACCEPTABLE TO ALL, WHICH COULD BE INCLUDED IN AN INTERNATIONAL INSTRUMENT OF A LEGALLY BINDING CHARACTER.

ARTICLE VIII

THE STATES PARTY TO THE TREATY PARTICIPATING IN THE CONFERENCE PROPOSE TO THE DEPOSITARY GOVERNMENTS THAT A FOURTH CONFERENCE TO REVIEW THE OPERATION OF THE TREATY BY CONVENED IN 1990.

THE CONFERENCE ACCORDINGLY INVITES STATES PARTY TO THE TREATY WHICH ARE MEMBERS OF THE UNITED NATIONS TO REQUEST THE SECRETARY-GENERAL OF THE UNITED NATIONS TO INCLUDE THE FOLLOWING ITEM IN THE PROVISIONAL AGENDA OF THE FORTY-THIRD SESSION OF THE GENERAL ASSEMBLY:

"IMPLEMENTATION OF THE CONCLUSIONS OF THE THIRD REVIEW CONFERENCE OF THE PARTIES TO THE TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS AND ESTABLISHMENT OF A PREPARATORY COMMITTEE FOR THE FOURTH CONFERENCE."

ARTICLE IX

THE CONFERENCE, HAVING EXPRESSED GREAT SATISFACTION THAT THE OVERWHELMING MAJORITY OF STATES HAVE ACCEDED TO THE TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS AND HAVING RECOGNIZED THE URGENT NEED FOR FURTHER ENSURING THE UNIVERSALITY OF THE TREATY, APPEALS TO ALL STATES, PARTICULARLY THE NUCLEAR-WEAPON STATES AND OTHER STATES ADVANCED IN NUCLEAR TECHNOLOGY, WHICH HAVE NOT YET DONE SO, TO ADHERE TO THE TREATY AT THE EARLIEST POSSIBLE DATE.

Exhibit XIV

December 23, 1985

The President's Unclassified Report on
Soviet Noncompliance with Arms Control Agreements

In reporting to the Congress on February 7 of this year on Soviet noncompliance with arms control agreements, I stated that:

> "In order for arms control to have meaning and credibly contribute to national security and to global or regional stability, it is essential that all parties to agreements fully comply with them. Strict compliance with all provisions of arms control agreements is fundamental, and this Administration will not accept anything less. To do so would undermine the arms control process and damage the chances for establishing a more constructive U.S.-Soviet relationship."

I further stated that:

> "Soviet noncompliance is a serious matter. It calls into question important security benefits from arms control, and could create new security risks. It undermines the confidence essential to an effective arms control process in the future. With regard to the issues analyzed in the January 1984 report, the Soviet Union has thus far not provided satisfactory explanations nor undertaken corrective actions sufficient to alleviate our concerns. The United States Government has vigorously pressed, and will continue to press, these compliance issues with the Soviet Union through diplomatic channels."

The important role of treaty compliance for future arms control was recently recognized by the United Nations. On December 12, 1985, the General Assembly passed by a vote of 131-0 (with 16 abstentions) a resolution on arms control compliance which had been introduced by the United States and other co-sponsors. The resolution:

-- urges all parties to arms limitation and disarmament agreements to comply with their provisions;

-- calls upon those parties to consider the implications of noncompliance for international security and stability and for the prospects for further progress in the field of disarmament; and

-- appeals to all U.N. members to support efforts to resolve noncompliance questions "with a view toward encouraging strict observance of the provisions subscribed to and maintaining or restoring the integrity of arms limitation or disarmament agreements."

At the request of the Congress, I have in the past two years provided three reports to the Congress on Soviet compliance issues. The first, forwarded in January 1984, reviewed seven compliance issues, concluding that the Soviet Union had, in fact, violated a number of important arms control commitments.

In September 1984 I provided, at the request of the Congress, a report on Soviet noncompliance prepared by the independent General Advisory Committee on Arms Control and Disarmament. That report concluded that over a 25-year span the Soviets had violated a substantial number of arms control commitments.

In February 1985, I submitted a report to the Congress updating the Administration's January 1984 report and reviewing 13 issues that could be treated in unclassified terms and an additional group of six issues treated on a classified basis. That report discussed the pattern of Soviet arms control violations, probable violations, or ambiguous activity in seventeen cases. The U.S. Government found seven Soviet violations, three probable violations, one likely and one potential violation. The Soviets were found to be in compliance in two other cases examined.

One of those issues, Yankee-Class submarine reconfiguration, is not addressed in the current report. While a submarine reconfigured to carry long-range cruise missiles constitutes a threat similar to that of the original SSBN, I reported in February that Soviet reconfiguration activities have not been in violation of the SALT I Interim Agreement. This issue, therefore, requires no further judgment in terms of compliance at present.

Public Law 99-145 requires the Administration to provide on an annual basis by December 1 of each year a classified and unclassified report to the Congress containing the findings of the President and any additional information necessary to keep the Congress informed on Soviet compliance with arms control agreements.

The current report responds to this Congressional requirement. It is the product of months of careful technical and legal analysis by all relevant agencies of the United States Government and represents the Administration's authoritative updated treatment of this important matter.

