

GLOSSARY

- A -

Agreed Framework

A 1994 agreement between the United States and North Korea (Democratic People's Republic of Korea, DPRK) to "freeze" the DPRK nuclear program. The agreement outlines a 10-year program to construct two new proliferation-resistant, light water-moderated nuclear reactors in the DPRK in exchange for the shutting down of all its existing nuclear facilities. In addition, the DPRK agrees to remain a party to the Non-Proliferation Treaty (NPT) and accept International Atomic Energy Agency (IAEA) full-scope safeguards.

Air-Launched Cruise Missile (ALCM)

A missile designed to be launched from an aircraft and jet-engine powered throughout its flight. As with all cruise missiles, ALCM range is a function of payload, propulsion, and fuel volume and therefore can vary greatly. Under the START I Treaty, the term "long-range ALCM" means an air-launched cruise missile with a range in excess of 600 kilometers.

Antarctic Treaty

Signed December 1, 1959, this multilateral treaty demilitarizes the Antarctic and declares that it shall be used for peaceful purposes.

Anti-Ballistic Missile (ABM) System

Generally comprised of radars, sensors, launchers, and interceptors, this weapon system is intended to intercept and destroy long-range ballistic missiles and their warheads in flight. The term is often used interchangeably with ballistic missile defense (BMD).

Anti-Ballistic Missile (ABM) Treaty

Signed May 26, 1972, by the United States and the Soviet Union, the treaty constrains strategic missile defenses to a total of 200 launchers and interceptors -- 100 at each of two widely separated deployment areas. These restrictions are intended to prevent the establishment of a nationwide defense or the creation of a base for deploying such a defense. The treaty was modified in 1974, reducing the number of ABM deployment areas permitted each side from two to one and the number of ABM launchers and interceptors from 200 to 100.

Anti-Satellite Weapon (ASAT)

A system designed to destroy or disable enemy satellites in orbit.

Armored Combat Vehicle (ACV)

An ACV is defined in the CFE Treaty as "a self-propelled vehicle with armored protection and cross-country capability. ACVs include armored personnel carriers (APCs), armored infantry fighting vehicles, and heavy armament combat vehicles."

Arms Control

Any unilateral measure or multilateral step taken to reduce or control any aspect of either a weapon system or armed forces. Such reductions or limitations might affect the size, type, configuration, production, or performance characteristics of a weapon system, or the size, organization, equipment, deployment, or employment of armed forces.

Arms Control and Disarmament Agency (ACDA)

A U.S. government agency, created in 1961 by the Arms Control and Disarmament Act, that is principally responsible for U.S. arms control policy. The ACDA director is the chief adviser to the president and the secretary of state on arms control and disarmament policy.

Atomic Bomb

An explosive device whose energy typically comes from the fissioning of uranium or plutonium.

Atoms for Peace

A 1953 proposal by U.S. President Dwight D. Eisenhower before the United Nations General Assembly (UNGA) that called for the creation of an international atomic energy agency to receive contributions from nations holding stocks of nuclear materials and utilize such contributions for peaceful purposes.

Australia Group

Formed in 1984 as a result of chemical weapons use in the Iran-Iraq War, the Australia Group, whose members include the United States, has worked to establish export controls on the precursor chemicals required to manufacture chemical weapons. In 1984, the group established a core list of five controlled chemicals. The list has since been expanded several times and now covers 54 common chemicals used in the manufacture of chemical weapons. In 1990, the group agreed to expand its activities into biological weapons proliferation.

- B -

Ballistic Missile

A missile whose payload reaches its target by way of an initial powered boost and then a free flight along a high arcing trajectory. Part of the flight of longer-range ballistic missiles may occur outside the atmosphere and involve the "reentry" of a warhead or the missile (see Reentry Vehicle).

Ballistic Missile Defense (BMD) System

A system, or measures, intended to intercept and destroy hostile ballistic missiles or their components (for example, reentry vehicles) in flight (see also Anti-Ballistic Missile, Strategic Defense Initiative, Theater Missile Defense).

