

HIGHLIGHTS

United States Arms Control and Security Initiatives

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CFE—NEGOTIATION ON CONVENTIONAL ARMED FORCES IN EUROPE

**January 10, 1989:
Mandate for Talks on
Conventional Forces**

The 23 members of NATO and the Warsaw Pact initial a mandate for the Negotiation on Conventional Armed Forces in Europe (CFE).

The mandate sets out the objectives for CFE:

- ◆ Strengthen stability and security in Europe through the establishment of a stable and secure balance of conventional forces at lower levels;
- ◆ Eliminate disparities prejudicial to stability and security; and
- ◆ Eliminate the capability for launching surprise attack and for initiating large-scale offensive action.

The mandate also calls for "an effective and strict verification regime" to include on-site inspections as a matter of right.

The talks will cover the land territory of the participants in Europe from the Atlantic to the Urals (ATTU).

**January 23-27, 1989:
Eastern Bloc
Conventional
Force Cuts**

Erich Honecker, the leader of the German Democratic Republic, announces future unilateral reductions in that nation's conventional forces and military budget. Within a few days, similar announcements are made by the leaders of Czechoslovakia, Bulgaria, Poland and Hungary.

The United States welcomes the announced cuts, saying that willingness to take such unilateral moves is the best evidence of the superiority of Warsaw Pact conventional forces in Europe. Implementation of these reductions would still leave the Warsaw Pact with conventional forces far superior to those of NATO and far stronger than necessary for the East's legitimate defense needs.

**January 30, 1989:
Warsaw Pact Force
Comparison Estimates**

For the first time, the Warsaw Pact publishes its own estimates of the military balance in Europe, claiming that a rough parity exists between East and West.

The Warsaw Pact's publication admits Eastern superiority in the types of weapons critical to large-scale offensive operations, such as tanks, armored infantry fighting vehicles and artillery. The United States welcomes the publication, but does not agree with its conclusion that NATO's and the Warsaw Pact's conventional forces in Europe are equal.

**March 9, 1989:
Opening of CFE Talks**

The 23 members of NATO and the Warsaw Pact formally open the Negotiation on Conventional Armed Forces in Europe (CFE) in Vienna.

NATO tables a proposal to limit:

- ◆ Main battle tanks to 20,000 for each side;
- ◆ Armored troop carriers to 28,000 for each side; and
- ◆ Artillery pieces to 16,500 for each side.

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NATO also proposes:

- ◆ A sufficiency rule to allow one country to retain no more than 30 percent of the forces in any one category; and
- ◆ A stationing rule to allow each nation to maintain within the zone from the Atlantic to the Urals no more than a certain number of forces outside of its national territory.

In the following two months, the Warsaw Pact tables similar proposals that differ slightly in suggested numerical ceilings.

**May 29-30, 1989:
U.S. Initiative at
NATO Summit**

At a summit celebrating NATO's 40th anniversary, Alliance heads of state and government unanimously endorse President George Bush's proposal to:

- 1) Lock-in Eastern acceptance of NATO's proposed ceilings on main battle tanks, armored troop carriers and artillery pieces.
- 2) Expand NATO's original proposal of March 9 to include reductions of land-based combat aircraft and helicopters to equal ceilings 15 percent below current NATO levels.
- 3) Propose a cut in the manpower of U.S. and Soviet forces stationed outside national borders in Europe, to result in equal ceilings of approximately 275,000 personnel. This would require the United States to cut about 30,000 ground and air troops and the Soviet Union about 325,000.

In addition, NATO approves President Bush's proposals to:

- ◆ Destroy withdrawn equipment and demobilize withdrawn forces; and
- ◆ Seek a CFE agreement in six to 12 months and complete reductions by 1992 or 1993.