The current unclassified report examines one new issue and updates all of the issues studied in the classified report of February 1985, except the issue of Yankee-Class submarine reconfiguration. There are violations in nine cases. Of the nine cases involving violations, one SALT II issue -- that of Soviet concealment of the association between missiles and their launchers -- is examined for the first time. The Soviet Union has now also violated its commitment to the SALT I Interim Agreement through the prohibited use of remaining facilities at former SS-7 ICBM sites. In addition, Soviet deployment of the SS-25 ICBM during 1985 constitutes a further violation of the SALT II prohibition on a second new type of ICBM. Several other issues involve potential, probable or likely violations.

The current unclassified report reaffirms the findings of the February 1985 classified report concerning ABM issues, making public two of them for the first time. It also reaffirms the February findings concerning SALT II issues involving violations, including one concerning strategic nuclear delivery vehicles, which has not previously been made public. In two SALT II issues with respect to which the Soviets were not judged to be in clear violation in the classified report of last February, the findings are altered or updated. These two issues are the SS-16 and an issue made public for the first time -- Backfire Bomber production rate.

The Administration's most recent studies support its conclusion that there is a pattern of Soviet noncompliance. As documented in this and previous reports, the Soviet Union has violated its legal obligation under or political commitment to the SALT I ABM Treaty and Interim Agreement, the SALT II agreement, the Limited Test Ban Treaty of 1963, the Biological and Toxin Weapons Convention, the Geneva Protocol on Chemical Weapons, and the Helsinki Final Act. In addition, the U.S.S.R. has likely violated provisions of the Threshold Test Ban Treaty.

While we remain concerned about Soviet violations of Basket I of the Helsinki Final Act and the Limited Test Ban Treaty, there is no unambiguous evidence of new 1985 Soviet violations of these two treaties. With regard to the Biological and Toxin Weapons Convention, or the Geneva Protocol on Chemical Weapons, there also is no unambiguous evidence of new 1985 Soviet lethal attacks that meets our strict standards of evidence. However, the Soviets [illegible] remain in violation of the Biological and Toxin Weapons Convention.

THE SIGNIFICANCE OF SOVIET NONCOMPLIANCE

Through its noncompliance, the Soviet Union has made military gains in the areas of strategic offensive arms as well as chemical, biological and toxin weapons. If the yields of Soviet nuclear tests have been substantially above 150 kilotons, then Soviet testing would allow proportionately greater gains in nuclear weapons development than the U.S. could achieve. The possible extent of the Soviet Union's military gains by virtue of its noncompliance in the area of strategic defense also is of increasing importance and serious concern.

In a fundamental sense, all deliberate Soviet violations are equally important. As violations of legal obligations or political commitments, they

cause grave concern regarding Soviet commitment to arms control, and they darken the atmosphere in which current negotiations are being conducted in Geneva and elsewhere.

In another sense, Soviet violations are not of equal importance. While some individual violations are of little apparent military significance in their own right, such violations can acquire importance if, left unaddressed, they are permitted to become precedents for future, more threatening violations. Moreover, some issues that individually have little military significance could conceivably become significant when taken in their aggregate.

The Krasnoyarsk Radar

The radar under construction near Krasnoyarsk in Siberia is disturbing for both political and military reasons. Politically, the radar demonstrates that the Soviets are capable of violating arms control obligations and commitments even when they are negotiating with the United States or when they know we will detect a violation. The 1972 ABM Treaty prohibits the Soviets from siting an ABM radar, or siting and orienting a ballistic missile detection and tracking radar, as the Krasnoyarsk radar is sited and oriented.

Militarily, the Krasnoyarsk radar violation goes to the heart of the ABM Treaty. Large phased-array radars (LPARs) like that under construction near Krasnoyarsk were recognized during the ABM Treaty negotiations as the critical, long lead-time element of a nationwide ABM defense.

When considered as a part of a Soviet network of new LPARs, the Krasnoyarsk radar has the inherent potential to contribute to ABM radar coverage of a significant portion of the central U.S.S.R. Moreover, the Krasnoyarsk radar closes the remaining gap in Soviet ballistic missile detection and tracking coverage.

ABM Territorial Defense and Other ABM Activities

The Krasnoyarsk radar appears even more menacing when considered in the context of other Soviet ABM-related activities. Together they cause concern that the Soviet Union may be preparing an ABM territorial defense. Some of these activities, such as permitted LPARs and the Moscow ABM deployment area, are consistent with the ABM Treaty. Others involve potential or probable Soviet violations or other ambiguous activity, including:

-- the apparent testing and development of components required for an ABM system which could be deployed to a site in months rather than years;

-- the probable concurrent testing of air defense components and ABM components;

-- the development of a modern air defense system, the SA-X-12, which may have some ABM capabilities; and

-- the demonstration of an ability to reload ABM launchers and to refire the interceptor missile in a period of time shorter than previously noted.

Soviet deployment of an ABM territorial defense contrary to the ABM Treaty would have profound implications for Western security and the vital East-West strategic balance. A unilateral Soviet territorial ABM capability acquired in violation of the ABM Treaty could erode our deterrent and leave doubts about its credibility. Such a capability might encourage the Soviets to take increased risks in crises, thus degrading crisis stability.