Baruch Plan

A 1946 U.S. proposal, named after Bernard Baruch, U.S. representative to the United Nations Atomic Energy Commission. The proposal sought to eliminate all nuclear weapons and create an International Atomic Energy Development Authority to oversee "all phases of the development and use of atomic energy."

Binary Chemical Weapon

A weapon containing two separate, relatively nontoxic chemicals that, when mixed, form a toxic agent.

Biological Warfare/Weapons (BW)

Use of living organisms, toxic biological products, and plant growth regulators to produce death, disease, or incapacitation in humans, animals, or plants.

Biological and Toxin Weapons Convention (BWC)

A convention opened for signature on April 10, 1972, and ratified by the United States on January 22, 1975. The more than 100 parties to the convention undertake not to develop, produce, stockpile, or acquire biological agents or toxins "of types and in quantities that have no justification for prophylactic, protective, and other peaceful purposes," as well as related weapons and means of delivery. The convention does not prohibit biological weapons research and does not contain any verification or enforcement provisions.

Breeder Reactor

A nuclear reactor that produces more fissile material than it consumes while generating power.

- C -

Centrifuge

A spinning cylinder that uses centrifugal force to separate isotopes in gaseous form; used to enrich uranium.

CFE 1A

A politically binding, follow-on agreement to the Conventional Armed Forces in Europe (CFE) Treaty in which the CFE states-parties declare national limits on the personnel strength of their conventional armed forces in the Atlantic Ocean to the Ural Mountains (ATTU).

Chemical Weapons/Warfare (CW)

The use of non-living chemical substances and/or toxins to kill, incapacitate, harass, or control. Among the chemical agents developed for military use are chlorine, phosgene, mustard gas, the nerve agents GB (Sarin) and VX, and a riot control agent called CS. A chemical agent refers to the harmful chemical itself, whereas a weapon usually refers to the agent and its delivery systems.

Chemical Weapons Convention (CWC)

Opened for signature on January 13, 1993, this convention is intended to eliminate chemical weapons worldwide. Parties to the CWC undertake not to develop, produce, transfer, stockpile, or use chemical and toxin weapons. To date, 165 countries have signed the CWC, of which 104 have ratified it, allowing it to enter into force on April 29, 1997.

Combat Aircraft

The CFE Treaty defines combat aircraft as "a fixed-wing or variable-geometry-wing aircraft armed and equipped to engage targets by employing guided missiles, unguided rockets, bombs, guns, cannons, or other weapons of destruction, as well as any model or version of such an aircraft which performs other military functions such as reconnaissance or electronic warfare."

Combat Helicopter

The CFE Treaty defines combat helicopter as "a rotary wing aircraft armed and equipped to engage targets or equipped to perform other military functions." The term comprises attack helicopters and combat support helicopters but does not include unarmed transport helicopters.

Compliance

Adherence to the provisions and limitations of an agreement or treaty.

Comprehensive Test Ban Treaty (CTBT)

A proposed treaty to prohibit all testing of nuclear weapons in all environments -- underground, underwater, atmospheric, and in space. The latest effort to negotiate a CTBT began in the UN Conference on Disarmament in 1994 and ended in September 1996, with U.S. President Bill Clinton being the first to sign the treaty at the United Nations.

Conference on Disarmament in Europe (CDE)

A multilateral negotiating forum opened by the CSCE in January 1984. In September 1986, the CDE adopted the Stockholm Document intended to reduce the risk of war in Europe through a series of confidence- and security-building measures relating to the advance notification of large military exercises.

Conference on Security and Cooperation in Europe (CSCE/OSCE)

Formed in 1975, the CSCE has negotiated and implemented measures intended to ease tensions in Europe through such confidence-building measures as increased transparency and improved economic and humanitarian relations. At the December 1994 Budapest Summit meeting, the CSCE changed its name to the Organization for Security and Cooperation in Europe (OSCE).