President Bush also secures the agreement of the NATO Allies on a common framework to address the question of short-range nuclear missiles (SNF). A NATO report:

- ◆ Announces that once implementation of an agreement on conventional force reductions in Europe is underway, the United States, in consultation with the Allies concerned, is prepared to enter into negotiations to achieve a reduction of American and Soviet land-based nuclear missile forces of shorter range to equal and verifiable levels; and
 - ◆ Calls upon the Soviet Union to unilaterally reduce its short-range missile systems to current levels within NATO's integrated military structure.
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**July 13, 1989:
NATO's Expanded
Proposal at CFE**

On the last day of Round II of CFE, NATO presents its enhanced proposal incorporating the President's summit initiative of May. NATO proposes to reduce land-based combat aircraft to 5,700 for each side, and land-based combat helicopters to 1,900 for each side.

**September 21, 1989:
NATO Tables
Proposals**

During Round III, which opened on September 7, the West completes implementation of decisions taken at the NATO Summit in May by tabling proposals on:

- ◆ Information exchange, which provides for an exchange of informa-

tion between members of NATO and the Warsaw Pact on existing forces and for regular updates of this data to facilitate verification;

- ◆ Verification, which includes on-site and aerial inspections and rights to observe the destruction of reduced equipment;
- ◆ Stabilizing measures, which include provisions to supplement force cuts through such measures as monitoring of storage and constraints on certain military activities; and
- ◆ Non-circumvention, which makes explicit the inherent right of a party to withdraw from a treaty if its supreme interests are jeopardized.

**September 28, 1989:
Eastern Proposal on
Helicopters/Aircraft**

In a new proposal tabled in Vienna, the Warsaw Pact:

- ◆ Accepts NATO's proposed limit of 1,900 combat helicopters for each alliance; and
- ◆ Moves towards NATO's proposed ceiling of 5,700 combat aircraft for each alliance by suggesting a ceiling of 4,700.

Differences remain between NATO's and the Warsaw Pact's definition of combat helicopters. The East's narrow definition of combat aircraft excludes thousands of its own combat-capable aircraft.

**October 5, 1989:
Eastern Proposal
on Troops**

The East modifies its proposal on personnel by lowering the ceiling on forces stationed outside their national territory in Europe from 350,000 to 300,000 for each alliance. Unlike the NATO proposal, which covers only U.S.- and Soviet-stationed troops, the Eastern ceiling for such stationed forces would cover British, French, Canadian, Belgian, Dutch and U.S. forces. All stationed Eastern forces are Soviet.

**October 19, 1989:
Warsaw Pact
Tables Proposals**

The East presents proposals on verification, stabilizing measures and information exchange that, in the words of the Soviet negotiator, echoes NATO's September 21 proposals on the same topics. Though differences remain to be overcome in all three areas, the Eastern verification proposal uses the same structure and some of the same language as the Western proposal on verification.

**November 10, 1989:
Round IV of
CFE Opens**

Round IV of the CFE talks opens in Vienna.

CONFIDENCE-BUILDING MEASURES

**January 17, 1989:
CSBM Negotiations**

The Concluding Document of the 35-nation Vienna Follow-Up Meeting of the Conference on Security and Cooperation in Europe (CSCE) calls for resumed negotiations on confidence- and security-building measures (CSBMs). CSBMs will focus on openness and predictability of military activities, and open access to military information.

The document directs negotiators to "build upon and expand the results already achieved at the Stockholm Conference [concluded September 19, 1986] with the aim of elaborating and adopting a new set of mutually complementary confidence- and security-building measures designed to reduce the risk of military confrontation in Europe."

**March 9, 1989:
Western CSBM Proposal**

On the opening day of the Vienna Negotiations on Confidence- and Security-Building Measures, the 16 Western Allies table a set of 12 measures:

- ◆ Exchange of military information;
- ◆ Information exchange on major conventional weapons deployment programs;
- ◆ Establishment of a system for random evaluation of information;
- ◆ Enhanced information in the annual calendar of military activities;
- ◆ Enhanced information in notification of military activities;
- ◆ Improvements to observation modalities;
- ◆ Lowering thresholds of observation;
- ◆ Improvements to thresholds of inspection;
- ◆ Lowering thresholds for longer notice of larger scale military activities;
- ◆ Improved access for accredited personnel dealing with military matters;
- ◆ Improvement of means of communication; and
- ◆ Equal treatment of media representatives at observable military activities.