SS-25

The SS-25, a clear and irreversible violation of the Soviet Union's SALT II commitment, also has important political and military implications. Testing and deployment of this missile violates a central provision of the SALT II Treaty, which was intended to limit the number of new ICBMs. The Treaty permits only one new type of ICBM for each Party. The Soviets have informed us that their one new type will be the SS-X-24, which is now undergoing

testing, and have falsely asserted that the SS-25 is a permitted modernization of the silo-based SS-13 ICBM.

Under the pretext of permitted modernization, the Soviets, since the last compliance report, have deployed a prohibited second new type of missile, the SS-25, which is mobile and could be made more lethal. The SS-25 also could be modified to carry more than a single warhead. Most worrisome is the technical argument by which the Soviets sought to justify the SS-25, for it might be applied to additional prohibited new types of ICBMs in the future.

Telemetry Encryption and Concealment of Missile/Launcher Association

Two other Soviet violations impede our ability to verify the Soviet Union's compliance with its political commitments. Soviet use of encryption impedes U.S. verification of Soviet compliance and thus contravenes the provision of the SALT II Treaty which prohibits use of deliberate concealment measures which impede verification of compliance by national technical means. A new finding of this report is that current Soviet activities violate the provision of the Treaty which prohibits use of deliberate concealment measures associated with testing, including those measures aimed at concealing the association between ICBMs and launchers during testing. These deliberate Soviet concealment activities impede our ability to know whether a type of missile is in compliance with SALT II requirements. They could also make it more difficult for the United States to assess accurately the critical parameters of any future missile.

Since the SALT I agreement in 1972, Soviet encryption and concealment activities have become more extensive and disturbing. These activities, Soviet responses on these issues, and Soviet failure to take the corrective actions which the United States has repeatedly requested, are indicative of a Soviet attitude contrary to the fundamentals of sound arms control agreements. Soviet encryption and concealment activities present special obstacles to maintaining existing arms control agreements, undermine the political confidence necessary for concluding new treaties, and underscore the necessity that any new agreement be effectively verifiable. Soviet noncompliance, as documented in current and past Administration reports and exemplified by the encryption and concealment issues, has made verification and compliance pacing elements of arms control today.

Chemical, Biological and Toxin Weapons

The Soviet Union's violations of its legal obligations under the Biological and Toxin Weapons Convention and the Geneva Protocol have important political and military implications. The Soviets had a program of biological and toxin weapons before they signed the multilateral Treaty. Upon signing the Treaty, the Soviets not only did not stop their illegal program but they expanded facilities and were instrumental in the use of prohibited agents.

The Soviet Union has a prohibited offensive biological warfare capability which we do not have and against which we have no defense. This capability may include advanced biological agents about which we have little knowledge. Evidence suggests that the Soviets are expanding their chemical and toxin warfare capabilities in a manner that has no parallel in NATO's retaliatory or defensive programs. Even though there has been no unambiguous evidence of lethal attacks during 1985, previous activities have provided testing, development and operational experience.

Nuclear Testing

With respect to the Threshold Test Ban Treaty, Soviet testing at yields above the 150 kiloton limit would allow development of advanced nuclear weapons with proportionately higher yields than the yields of weapons that the U.S. could develop under the Treaty. The U.S. Government judges that Soviet test activities constitute likely violations of the 150 kiloton limit.

Other Issues

Military significance is evidently not necessarily the determining factor in Soviet decisions or actions which violate their arms control commitments. The Soviet Union has also violated or probably violated arms control

obligations and commitments from which at present it appears to reap little military gain. The following cases are relevant in this regard:

-- the use of remaining facilities at former SS-7 ICBM sites since the February 1985 compliance report (SALT I Interim Agreement);

-- exceeding the strategic nuclear delivery vehicle limits (SALT II);

-- probable deployment of the SS-16 (SALT II); and

-- underground nuclear test venting (Limited Test Ban Treaty).

The 1981 Soviet violation of the military exercise notification provisions of the Helsinki Final Act involved an action contrary to the confidence building measures included in that agreement.

Soviet deployments of Backfire Bombers to Arctic staging bases are inconsistent with the Soviet Union's political commitment to the SALT II Treaty. In addition, while there are ambiguities concerning the data, there is evidence that the production rate of the Backfire Bomber was constant at slightly more than 30 per year until 1984, and slightly less than 30 per year since then. These Soviet Backfire Bomber activities will continue to be monitored and assessed.

THE SOVIET RESPONSE

At the same time as the Administration has reported its concerns and findings to the Congress, the United States has had extensive exchanges with the Soviet Union on Soviet noncompliance in the Standing Consultative Commission (SCC), where SALT-related issues (including ABM issues) are discussed, and through other appropriate diplomatic channels. I expressed my personal concerns directly to General Secretary Gorbachev during my recent meeting with him in Geneva.

All of the violations, probable violations and ambiguous situations included in this report and previously reported on have been raised with the Soviets, except certain sensitive issues. The Soviet Union has thus far not provided explanations sufficient to alleviate our concerns on these issues, nor has the Soviet Union taken actions needed to correct existing violations. Instead, they have continued to assert that they are in complete compliance with their arms control obligations and commitments.