Confidence- and Security- Building Measures (CSBMs)

Unilateral or agreed steps to reduce uncertainties about military intentions and activities. Such measures toward increased "transparency" include, among other things, exchange of information, invitations to observe military maneuvers, and right of inspection.

Conventional Armed Forces in Europe (CFE) Treaty

Signed November 19, 1990, by the NATO nations and the nations of the former Warsaw Pact, the treaty reduces to equal levels the holdings of battle tanks, armored combat vehicles, artillery pieces, attack helicopters, and combat aircraft allowed by participating nations in the ATTU.

Coolant

A substance circulated through a nuclear reactor to remove or transfer heat. Coolants may be water, heavy water, carbon dioxide, helium, sodium, and sodium-potassium alloy.

Coordinating Committee for Multilateral Export Controls (COCOM)

An organization created in 1949 to prevent the transfer of militarily useful technology to the Communist world. In 1993, the 17 COCOM members agreed to abolish the organization following the end of the Cold War. In 1995, 28 nations, including many of the former Soviet republics, created the post-COCOM "Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies."

Core

The central portion of a nuclear reactor containing the fuel elements.

CORTEX

A hydrodynamic yield measurement method to improve verification of compliance with the Threshold Test Ban Treaty's 150-kiloton limit on underground tests.

Counting Rules

Procedures, usually an assigned number, established to facilitate the counting of weapons loadings for arms control purposes.

Cruise Missile

As defined by the Intermediate-Range Nuclear Forces Treaty, a cruise missile is "an unmanned, self-propelled vehicle that sustains flight through the use of aerodynamic lift over most of its flight path." Such a missile may carry either a nuclear or conventional warhead (see Air-Launched Cruise Missile, Ground-Launched Cruise Missile, and Sea-Launched Cruise Missile).

- D -

Dangerous Military Activities (DMA) Agreement

Signed in June 1989 between the United States and the Soviet Union, the agreement commits both nations to seek to prevent dangerous military activities during peacetime.

Dayton Accords

A U.S.-brokered peace agreement between the warring parties in the former Yugoslavia providing for settlement of military and regional stabilization issues. Annex 1-B obliges all parties to begin negotiations on numerical limits, along the lines of the CFE Treaty, on holdings of tanks, artillery, armored combat vehicles, combat aircraft, and attack helicopters.

Delivery Vehicle

A ballistic or cruise missile or bomber that carries one or more warheads through its flight to target.

Deployment

The placement of weapons, personnel, or equipment in a combat-ready position.

De-alert

To reduce the level of readiness to launch of nuclear weapons systems. Measures include removing nuclear warheads from missiles and storing the warheads separately from the missiles.

De-targeting

Removing the targeting information, or substituting ocean-area target coordinates, from a ballistic missile so that an accidental or unintentional launch will not result in a nuclear catastrophe.

Dismantlement

The taking apart of a weapon system to comply with an arms control agreement.

Downloading

The removal of some of the warheads from a multiple independently-targetable reentry vehicle (MIRV) ballistic missile. Under the START I Treaty, both the United States and the Soviet Union can reduce the number of warheads attributed to intercontinental ballistic missiles and sea-launched ballistic missiles following treaty downloading procedures.

Dual-Track Decision

The decision, taken by NATO in December 1979, to modernize its theater nuclear forces in Europe while pursuing an arms control agreement with the Soviet Union to limit long-range theater nuclear forces.

Dual-Use Components

Commodities, with non-nuclear industrial applications, that would be of significant value if used in a nuclear explosives program or in a nuclear fuel cycle activity.

- E -

Enrichment

A process that increases the concentration of the fissile isotope U-235 in uranium.

- F -

First-Strike

An initial attack on an opponent's strategic nuclear forces. Such an attack may be undertaken in an attempt to destroy an enemy's retaliatory (second-strike) capability.