In addition, the West tables a proposal for a seminar on military doctrine.

President George Bush says, "Our aim is to lift the veil of secrecy from certain military activities and thus contribute to a more stable Europe."

The Warsaw Pact also tables a proposal, which focuses on additional constraints and on extending CSBMs to naval and air activities.

**May 5-July 12, 1989:
Round II
of CSBM Talks**

During Round II of the Vienna CSBM negotiations May 5-July 12:

- ◆ The West amplifies its proposal.
- ◆ The East explains its proposals calling for the extension of CSBMs to air and naval activities, and for a European Risk Reduction Center.
- ◆ The neutral and nonaligned countries table a paper in an effort to bridge the gap between the Eastern and Western packages.

- ◆ All 35 participants agree to hold a seminar on military doctrine and set up a seminar planning group.

**May 12, 1989:
President Bush's
"Open Skies"
Initiative**

In remarks at the Texas A&M University, President Bush renews and expands upon President Dwight D. Eisenhower's 1955 "Open Skies" proposal. He invites the Soviet Union and other members of the Warsaw Pact and of NATO to agree to unarmed surveillance flights over their territories.

The President says that such flights, "complementing satellites, would provide regular scrutiny for both sides. Such unprecedented territorial access would show the world the true meaning of the concept of openness."

He suggests that a conference of interested participants be held to work out the necessary operational details.

**June 9, 1989:
Western Amplified
CSBM Proposal**

At the CSBM negotiations, the West tables an amplified version of its March proposal. NATO seeks to expand the regime established by the 1986 Final Document of the Stockholm Conference on Confidence- and Security-Building Measures and Disarmament in Europe (CDE) to include not only military activities, but also military structure and deployment.

**June 12, 1989:
Agreement on
Dangerous Military
Activities (DMA)**

The United States and the Soviet Union sign the Dangerous Military Activities (DMA) Agreement, which commits both nations to seek to prevent four kinds of dangerous military activities during peacetime:

- ◆ The unintentional or emergency entry into the national territory of the other side;
- ◆ The hazardous use of laser devices;
- ◆ The disruption of military operations in a mutually agreed upon "Special Caution Area;" and
- ◆ Interference with the command and control networks of either side.

**September 8-
November 10, 1989:
Round III CSBM Talks/
Military Doctrine
Seminar**

During the third round of the CSBM negotiations, the participating states agree to a Western proposal to conduct a seminar on military doctrine. The seminar will begin on January 16 and will last for three weeks. High-level military representatives of the 35 states will be invited to discuss their countries' military doctrine as it relates to force structure and deployment, training and military budgets. The seminar will take place in Vienna, and is part of the CSBM talks.

**September 22-23, 1989:
USSR and "Open Skies"
Proposal**

At a meeting in Wyoming with U.S. Secretary of State James Baker, Soviet Foreign Minister Eduard Shevardnadze agrees in principle to the "Open Skies" concept, proposed by President Bush on May 12, 1989, and notes his willingness to attend an international conference on the subject.

The "Open Skies" proposal seeks to:

- ◆ Encourage reciprocal openness among members of the two alliances;

- ◆ Increase transparency, reduce danger and relax tensions by observing military activities and installations; and
- ◆ Allow participating states to establish flight quotas, frequency and duration on the basis of the geographic size of countries.

November 10, 1989:
Round IV of
CSBM Talks Opens

Round IV of the CSBM negotiations opens in Vienna.