US POLICY

In contrast with the Soviet Union, the United States has fully observed its arms control obligations and commitments, including those under the SALT I and SALT II agreements. As I stated in my message to the Congress on June 10 of this year concerning U.S. interim restraint policy:

"In 1982, on the eve of the Strategic Arms Reductions Talks (START), I decided that the United States would not undercut the expired SALT I agreement or the unratified SALT II agreement as long as the Soviet Union exercised equal restraint. Despite my serious reservations about the inequities of the SALT I agreement and the serious flaws of the SALT II agreement, I took this action in order to foster an atmosphere of mutual restraint conducive to serious negotiation as we entered START.

"Since then, the United States has not taken any actions which would undercut existing arms control agreements. The United States has fully kept its part of the bargain. However, the Soviets have not. They have failed to comply with several provisions of SALT II, and we have serious concerns regarding their compliance with the provisions of other accords.

"The pattern of Soviet violations, if left uncorrected, undercuts the integrity and viability of arms control as an instrument to assist in ensuring a secure and stable future world. The United

States will continue to pursue vigorously with the Soviet Union the resolution of our concerns over Soviet noncompliance. We cannot impose upon ourselves a double standard that amounts to unilateral treaty compliance."

On June 10, I invited the Soviet Union to join the United States in an interim framework of truly mutual restraint on strategic offensive arms and to pursue with renewed vigor our top priority of achieving deep reductions in the size of existing nuclear arsenals in the ongoing negotiations in Geneva. I noted that the U.S. cannot establish such a framework alone and that it would require the Soviet Union to take positive, concrete steps to correct its noncompliance, to resolve our other compliance concerns, to reverse its unparalleled and unwarranted military buildup, and actively to pursue arms reduction agreements in the Geneva negotiations.

In going the extra mile, I have made clear that as an integral part of this policy, we will also take those steps required to assure our national security and that of our Allies that were made necessary by Soviet noncompliance. Thus, as I indicated to the Congress on June 10, "appropriate and proportionate responses to Soviet noncompliance are called for to ensure our security, to provide incentives to the Soviets to correct their noncompliance, and to make it clear to Moscow that violations of arms control obligations entail real costs."

As we monitor Soviet actions for evidence of the positive, concrete steps needed on their part to correct these activities, I have directed the Department of Defense to conduct a comprehensive assessment aimed at identifying specific actions that the United States could take to augment as necessary the U.S. strategic modernization program as a proportionate response to, and as a hedge against the military consequences of those Soviet violations of existing arms control agreements which the Soviets fail to correct. We will carefully study this report as soon as it has been completed.

As we press for corrective Soviet actions and while keeping open all programmatic options for handling future milestones as new U.S. strategic systems are deployed, we will continue to assess the overall situation in light of Soviet actions correcting their noncompliance, reversing their military build-up, and promoting progress in Geneva.

I look forward to continued close consultation with the Congress as we seek to make progress in resolving compliance issues and in negotiating sound arms control agreements.

The findings on Soviet noncompliance with arms control agreements follow.

THE FINDINGS

Anti-Ballistic Missile (ABM) Treaty

Treaty Status

The 1972 ABM Treaty and its Protocol ban deployment of ABM systems except that each party is permitted to deploy one ABM system around the national capital area or, alternatively, at a single ICBM deployment area. The ABM Treaty is in force and is of indefinite duration. Soviet actions not in accord with the ABM Treaty are, therefore, violations of a legal obligation.

1. The Krasnoyarsk Radar

o Obligation: To preclude creation of a base for territorial ABM defense, the ABM Treaty provides that radars for early warning of ballistic missile attack may be deployed only at locations along the periphery of the national territory of each party and that they be oriented outward. The Treaty permits deployment (without regard to location or orientation) of large phased-array radars for purposes of tracking objects in outer space or for use as national technical means of verification of compliance with arms control agreements.

o Issue: The January 1984 and February 1985 reports examined the issue of whether the Krasnoyarsk radar meets the provisions of the ABM Treaty governing phased-array radars. This report reexamines this issue.

o Finding: The US Government reaffirms the conclusion in the February 1985 report that the new large phased-array radar under construction at Krasnoyarsk constitutes a violation of legal obligations under the Anti-Ballistic Missile Treaty of 1972 in that in its associated siting, orientation, and capability, it is prohibited by this Treaty. Continuing construction and the absence of credible alternative explanations have reinforced our assessment of its purpose. Despite US requests, no corrective action has been taken. This and other ABM-related Soviet activities suggest that the USSR may be preparing an ABM defense of its national territory.

2. Mobility of ABM System Components

o Obligation: The ABM Treaty prohibits the development, testing or deployment of mobile land-based ABM systems or components.

o Issue: The February 1985 report examined whether the Soviet Union has developed a mobile land-based ABM system, or components for such a system, in violation of its legal obligation under the ABM Treaty. This report reexamines this issue.

o Finding: The US Government judges that the evidence on Soviet actions with respect to ABM component mobility is ambiguous, but that the USSR's development and testing of components of an ABM system, which apparently are designed to be deployable at sites requiring relatively limited site preparation, represent a potential violation of its legal obligation under the ABM Treaty. This and other ABM-related Soviet activities suggest that the USSR may be preparing an ABM defense of its national territory.