First-Use

The introduction of nuclear weapons, or other weapons of mass destruction, into a conflict. A "no-first-use" pledge obliges a nation not to be the first to use such weapons.

Fissile Material

The nuclear materials, such as U-235 and Pu-239, that are used to make nuclear weapons. U-235 is the only naturally occurring fissile isotope (see Enrichment).

Fission

The process of splitting atomic nuclei by bombarding the nuclei with neutrons. The split nuclei result in the release of enormous amounts of energy and more neutrons capable of splitting other atoms.

Flanks

As defined in the CFE Treaty, the flanks are Bulgaria, Greece, Iceland, Norway, Romania, Turkey, and the northern and southern military districts of the Soviet Union (now Russia and Ukraine).

Forward-Based Systems (FBS)

Forces based outside national territory -- on allied territory or on national aircraft carriers -- that can reach an enemy's territory.

Fuel Cycle

The sequence of operations involved in supplying fuel for nuclear power generation, irradiating the fuel in a nuclear reactor, and handling and treating the fuel elements following discharge from the reactor.

Fuel Rod

The tubes, up to four or five meters long and usually made of zircalloy, containing the fuel for a nuclear reactor.

Full-Scope Safeguards

Placed by the IAEA on nuclear facilities, these specific procedures, such as the use of sensors, inspections, and accounting methods, ensure that nuclear materials are used only for peaceful purposes.

Fusion

The combination of atomic nuclei that results in the release of large amounts of energy.

- G -**Gaseous Diffusion**

A method of uranium enrichment used to separate U-235 from U-238 based on the fact that gas atoms or molecules with different masses diffuse through a porous barrier (or membrane) at different rates (see Enrichment).

Geneva Protocol (1925)

Bans the use of chemical weapons but not their manufacture or stockpiling.

Global Exchange of Military Information (GEMI)

Adopted by the CSCE in 1994, GEMI is a transparency measure that requires states to submit data on all their armed forces, including technical data, command structures, major weapons holdings, and the strength and location of troops.

Global Protection Against Limited Strikes (GPALS)

A change in the Strategic Defense Initiative mission from defense against a large-scale ballistic missile attack to providing protection against limited ballistic missile strikes.

Global Protection System (GPS)

Following the collapse of the Soviet Union, a program discussed by U.S. President George Bush and Russian President Boris Yeltsin to establish a cooperative, multinational protection system against ballistic missile attack.

Glove Box

A closed glass, plastic, or metal chamber, with gloves attached to the chamber wall, used for handling hazardous or weakly radioactive materials. Highly radioactive materials require robotic arms and hot cells.

Ground-Launched Cruise Missile (GLCM)

A missile launched from a land-based system that is jet-engine powered throughout its flight.

- H -

Heavy Bomber

The START I Treaty defines a heavy bomber as one with a range greater than 8,000 kilometers and/or equipped with long-range nuclear air-launched cruise missiles.

Heavy ICBM

The START I Treaty defines a "heavy" ICBM as "an intercontinental ballistic missile of a type, any one of which has a launch-weight greater than 106,000 kilograms or a throw-weight greater than 4,350 kilograms." The Soviet SS-18 missile is an example of a heavy ICBM.

Heavy Water Reactor

A reactor that uses heavy water as its moderator and natural uranium as fuel.

Helsinki Document (1992)

The CSCE mandate for the establishment of the Forum for Security Cooperation (FSC), a merger of the CSBM and CFE talks.

Helsinki Final Act (1975)

An accord resulting from the CSCE forum, concerned with security (CSBMs), economic and scientific cooperation, and human rights in Europe.

Highly-Enriched Uranium (HEU)

Uranium that is enriched from its naturally occurring 0.7 percent to above 20 percent of the U-235 isotope. Weapons-grade material is usually enriched to 90 percent U-235 or greater.