CW—CHEMICAL WEAPONS

- January 7-11, 1989:
Paris CW Conference** One hundred and forty-nine nations meet in Paris for a conference to restore respect for the prohibition of illegal use of chemical weapons (CW). In a concluding document, the nations "solemnly affirm their commitments not to use chemical weapons," and stress "the necessity of concluding at an early date, a convention on the prohibition of the development, production, stockpiling, transfer and use of all chemical weapons, and on their destruction."
- Participating nations also express grave concern over the spread of chemical weapons, and call on all states to exercise restraint and act responsibly. They reaffirm their commitment to the 1925 Geneva Protocol banning the use of CW in war.
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- January 8, 1989:
Soviet Statement** Soviet Foreign Minister Eduard Shevardnadze announces at the Paris CW Conference that the Soviet Union plans to begin destruction of its CW stockpile upon completion of a destruction facility. He also says that the Soviet Union has ended production of CW and calls on other states to follow this example.
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- February 9, 1989:
President Bush
Presses for CW Ban** In a speech to the U.S. Congress, President George Bush restates his personal commitment to a CW ban, saying that "chemical weapons must be banned from the face of the earth, never to be used again."
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- February 21-23, 1989:
U.S. Trial Inspection** The United States conducts a trial inspection of a private U.S. chemical production plant. This is part of an experiment by the Geneva-based U.N. Conference on Disarmament to develop procedures for a routine inspection regime, which would satisfy confidence and security requirements without significantly disrupting the civilian chemical industry.
- The Soviet Union and other members of the Conference on Disarmament subsequently conduct similar trial inspections of their own chemical industries.
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- March 6, 1989:
U.S. Initiatives** In a speech in Vienna, U.S. Secretary of State James Baker calls for an international conference of government and industry to consider ways to curb the proliferation of chemicals used to produce chemical weapons.
- Secretary Baker also announces that the United States will explore ways and means to accelerate the current 1992 withdrawal schedule of U.S. CW from the Federal Republic of Germany. The United States calls upon the Soviet Union to withdraw and destroy its "excessive stocks" of CW.
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- September 18-22, 1989:
Canberra CW
Conference** Following the U.S. initiative of March 1989, 67 nations attend an International Government-Industry Conference Against Chemical Weapons hosted by the Australian government in Canberra.

Chemical industry participants issue an unprecedented statement:

- ◆ Expressing willingness to work for an early conclusion of a global ban on chemical weapons;
 - ◆ Opposing misuse of industrial products for the dangerous proliferation of chemical weapons;
 - ◆ Committing industry to continue its dialogue with governments on ways to implement a convention on chemical weapons; and
 - ◆ Accepting a self-policing role.
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**September 23, 1989:
U.S.-Soviet MOU on CW**

At the Wyoming Ministerial, U.S. Secretary of State Baker and Soviet Foreign Minister Shevardnadze reaffirm the objective of an early conclusion of a comprehensive, effectively verifiable and global ban on chemical weapons.

To intensify efforts toward this goal, and to enhance openness and confidence between the two countries, they sign a Memorandum of Understanding (MOU) on a bilateral verification experiment and data exchange.

The MOU provides for:

Phase I

- ◆ Exchange of general data before the end of 1989 on the chemical weapons capabilities of both sides.
- ◆ Exchange of information for the development of procedures to verify data to be exchanged in Phase II.
- ◆ Visits to verify this data to begin by June 30, 1990, to relevant CW military and civil facilities chosen by the host country, such as production and storage facilities and industrial chemical plants.

Phase II

To begin when the sides formally and jointly acknowledge the possibility that a CW treaty could be initialled in four months.

- ◆ Exchange of detailed data on the CW capabilities of both sides.
 - ◆ On-site inspections to help verify the declared data.
 - ◆ Each side to conduct up to five inspections of facilities chosen from a list of sites declared by the other, plus up to 10 "challenge" inspections at undeclared facilities.
 - ◆ Of the 10 "challenge" inspections, up to five per side can take place in a four-month period before a CW treaty is initialled. Up to five additional "challenge" inspections per side can take place after the sides submit a CW treaty to their respective legislative bodies for ratification.
 - ◆ "Challenge" inspections to be conducted in accordance with the laws of the inspected country, and in the case of third countries, with their consent.
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**September 25, 1989:
President Bush's
CW Initiative**

Speaking to the 44th U.N. General Assembly in New York, President Bush reaffirms the U.S. commitment to a multilateral treaty to eliminate chemical weapons in 10 years, provided all CW-capable states become parties to the treaty.