3. Concurrent Testing of ABM and Air Defense Components

o Obligation: The ABM Treaty and its Protocol limit the Parties to one ABM deployment area. In addition to the ABM systems and components at that one deployment area, the Parties may have ABM systems and components for development and testing purposes so long as they are located at agreed test ranges. The Treaty also prohibits giving components, other than ABM system components, the capability "to counter strategic ballistic missiles or their elements in flight trajectory" and prohibits the Parties from testing them in "an ABM mode." The Parties agreed that the concurrent testing of SAM and ABM system components is prohibited.

o Issue: The February 1985 compliance report examined whether the Soviet Union has concurrently tested SAM and ABM system components in violation of its legal obligation since 1978 not to do so. It was the purpose of that obligation to further constrain testing of air defense systems in an ABM mode. This report reexamines this issue.

o Finding: The US Government reaffirms the judgment made in the February 1985 Report that the evidence of Soviet actions with respect to concurrent operations is insufficient fully to assess compliance with Soviet obligations under the ABM Treaty. However, the Soviet Union has conducted tests that have involved air defense radars in ABM-related activities. The large number, and consistency over time, of incidents of concurrent operation of ABM and SAM components, plus Soviet failure to accommodate fully US concerns, indicate the USSR probably has violated the prohibition on testing SAM components in an ABM mode. In several cases this may be highly probable. This and other ABM-related activities suggest the USSR may be preparing an ABM defense of its national territory.

4. ABM Capability of Modern SAM Systems

o Obligation: Under the ABM Treaty, each party undertakes not to give non-ABM interceptor missiles, launchers or radars "capabilities to counter strategic ballistic missiles or their elements in flight trajectory, and not to test them in an ABM mode ..."

o Issue: The February 1985 classified report examined whether the Soviet Union has tested a SAM system or component in an ABM mode or given it the capability to counter strategic ballistic missiles or their elements in flight trajectory in violation of their legal obligation under the ABM Treaty. This report reexamines this issue.

o Finding: The US Government reaffirms the judgment made in the February 1985 report that the evidence of Soviet actions with respect to SAM upgrade is insufficient to assess compliance with the Soviet Union's obligations under the ABM Treaty. However, this and other ABM-related Soviet activities suggest that the USSR may be preparing an ABM defense of its national territory.

5. Rapid Reload of ABM Launchers

o Obligation: The ABM Treaty limits to 100 the number of deployed ABM interceptor launchers and deployed interceptor missiles. It does not limit the number of interceptor missiles that can be built and stockpiled. The Treaty prohibits the development, testing or deployment of "automatic or semi-automatic or other similar systems for rapid reload" of the permitted launchers.

o Issue: The February 1985 classified report examined whether the Soviet Union has developed, tested or deployed automatic, semi-automatic, or other similar systems for rapid reload of ABM launchers in violation of its legal obligation under the ABM Treaty. This report reexamines this issue.

o Finding: The US Government judges, on the basis of the evidence available, that the USSR's actions with respect to the rapid reload of ABM launchers constitute an ambiguous situation as concerns its legal obligations under the ABM Treaty not to develop systems for rapid reload. The Soviet Union's reload capabilities are a serious concern. These and other ABM-related Soviet activities suggest that the USSR may be preparing an ABM defense of its national territory.

6. ABM Territorial Defense

o Obligation: The ABM Treaty allows each party a single operational site, explicitly permits modernization and replacement of ABM systems or their components, and explicitly recognizes the existence of ABM test ranges for the development and testing of ABM components. The ABM Treaty prohibits, however, the deployment of an ABM system for defense of the national territory of the parties and prohibits the parties from providing a base for such a defense.

o Issue: The February 1985 report examined whether the Soviets have deployed an ABM system for the defense of their territory or provided a base for such a defense. This report reexamines this issue.

o Finding: The US Government judges that the aggregate of the Soviet Union's ABM and ABM-related actions (e.g., radar construction, concurrent testing, SAM upgrade, ABM rapid reload and ABM mobility) suggests that the USSR may be preparing an ABM defense of its national territory.

SALT II Treaty

Treaty Status

SALT II was signed in June 1979 and has not been ratified. In 1981 the United States made clear to the Soviet Union its intention not to ratify the SALT II Treaty. Prior to this clarification of our position in 1981, both nations were obligated under customary international law not to take actions which would defeat the object and purpose of the signed, but unratified, Treaty. Such Soviet actions prior to 1981 are violations of legal obligations. Since 1981, the United States has observed a political commitment to refrain from actions that undercut the SALT II Treaty so long as the Soviet Union does likewise. The Soviets have told us they also would abide by these provisions. Soviet actions inconsistent with this commitment are violations of their political commitment with respect to the SALT II Treaty.