Hot Cells

Any type of shielded room with remote handling equipment -- such as robotic arms -- for handling and processing radioactive materials. Hot cells may also be used in reprocessing spent reactor fuel.

"Hot Line" Agreement

An agreement between the United States and the Soviet Union, signed in June 1963 and twice updated, that establishes a communications link between Washington and Moscow for use by heads of government during crises.

Hydrogen Bomb

Also known as a thermonuclear weapon, the source of energy for this type of nuclear weapon is largely from fusion.

- I -

Intercontinental Ballistic Missile (ICBM)

A land-based ballistic missile -- generally comprised of a rocket booster, one or more reentry vehicles, penetration aids, and, in the case of MIRVed missiles, a post-boost vehicle, or "bus," to deploy the reentry vehicles -- with a range of more than 5,500 kilometers.

Interim Agreement

One of two agreements signed on May 26, 1972, known collectively as SALT I (the other is the ABM Treaty). The Interim Agreement froze the number of ICBM and SLBM launchers at existing levels (1,710 for the United States and 2,347 for the Soviet Union).

Intermediate-Range Nuclear Forces (INF) Treaty

Signed December 8, 1987, by the United States and the Soviet Union, the treaty requires the elimination of all ground-launched ballistic and cruise missiles with ranges between 500 and 5,500 kilometers. In addition, all associated launchers, equipment, support facilities, and operating bases worldwide were to be eliminated or closed out from any further INF missile system activity.

International Atomic Energy Agency (IAEA)

A United Nations organization founded in 1957, largely at the initiative of the United States and based on U.S. President Dwight Eisenhower's "Atoms for Peace" proposal, to promote the peaceful uses of nuclear technology.

Isotopes

Chemically identical atoms of the same element with different numbers of neutrons in their nuclei and thus different atomic masses (for example, U-238 and U-235).

- J -

Joint Consultative Group (JCG)

Established under the CFE Treaty, this group is responsible for overseeing implementation of and compliance with the treaty.

- K -

Korean Peninsula Energy Development Organization (KEDO)

Formed March 9, 1995, by the United States, South Korea, and Japan following the signing of the U.S.-North Korean Agreed Framework, KEDO is responsible for overseeing the program to construct two new light water-moderated nuclear reactors in the DPRK.

Krasnoyarsk Radar

A Soviet early warning radar constructed in violation of the ABM Treaty. The Soviet Union agreed to eliminate the illegal radar in September 1989.

-L -

Light Water-Moderated Nuclear Reactor (LWR)

The most common type of nuclear reactor, in which ordinary water is used as the moderator and coolant and enriched uranium as fuel. Two LWRs (which produce less plutonium during the fuel cycle than the existing North Korean graphite-moderated reactors) were part of the 1994 Agreed Framework settlement with North Korea (see Agreed Framework).

Limited Test Ban Treaty (LTBT)

The 1963 treaty that bans nuclear explosions in the atmosphere or outer space but permits underground nuclear explosions.

Lisbon Protocol (START I Protocol)

Signed on May 23, 1992, by the United States, Russia, Belarus, Kazakhstan, and Ukraine, the protocol formalized the accession of all five parties to START I and committed the three non-Russian former Soviet republics to join the Nuclear Non-Proliferation Treaty as non-nuclear-weapon states. In addition to the protocol, the heads of the three non-Russian republics pledged in letters to U.S. President George Bush to eliminate all strategic weapons on their territories within the seven-year START I reduction period.

Longer-Range Intermediate Nuclear Force (LRINF) Missiles

As defined by the INF Treaty, such missiles have ranges between 1,000 and 5,500 kilometers.

Low-Enriched Uranium (LEU)

Uranium in which the naturally occurring U235 isotope is increased, to less than 20 percent and usually between two and four percent. LEU is used in nuclear fuel for reactors using natural (light) water as a moderator and coolant.