To accelerate agreement on, and implementation of, a total ban

on the production, storage, transfer and use of chemical weapons, the President offers the following initiative:

- ◆ The United States will destroy more than 98 percent of its current CW stockpile within eight years after entry into force of a multilateral CW convention, provided the Soviet Union is also a party to the treaty.
 - ◆ The remaining two percent to be destroyed in the next two years after all CW-capable states become parties to the convention.
 - ◆ While working to complete a global convention on chemical weapons, the United States and the Soviet Union will destroy a major portion of their CW stockpiles to an equal, interim level set at about 20 percent of the current U.S. level. The process of destruction would take place on mutually agreed terms and would include verification provisions.
 - ◆ The United States will accelerate and significantly expand its efforts to improve verification capabilities, and resolve the technical and procedural problems associated with verifying a ban on chemical weapons.
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INF—INTERMEDIATE-RANGE NUCLEAR FORCES

July 6, 1989:
U.S. Shorter-Range INF Systems Eliminated The United States completes the elimination of its shorter-range INF systems almost five months ahead of schedule with the destruction of its last Pershing IA missile.

July 26, 1989:
Elimination of Soviet Shorter-Range INF System The Soviet Union completes the elimination of the SS-12, one of its shorter-range INF systems.

August 9, 1989:
Elimination of Soviet SS-5 The Soviet Union completes the elimination of the intermediate-range SS-5 missile.

October 27, 1989:
Elimination of Soviet SS-23 The Soviet Union eliminates its last SS-23 shorter-range INF missile.

November 15, 1989: Status of U.S. and Soviet INF Eliminations	U.S. systems	Missiles Subject to Elimination	Missiles Eliminated
	Pershing IA	169	169
	Pershing II	234	49
	Ground-launched Cruise Missiles	443	172
	Soviet systems		
	SS-20	654	297
	SS-12	718	718
	SS-23	239	239
	SS-4	149	104
	SS-5	6	6
	SSC-X-4	80	80

MBFR—MUTUAL AND BALANCED FORCE REDUCTION TALKS

**February 2, 1989:
Conclusion of MBFR
Talks**

The MBFR talks end in Vienna after more than 15 years of negotiations. In the course of the negotiations the West developed the following key principles to guide conventional arms reduction talks:

- ◆ Asymmetrical reductions;
 - ◆ Equality of outcome; and
 - ◆ Effective verification.
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NST—NUCLEAR AND SPACE TALKS: D&S—DEFENSE AND SPACE

- May 12, 1989:
U.S. Goal at D&S Talks** President George Bush, in a speech at Texas A&M University, says the U.S. objective in the Defense and Space (D&S) Talks is to preserve the option to deploy advanced defenses when they are ready.
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- June 19-August 7, 1989:
Round XI** During Round XI of the Nuclear and Space Talks, the United States affirms the continuity of its positions on space and defense issues.
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- September 22-23, 1989:
Wyoming Ministerial** During two days of meetings between U.S. Secretary of State James Baker and Soviet Foreign Minister Eduard Shevardnadze in Wyoming, progress is made in the following areas:
- LINKAGE:** The Soviets say they have dropped their linkage between achieving a Defense and Space agreement and completing an agreement on START. They indicate, however, that they would walk away from START if the United States did not adhere to the Anti-Ballistic Missile (ABM) Treaty as they interpret it.
- KRASNOYARSK:** The Soviets agree to eliminate their illegal radar at Krasnoyarsk without preconditions—a longstanding U.S. requirement for the signing of any strategic arms control treaty.
- ABM NONWITHDRAWAL:** The two sides agree to drop the approach of a nonwithdrawal commitment to the ABM Treaty, while continuing to discuss ways to ensure predictability in the development of the U.S.-Soviet strategic relationship under conditions of strategic stability to reduce the risk of nuclear war.
- PREDICTABILITY:** U.S. Secretary of State Baker invites Soviet experts to visit two U.S. laboratories involved in Strategic Defense Initiative (SDI) research. The Soviets would be shown one device recovered after a successful flight into space, and another undergoing preparatory research for a planned flight into space in the mid-1990s.
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- September 29, 1989:
Round XII Opens** Round XII of the Nuclear and Space Talks opens in Geneva.
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NST—NUCLEAR AND SPACE TALKS: START—STRATEGIC ARMS REDUCTION TALKS