1. The SS-25 ICBM

o Obligation: In an attempt to constrain the modernization and the proliferation of new, more capable types of ICBMs, the provisions of SALT II permit each side to "flight test and deploy" just one new type of "light" ICBM. A new type is defined as one that differs from an existing type by more than 5 percent in length, largest diameter, launch-weight or throw-weight or differs in number of stages or propellant type. In addition, it was agreed that no ICBM of an existing type with a post-boost vehicle and a single reentry vehicle would be flight-tested or deployed whose reentry vehicle weight is less than 50 percent of the throw-weight of that ICBM. This latter provision was intended to prohibit the possibility that single warhead ICBMs could quickly be converted to MIRVed systems.

o Issues: The January 1984 and February 1985 reports examined the evidence: whether the Soviets have tested or deployed a second new type of ICBM (the SS-25) which is prohibited; whether the reentry vehicle (RV) on that missile, if it is not a new type, is in compliance with the provision that for existing types of single RV missiles, the weight of the RV be equal to at least 50 percent of total throw-weight; and whether encryption of SS-25 flight test telemetry impedes verification. This report reexamines these issues.

o Findings:

a. Second New Type -- Testing and Deployment: The US Government judges, based on convincing evidence about the SS-25, that the throw-weight of the Soviet SS-25 ICBM exceeds by more than five percent the throw-weight of the Soviet SS-13 ICBM and cannot therefore be considered a permitted modernization of the SS-13 as the Soviets claim. The SS-25 is a prohibited second "new type" of ICBM and its testing, in addition to the testing of the SS-X-24 ICBM, thereby is a violation of the Soviet Union's political commitment to observe the "new type" provision of the SALT II Treaty. The deployment of this missile during 1985 constitutes a further violation of the SALT II prohibition on a second "new type" of ICBM.

b. RV-to-Throw-weight Ratio: The US Government reaffirms the conclusion of the January 1984 report regarding the SS-25 RV-to-throw-weight ratio. That is, if we were to accept the Soviet argument that the SS-25 is not a prohibited "new type" of ICBM, it would be a violation of their political commitment to observe the SALT II provision which prohibits the testing of such an existing ICBM with a single reentry vehicle whose weight is less than 50 percent of the throw-weight of the ICBM.

c. Encryption: The US Government reaffirms its judgment made in the January 1984 report regarding telemetry encryption during tests of the SS-25. Encryption during tests of this missile is illustrative of the deliberate impeding of verification of compliance in violation of the USSR's political commitment.

Despite US requests for explanations and corrective actions with regard to the SS-25 ICBM-related activities, Soviet actions continue unchanged, and the Soviet Union has proceeded to deployment of this missile.

2. Strategic Nuclear Delivery Vehicle Limits

o Obligation: The Soviet Union's political commitment to abide by SALT II is interpreted by the US Government as including an obligation not to increase the number of strategic nuclear delivery vehicles (SNDVs) in its arsenal. The Soviet Union had 2,504 SNDVs when it signed SALT II.

o Issue: The February 1985 classified report examined the issue of whether the Soviet Union has abided by its commitment not to exceed the level of 2,504 SNDVs. This report reexamines this issue.

o Finding: The US Government interprets the Soviet commitment to abide by SALT II as including the existence of a cap on SNDVs -- at a level of 2,504 existing at the time SALT II was signed. The Soviet Union has deployed SNDVs above the 2,504 cap in violation of its political commitment under SALT II. Such activity is indicative of a Soviet policy inconsistent with this political commitment.

3. SS-16 Deployment

o Obligation: The Soviet Union agreed in SALT II not to produce, test or deploy ICBMs of the SS-16 type and, in particular, not to produce the SS-16 third stage or the reentry vehicle of that missile.

o Issue: The January 1984 and February 1985 reports examined the evidence regarding whether the Soviets have deployed the SS-16 ICBM in spite of the ban on its deployment. This report reexamines this issue.

o Finding: The President's February 1985 Report to Congress which noted that the evidence is somewhat ambiguous and we cannot reach a definitive conclusion, found the activities at Plesetsk to be a probable violation of the USSR's legal obligation and political commitment under SALT II. Soviet activity in the past year at Plesetsk seems to indicate the probable removal of SS-16 equipment and introduction of equipment associated with a different ICBM.

4. Backfire Bomber Intercontinental Operating Capability

o Obligation: At the signing of SALT II, the USSR gave the US assurances about the BACKFIRE bomber's intercontinental operating capability. The Soviet statement of June 16, 1979, read, in pertinent part, as follows:

> The Soviet side informs the US side that the Soviet "Tu-22M" airplane, called 'BACKFIRE' in the USA, is a medium-range bomber, and that it does not intend to give this airplane the capability of operating at intercontinental distances. In this connection, the Soviet side states that it will not increase the radius of action of this airplane in such a way as to enable it to strike targets on the territory of the USA. Nor does it intend to give it such a capability in any other manner, including by in-flight refueling ... -

This unilateral statement is an integral part of the SALT II agreement and the US considers it to be incorporated in the Soviet Union's political commitment to abide by SALT II.

o Issue: The February 1985 classified report addressed the issue of whether temporary deployments of BACKFIRE bombers to Arctic bases constitute actions inconsistent with Brezhnev's June 16, 1979, statement not to give the BACKFIRE an increased radius of action and the capability of operating at intercontinental distances. This report reexamines this issue.

o Finding: The US Government judges that the temporary deployment of BACKFIREs to Arctic bases is cause for concern and continued careful monitoring. By such temporary deployment of BACKFIREs, the Soviet Union acted in a manner inconsistent with its political commitment in the June 1979 BACKFIRE statement not to give Backfire the capability to strike targets on the territory of the United States.