- M -

Military Critical Technologies List (MTCL)

A U.S. Department of Defense list of technologies that could significantly enhance a potential adversary's military capability and therefore require a license to export.

MIRVed (Multiple Independently-Targetable Reentry Vehicle) Missile

A missile that can deliver two or more nuclear warheads to distinct, separate targets (see Intercontinental Ballistic Missile and Reentry Vehicle).

Missile Technology Control Regime (MTCR)

Established April 7, 1987, by the United States and six of its allies, the regime restricts the proliferation of missiles and missile technology. The original MTCR guidelines ban the transfer of unmanned missiles, rockets, and cruise missiles capable of delivering at least a 500-kilogram payload a minimum of 300 kilometers. Updated MTCR guidelines now restrict the transfer of all missiles intended for the delivery of weapons of mass destruction, regardless of their range and payload.

Mobile Missile

Any ballistic or cruise missile mounted on and/or fired from a movable platform, such as a truck, train, ship, or aircraft.

Mutual and Balanced Force Reduction (MBFR) Talks

Negotiations between NATO and Warsaw Pact countries begun in October 1973 to reduce military forces in Europe. The MBFR negotiations were superseded by the CFE negotiations in 1989.

- N -

National Missile Defense

See Anti-Ballistic Missile System and Ballistic Missile Defense.

National Technical Means (NTM) of Verification

Reconnaissance satellites, seismic stations, radar, and other remote sensors used to collect intelligence information about the military forces and activities of other nations.

Negative Security Assurance

A promise that a state will not use or threaten to use nuclear weapons against non-nuclear parties to the Nuclear Non-Proliferation Treaty.

Nerve Agent

A chemical weapon that interferes with the transmission of the body's nerve impulses.

North Atlantic Treaty Organization (NATO)

Created in 1949 to counter the rising threat of the Soviet Union, this security alliance comprises the United States, Canada, and 14 European nations.

Nuclear-Free Zone

Areas in which the development, testing, production, or deployment of nuclear weapons are prohibited by mutual agreement. Nuclear-free-zone treaties include the Antarctic Treaty (1959), the Outer Space Treaty (1967), the Treaty of Tlatelolco (Latin America, 1968), the Seabed Treaty (1971), the Rarotonga Treaty (South Pacific, 1995), and the Pelindaba Treaty (Africa, 1996).

Nuclear Non-Proliferation Treaty (NPT)

A multilateral treaty opened for signature July 1, 1968, and entered into force on March 5, 1970, designed to prevent the spread of nuclear weapons to non-nuclear nations. The NPT was extended indefinitely and unconditionally in May 1995.

Nuclear Proliferation

The spread of nuclear weapons-related components or technology to countries that are not currently nuclear capable.

Nuclear Reactor

A device in which a controlled, self-sustained nuclear chain reaction can be maintained and generated heat removed. Types include power reactors, research and test reactors, and fissile material production reactors (for fissile material).

Nuclear Risk Reduction Center (NRRC)

These centers, in Moscow and Washington, were established by accord in September 1987 to exchange information and notifications required by arms control and confidence-building agreements.

Nuclear Suppliers Group (NSG)

Also known as the London Group, the NSG was established in response to the 1974 Indian nuclear test. Intended to go beyond the measures adopted by the Zangger Committee and the NPT, the NSG maintains nuclear guidelines and a trigger list for control of the transfer nuclear facilities, equipment, and materials.

Nuclear Weapon

A device that releases nuclear energy in an explosive manner as the result of nuclear chain reactions involving the fission or fusion, or both, of atomic nuclei.

Nunn-Lugar (Soviet Nuclear Threat Reduction Act) Legislation

U.S. legislation approved in December 1991 authorizing the expenditure of U.S. funds to help the Commonwealth of Independent States with the storage, transportation, dismantlement, and destruction of nuclear, chemical, and other weapons. Since 1991, over \$1.5 billion has been budgeted for these arms control and non-proliferation activities.