**May 10-11, 1989:
Baker-Shevardnadze
Meeting/U.S.
Start Position**

Meeting in Moscow, U.S. Secretary of State James Baker and Soviet Foreign Minister Eduard Shevardnadze reaffirm the desire of both sides to reach a START agreement and also set dates for the resumption of the Nuclear and Space Talks in Geneva.

The new U.S. Administration says that work done on START under the previous Administration will be an excellent foundation upon which to build, but it reserves the right to change and modify some U.S. positions.

**June 19, 1989:
Round XI/
U.S. Verification and
Stability Initiative**

Round XI of the Nuclear and Space Talks opens in Geneva.

President George Bush announces a Verification and Stability Initiative, designed to build confidence, enhance stability and accelerate resolution of outstanding verification issues, and provide both sides practical verification experience, thereby facilitating efforts to conclude a START treaty. The U.S. initiative includes:

- ◆ Immediate establishment of on-site perimeter/portal monitoring of certain missile production facilities;
 - ◆ Exchange of data on each side's strategic nuclear forces;
 - ◆ Prohibition of encryption of telemetry on intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs);
 - ◆ Familiarization with procedures for inspections to monitor the number of warheads on ballistic missiles;
 - ◆ Addressing the problem of short-time-of-flight SLBMs;
 - ◆ Notification of strategic exercises; and
 - ◆ Demonstration of techniques for identifying missiles (tagging).
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**August 7, 1989:
End of Round XI**

Round XI of the Nuclear and Space Talks concludes without a formal Soviet response to President Bush's verification and stability initiative.

**September 19, 1989:
U.S. Position on
Mobile ICBMs**

Secretary of State Baker announces the President's decision that the United States will withdraw its proposal at START to ban mobile ICBMs contingent upon U.S. congressional approval of funding for U.S. mobile ICBM programs.

**September 22-23, 1989:
Wyoming Ministerial**

During two days of meetings between Secretary of State Baker and Foreign Minister Shevardnadze in Wyoming, progress is made in the following areas:

LINKAGE: The Soviets say they have dropped their linkage between achieving a Defense and Space agreement and completing an agreement on START. They indicate, however, that they would walk away from START if the United States did not adhere to the Anti-

Ballistic Missile (ABM) Treaty as they interpret it.

KRASNOYARSK: The Soviets agree to eliminate their illegal radar at Krasnoyarsk without preconditions—a longstanding U.S. requirement for the signing of any strategic arms control treaty.

SLCMs: The Soviets raise the possibility of dealing with sea-launched cruise missiles (SLCMs) in a broader naval arms context, and say that, in the context of a verification system for SLCMs, these weapons could be limited outside of the text of a START treaty on the basis of reciprocal obligations.

While willing to study these Soviet ideas on SLCMs, the United States emphasizes its view that any discussion on limiting naval arms presents serious problems, and expresses doubts that a viable verification system for SLCMs is feasible.

VERIFICATION AND STABILITY: Following President Bush's June 19 initiative on verification and stability measures, Secretary of State Baker and Foreign Minister Shevardnadze sign the "Agreement on Principles of Implementing Trial Verification and Stability Measures that would be carried out pending the conclusion of the U.S.-Soviet Treaty on the Reduction and Limitation of Strategic Offensive Arms."