5. Backfire Bomber Production Rate

o Obligation: At the signing of SALT II, the USSR gave the US assurances about the Backfire bomber's production rate. The Soviet statement read, in pertinent part, as follows: "... the Soviet side states that it will not increase the production rate of this airplane as compared to the present rate." Soviet President Brezhnev, according to Secretary Vance's SALT II transmittal letter to the Senate, "confirmed that the Soviet BACKFIRE production rate would not exceed thirty per year." President Carter stated that the United States enters into the SALT II Agreement on the basis of the commitments contained in the Soviet statement and that it considers the carrying out of these commitments to be essential to the obligations under the Treaty. The US considers the Soviet unilateral statement to be an integral part of the SALT II Agreement and, as such, to be incorporated in the Soviet Union's political commitment to abide by SALT II.

o Issue: The February 1985 report examined the question of whether the Soviet Union has produced more than 30 BACKFIREs per year and increased the production rate since signing SALT II. This report reexamines this issue.

o Finding: The US Government judges that the Soviet Union is obligated to produce no more than 30 BACKFIRE bomber aircraft per year. There are ambiguities concerning the data. However, there is evidence that the Soviet BACKFIRE production rate was constant at slightly more than 30 per year until 1984, and decreased since that time to slightly below 30 per year.

6. Encryption of Ballistic Missile Telemetry

o Obligation: Provisions of SALT II ban deliberate concealment measures that impede verification by national technical means. The Treaty permits each party to use various methods of transmitting telemetric information during testing, including encryption, but bans deliberate denial of telemetry, such as through encryption, whenever such denial impedes verification.

o Issue: The January 1984 compliance report examined whether the Soviet Union has engaged in encryption of missile test telemetry (radio signals) so as to impede verification. This issue was reexamined in the February 1985 compliance report and is examined again in this report.

o Finding: The US Government reaffirms the conclusion in the February 1985 report that Soviet encryption practices constitute a violation of a legal obligation under SALT II prior to 1981 and a violation of their political commitment since 1982. The nature and extent of such encryption of telemetry on new ballistic missiles, despite US requests for corrective action, continues to be an example of deliberately impeding verification of compliance in violation of this Soviet political commitment.

7. Concealment of Missile/Launcher Association

o Obligation: Article XV of the SALT II Treaty prohibits "deliberate concealment measures which impede verification by national technical means of compliance with the provisions of this Treaty". This obligation is further clarified in a Common Understanding that states that Article XV applies to all provisions of the Treaty and "includes the obligation not to use deliberate concealment measures associated with testing, including those measures aimed at concealing the association between ICBMs and launchers during testing".

o Issue: This report examines for the first time the issue of whether the Soviets have concealed the association between an ICBM and its launcher during testing in violation of their obligation not to use deliberate concealment measures which impede verification.

o Finding: The US Government judges Soviet activities related to the SS-25 to be a violation of the Soviet Union's political commitment to abide by the SALT II Treaty provision prohibiting concealment of the association between a missile and its launcher during testing.

SALT I Interim Agreement

Treaty Status

The SALT I Interim Agreement entered into force for the United States and the Soviet Union in 1972. Dismantling procedures implementing the Interim Agreement were concluded in 1974. The Interim Agreement, by its own terms, was of limited duration and expired as a legally binding document in 1977. The applicability of the Interim Agreement [illegible] of the parties has, however, been extended by the parties by a series of mutual political commitments, including the President's May 31, 1982 statement that the United States would refrain from actions which would undercut existing strategic arms agreements so long as the Soviet Union shows equal restraint. The Soviets have told us they would abide by the SALT I Interim Agreement and SALT II. Any actions by the USSR inconsistent with this commitment are violations of its political commitment with respect to the Interim Agreement and its implementing procedures.

Use of "Remaining Facilities" at Former SS-7 Sites

o Obligation: The SALT I Interim Agreement and its procedures

prohibit the Parties from using facilities remaining at dismantled or destroyed ICBM sites for storage, support, or launch of ICBMs. Any Soviet actions inconsistent with this commitment are violations of a political commitment with respect to the Interim Agreement and its implementing procedures.

o Issue: The February 1985 report examined whether the USSR has violated the SALT I Interim Agreement prohibition against using facilities remaining at dismantled former SS-7 ICBM sites for the storage, support or launch of SS-25 ICBMs. This report reexamines this issue.

o Finding: The US Government judges that Soviet use of former SS-7 ICBM facilities in support of the deployment and operation of the SS-25 mobile ICBMs is in violation of the SALT I Interim Agreement. Should the Soviets use "remaining facilities" in the future at other former SS-7 sites where the SS-25 is now in the process of being deployed, such use will also constitute Soviet violation of its political commitment under the SALT I Interim Agreement.