- O -

On-Site Inspections

Visits by teams of specialists to allow parties to a treaty to verify each other's compliance with the treaty provisions. Inspections generally take place throughout the implementation of a treaty and may include review of force deployments or inspection of treaty-specific equipment and support structures. The INF Treaty provides for five types of inspection -- baseline, elimination, close-out, short-notice, and portal monitoring.

Open Skies Treaty

Signed March 24, 1992, the treaty requires its European and North American parties to open their airspace, on a reciprocal basis, to the overflight of their territory by unarmed reconnaissance aircraft. The treaty is intended to strengthen confidence and increase transparency with respect to military activities. To date, 27 nations, including the United States, have signed, but Russia, Belarus, and Ukraine must ratify to bring the treaty into force.

Outer Space Treaty

Signed by the United States, the Soviet Union, Britain, and 61 other nations on January 27, 1967, this multilateral treaty prohibits the placement of weapons of mass destruction in orbit around the earth, installed on the moon or any other celestial body, or otherwise stationed in outer space. The treaty entered into force on October 7, 1967.

- P -

Peaceful Nuclear Explosions Treaty (PNET)

Signed by the United States and the Soviet Union on May 28, 1978, this treaty was not ratified by either party until after the negotiation and signing of an additional verification protocol in 1990. The treaty sets a ceiling of 150 kilotons on all underground nuclear explosions for peaceful purposes (see Threshold Test Ban Treaty).

Plutonium

A heavy, man-made, radioactive metallic element. The most important isotope is Plutonium-239, which is the primary isotope used in nuclear weapons. Plutonium can also be used for reactor fuel.

Positive Security Assurances

A promise to aid a non-nuclear-weapon state that has been threatened with or attacked by nuclear weapons.

- R -

Reentry Vehicle (RV)

A nuclear warhead on a ballistic missile specially designed to reenter the earth's atmosphere in the terminal portion of the missile's trajectory.

Reprocessing

The chemical treatment of spent reactor fuel to separate the plutonium and uranium from the spent fuel rods and from each other to be used again as fuel. Britain, Russia, France, Germany, and Japan are currently reprocessing to recover plutonium.

- S -

Safeguards

The system of control and handling of nuclear materials that subjects them to domestic and international (IAEA) inspections as agreed upon in treaties and agreements and in domestic legislation.

Seabed Treaty

Signed by the United States on February 11, 1971, this multilateral treaty prohibits the placement of nuclear weapons or other weapons of mass destruction on the seabed beyond a 12-mile (19.2-kilometer) zone.

Sea-Launched Cruise Missile (SLCM)

A missile designed to be launched from a surface ship or submarine and jet-engine powered throughout its flight.

Shorter-Range Intermediate Nuclear Forces (SRINF) Missiles

As defined in the INF Treaty, missiles with ranges between 500 and 1,000 kilometers.

Short-Range Attack Missile (SRAM)

An air-to-surface missile with a range under 600 miles (960 kilometers) carried by U.S. bomber aircraft.

Silo

Hardened underground facilities for housing and launching a ballistic missile and designed to provide pre-launch protection against nuclear attack.

South Pacific Nuclear-Free Zone (SPNFZ)/ Rarotonga Treaty

The 1985 agreement among the members of the South Pacific Forum, including Australia and New Zealand, establishing a nuclear-free zone in the southern Pacific. Three protocols have been attached that invite the nuclear powers to participate in the SPNFZ regime. The treaty came into force in December 1986, and the United States signed the protocols in 1996.

Spent Fuel (in reactor operations)

Fuel elements that have been used in the nuclear fuel cycle and removed from the reactor because they contain too little fissile material and too high a concentration of radioactive fission products. They are highly radioactive.

Spent Fuel Storage Pools

Water-filled pools in which spent fuel may be stored awaiting further disposition.

Standing Consultative Committee (SCC)

A group established by the 1972 ABM Treaty to deal with issues related to compliance with and implementation of the treaty.