STRATEGIC EXERCISES: Secretary of State Baker and Foreign Minister Shevardnadze sign an Agreement on Reciprocal Advance Notice of Major Strategic Exercises, which provides that:

- ◆ Each side notify the other no less than 14 days in advance of one of its major strategic exercises involving heavy bombers to be held during that calendar year; and
- ◆ Notifications be provided through the Nuclear Risk Reduction Centers of each side.

VERIFICATION OF MOBILE ICBMS: The Soviets agree to U.S. proposals on the following elements of verification for mobile ICBMs:

- ◆ Upon return to garrison following a dispersal, rail-mobile ICBMs would be subject to enhanced NTM (National Technical Means) measures whose nature, scope and procedures are to be agreed upon by the two sides.
- ◆ No more than 10 road-mobile launchers of ICBMs may be based or located in a restricted area.
- ◆ NTM enhancement measures would involve either moving road-mobile launchers halfway out of their structures, or displaying such launchers next to their structures with the roofs of the structures open at the option of the inspecting side.

The Soviets also agree in principle that rail garrisons would be limited in size.

September 29, 1989:
Round XII Opens

Round XII of the Nuclear and Space Talks opens in Geneva.

NUCLEAR TESTING

June 26-August 7, 1989: Round IV of the Nuclear Testing Talks (NTT) in Geneva focuses on
U.S.-Soviet Talks a new verification protocol for the Threshold Test Ban Treaty (TTBT).

September 22-23, 1989: During a meeting in Wyoming, U.S. Secretary of State James Baker
Wyoming Ministerial and Soviet Foreign Minister Eduard Shevardnadze reach agreements that provide a framework for conclusion of the verification protocols for the Peaceful Nuclear Explosions Treaty (PNET) and the TTBT.

They agree that:

- ◆ Hydrodynamic and seismic monitoring, as well as on-site inspection, will be incorporated into the verification protocol for the 1974 Threshold Test Ban Treaty.
 - ◆ To obtain a statistically significant number of data points to improve the national technical means of each side, each side will guarantee the other the right to make on-site hydrodynamic yield measurements of at least two tests per year during the first five years following ratification of the TTBT, and once per year thereafter unless otherwise agreed by the two sides.
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October 5, 1989: Round V of the Nuclear Testing Talks opens in Geneva.
Round V Opens

SDI—STRATEGIC DEFENSE INITIATIVE

**February 1989:
Janus Flight Experiment** The Janus flight experiment succeeds in obtaining the first high-resolution imagery of a post-boost vehicle (PBV) in space.

**February 9, 1989:
President Bush on SDI** President George Bush announces in an address to a Joint Session of Congress that he will "vigorously pursue the Strategic Defense Initiative."

**March 23, 1989:
U.S. Commitment to SDI** On the sixth anniversary of President Ronald Reagan's landmark speech on the Strategic Defense Initiative (SDI), Vice President Dan Quayle says the Bush Administration is committed to the development and deployment of a viable Strategic Defense System.

**March 24, 1989:
Delta 183 (Delta Star)** The Delta Star spacecraft carries aloft a laser radar and seven imaging sensors. Several sounding rockets are launched during the course of the experiment, enabling Delta Star's sensors to collect data characterizing their plumes.

Data collected by Delta Star will be valuable in designing and engineering a broad range of systems for a strategic defense, particularly space-based sensors and seekers on board kinetic energy weapons such as Space-Based Interceptors (SBP).

**April 10, 1989:
Alpha Chemical Laser** The Alpha Chemical laser for the first time produces a high-power beam when fired in its ground-test facility. This milestone in the space-based, chemical-laser program will be used to validate the technology, computational methods and fabrication processes necessary for scaling chemical lasers to power levels required for a strategic defense. Chemical space-based lasers are candidates for follow-on phases of a Strategic Defense System.