Biological Weapons Convention and 1925 Geneva Protocol

Chemical, Biological, and Toxin Weapons

o Treaty Status: The 1972 Biological and Toxin Weapons Convention (the BWC) and the 1925 Geneva Protocol are multilateral treaties to which both the United States and the Soviet Union are parties. Soviet actions not in accord with these treaties and customary international law relating to the 1925 Geneva Protocol are violations of legal obligations.

o Obligations: The BWC bans the development, production, stockpiling or possession, and transfer of microbial or other biological agents or toxins except for a small quantity for prophylactic, protective or other peaceful purposes. It also bans weapons, equipment and means of delivery of agents or toxins. The 1925 Geneva Protocol and related rules of customary international law prohibit the first use in war of asphyxiating, poisonous or other gases and of all analogous liquids, materials or devices and prohibits use of bacteriological methods of warfare.

o Issues: The January 1984 and February 1985 reports examined whether the Soviets are in violation of provisions that ban the development, production, transfer, possession and use of biological and toxin weapons and whether they have been responsible for the use of lethal chemicals. This report reexamines this issue.

o Finding: The US Government judges that ongoing Soviet activities confirm and strengthen the conclusion of the January 1984 and February 1985 reports that the Soviet Union has maintained an offensive biological warfare program and capability in violation of its legal obligation under the Biological and Toxin Weapons Convention of 1972.

Allegations concerning the use of lethal chemicals or toxins in Kampuchea, Laos, or Afghanistan have subsided in 1985. However, there is no basis for amending the February 1985 conclusion that, prior to this time, the Soviet Union has been involved in the production, transfer, and use of trichothecene mycotoxins for hostile purposes in Laos, Kampuchea, and Afghanistan in violation of its legal obligation under international law as codified in the Geneva Protocol of 1925 and the Biological and Toxin Weapons Convention of 1972.

Threshold Test Ban Treaty

Nuclear Testing and the 150 Kiloton Limit

o Treaty Status. The Threshold Test Ban Treaty (TTBT) was signed in 1974. The Treaty has not been ratified but neither party has indicated an intention not to ratify. Therefore, both Parties are subject to the obligation under customary international law to refrain from acts that would defeat the object and purpose of the TTBT. Soviet actions that would defeat

the object and purpose of the TTBT are therefore violations of their legal obligations. The United States is seeking to negotiate improved verification measures for the Treaty. Both Parties have separately stated they would observe the 150 kiloton threshold of the TTBT.

o Obligation: The Treaty prohibits any underground nuclear weapon test having a yield exceeding 150 kilotons at any place under the jurisdiction or control of the Parties beginning March 31, 1976. In view of the technical uncertainties associated with estimating the precise yield of nuclear weapon tests, the sides agreed that one or two slight, unintended breaches per year would not be considered a violation.

o Issue: The January 1984 and February 1985 reports examined whether the Soviets have conducted nuclear tests in excess of 150 kilotons. This report reexamines this issue.

o Finding:

While ambiguities in the pattern of Soviet testing and verification uncertainties continued in 1985, the US Government reaffirms the February 1985 finding that Soviet nuclear testing activities for a number of tests constitute a likely violation of legal obligations under the Threshold Test Ban Treaty of 1974, which banned underground nuclear tests with yields exceeding 150 kilotons. These Soviet actions continued despite US requests for corrective measures.

Limited Test Ban Treaty

Underground Nuclear Test Venting

o Treaty Status: The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water (Limited Test Ban Treaty) (LTBT)) is a multilateral treaty that entered into force for the United States and the Soviet Union in 1963. Soviet actions not in accord with this treaty are violations of a legal obligation.

o Obligations: The LTBT specifically prohibits nuclear explosions in the atmosphere, in outer space and under water. It also prohibits nuclear explosions in any other environment "if such explosions cause radioactive debris to be present outside the territorial limits of the State under whose jurisdiction or control such explosion is conducted".

o Issue: The February 1985 report examined whether the USSR's underground nuclear tests have caused radioactive debris to be present outside of its territorial limits. This report reexamines this issue.

o Finding: The US Government reaffirms the judgment made in the February 1985 Report that the Soviet Union's underground nuclear test practices resulted in the venting of radioactive matter on numerous occasions and caused radioactive matter to be present outside the Soviet Union's territorial limits in violation of its legal obligation under the Limited Test Ban Treaty. The Soviet Union failed to take the precautions necessary to minimize the contamination of man's environment by radioactive substances despite numerous US demarches and requests for corrective action.

Helsinki Final Act

Helsinki Final Act Notification of Military Exercises

o Legal Status: The Final Act of the Conference on Security and Cooperation in Europe was signed in Helsinki in 1975. This document represents a political commitment and was signed by the United States and the Soviet Union, along with many other States. Soviet actions not in accord with that document are violations of their political commitment.

o Obligation: All signatory States of the Helsinki Final Act are committed to give prior notification of, and other details concerning, major military maneuvers, defined as those involving more than 25,000 troops.

o Issue: The January 1984 and February 1985 reports examined whether notification of the Soviet military exercise "Zapad-81" was inadequate and therefore a violation of the Soviet Union's political commitment under the Helsinki Final Act. This report reexamines this issue.

o Finding: The US Government previously judged and continues to find that the Soviet Union in 1981 violated its political commitment to observe provisions of Basket I of the Helsinki Final Act by not providing prior notification of exercise "ZAPAD-81". While the USSR has generally taken an approach to the confidence-building measures of the Final Act which minimizes the information it provides, Soviet compliance with the exercise-notification provisions was improved in 1983. In 1984 the Soviets returned to a minimalist approach providing only the bare information required under the Final Act. The Soviet Union continued this approach during 1985.