**April 25, 1989:
No Change in U.S. Goal
for SDI** Secretary of Defense Richard Cheney testifies before the House Armed Services Committee:

"The goal of the Strategic Defense Initiative remains unchanged. We will continue to pursue the general framework of both space- and ground-based defenses while providing the flexibility to adjust the specific deployment schedule as evolving technology is tested and proven. A restructured program would continue toward deployment of a system that will meet the requirements of Phase I by focusing on evaluating the potential of the most rapidly advancing technologies such as Brilliant Pebbles."

**April 27, 1989:
Space-Based Interceptor
(SBI) Hover Test** The first full-length laboratory flight test to demonstrate the technologies for a Space-Based Interceptor projectile is successful. This test integrates several key technologies and will facilitate

development of an interceptor which could be used in Phase I of a Strategic Defense System.

**June 1989:
Thunderbolt
Electromagnetic
Launcher**

Several concept validation tests on the Thunderbolt Electromagnetic Launcher are successfully conducted. Of the 12 shots launched on this system, one projectile weighing 110 grams is propelled to a speed of 4.3 kilometers per second.

The final configuration of Thunderbolt could be capable of accelerating 100- to 200-gram projectiles at speeds greater than 14 kilometers per second.

**June 15, 1989:
U.S. Seeks Stable
Deterrence**

In testimony before the Senate Armed Services Committee, a Bush Administration official says:

“The goals of SDI remain sound.... In pursuing SDI we do not seek superiority, but to maintain the strategic balance and place deterrence on a more stable basis.

“Pursuit of a robust SDI program provides a hedge against any near-term Soviet decision to expand rapidly its anti-ballistic missile capability beyond that allowed by the ABM (Anti-Ballistic Missile) Treaty.

“We will continue to vigorously pursue options for layered defenses composed of both space- and ground-based elements, recognizing that layered defenses offer substantial advantages in terms of defense effectiveness and imposing uncertainty on Soviet war planners.

“We will place emphasis on program flexibility and continue toward deployment of a system that will meet the requirements of a Phase I Strategic Defense System as those requirements have been defined by the Joint Chiefs of Staff by focusing on evaluating the potential of the most rapidly advancing technologies such as Brilliant Pebbles.

“The SDI program is to be conducted in full compliance with all U.S. international obligations, including the ABM Treaty.”

**July 13, 1989:
Beam Experiment
Aboard
Rockets (BEAR)**

The SDI Organization successfully conducts the first test in space of a neutral particle beam (NPB) accelerator.

An NPB system is a candidate for follow-on phases of a Strategic Defense System, either to facilitate discrimination between targets and decoys, or as a weapon to destroy attacking ballistic missiles and their reentry vehicles.

**August 3, 1989:
Space-Based Interceptor
On-Target Test**

Another increment in the laboratory flight tests demonstrating technologies for the Space-Based Interceptor (SBI) projectile is successfully completed. The test vehicle hovers at a height of 9 meters (30 feet) while tracking its target: a solid-fuel rocket motor simulating a thrusting missile, operated in a stationary mode on the Edwards Air Force Base test range.

August 23, 1989:
Importance of Effective
Defenses

Secretary of Defense Cheney says in Las Vegas, Nevada:

“An effective defense could be the single most important military bequest this generation could make to the future.... It no longer is visionary to think that a successful strategic defense could render our fears about a preemptive first strike obsolete. That is why President Bush committed himself to deploying SDI when it proves feasible.”

SOVIET NONCOMPLIANCE

**Spring 1989:
Soviets Dismantle
Gomel Radars**

The Soviet Union dismantles the illegally deployed radars near Gomel.

The United States tells the Soviet Union that although all procedures that were undertaken by the Soviets have not been fulfilled, the violation has been corrected.

**August 1989:
Krasnoyarsk Radar**

The Soviets announce that they will "completely eliminate the Krasnoyarsk radar," a significant violation of a central element of the Anti-Ballistic Missile (ABM) Treaty.

**September 1989:
Soviets Admit
ABM Violation**

Soviet Foreign Minister Eduard Shevardnadze acknowledges that the Krasnoyarsk radar violates the ABM Treaty.