Stockholm Document

Adopted by the 35-nation Conference on Confidence- and Security-Building Measures in Europe in September 1986, the accord is designed to reduce the risk of war in Europe by providing notification of military activity involving at least 13,000 troops or 300 tanks.

Stockpile Stewardship Program

A program to maintain the safety and reliability of U.S. nuclear weapons without testing under a Comprehensive Nuclear Test Ban Treaty.

Strategic Arms Limitation Talks (SALT I and II)

Bilateral negotiations between the United States and the Soviet Union from 1969 to 1979 concerning limits on both strategic nuclear offensive systems and ABM systems. The talks resulted in the 1972 SALT I agreements (the ABM Treaty, limiting strategic ABM defense systems, and the Interim Agreement, limiting strategic offensive weapons) and the 1979 SALT II agreement (which was never ratified).

Strategic Arms Reduction Talks (START I and II)

Negotiations between the United States and the Soviet Union/Russia from 1982 to 1993 to limit and reduce the numbers of strategic offensive nuclear weapons. The talks resulted in the 1991 START I Treaty, which entered into force in December 1994, and the 1993 START II Treaty, which calls for even deeper weapons reductions. The latter was negotiated between the United States and Russia and is awaiting Russian ratification.

Strategic Defense Initiative (SDI)

A U.S. research and development program begun during the administration of President Ronald Reagan to develop space-based defensive measures against ballistic missile attack.

Strategic Nuclear Delivery Vehicle (SNDV)

A long-range ballistic or cruise missile or heavy bomber that carries a nuclear weapon.

Strategic Nuclear Forces

Land-based ballistic missiles with ranges over 5,500 kilometers, modern submarine-launched ballistic missiles, and heavy bombers.

Submarine-Launched Ballistic Missile (SLBM)

A ballistic missile that is carried aboard and launched from a submarine.

- T -

Tactical Nuclear Weapons

Nuclear weapons, such as artillery shells, bombs, and short-range missiles, for use in battlefield operations.

Tashkent Agreement

Signed in May 1992 and entered into force in June 1992, the agreement under which the successor states to the Soviet Union with territory within the area of application of the CFE Treaty agree to apportion among themselves the equipment entitlements of the Soviet Union.

Telemetry

In the context of verification, electronic data transmitted from a weapon system being tested that monitors the system's functions and performance parameters.

Theater High-Altitude Area Defense (THAAD) System

A U.S. theater missile defense system designed to intercept ballistic missiles with ranges up to 3,500 kilometers.

Theater Missile Defense

Missile defenses intended to protect troops from short- and medium-range missile attack (see Anti-Ballistic Missile System and Ballistic Missile Defense).

Theater Nuclear Forces

Nuclear forces designed for localized military missions.

Threshold Test Ban Treaty (TTBT)

Signed by the United States and the Soviet Union on July 3, 1978, the treaty was not ratified by either side until an additional verification protocol was signed in 1990. The treaty bans underground nuclear weapons tests with a yield exceeding 150 kilotons.

Throw-weight

This term refers to the weight of the payload that a missile is capable of delivering and is a measure of the destructive potential of a ballistic missile.

Tlatelolco (Treaty of)

A multilateral treaty, signed in 1968, prohibiting nuclear weapons in Latin America. The United States is a signatory to Protocols I and II of the treaty.

Toxins

Chemical weapons produced through biological or microbic processes.

Trilateral Statement

Signed by the United States, Russia, and Ukraine on January 14, 1994, this agreement formalized a Ukrainian agreement to transfer strategic nuclear warheads on Ukrainian

territory to Russia in exchange for compensation in the form of fuel assemblies for nuclear power stations and for security assurances once Ukraine becomes a non-nuclear-weapon state party to the Nuclear Non-Proliferation Treaty.

- U -

UN Register of Conventional Arms

Created by the United Nations in December 1991, this is a register to which states voluntarily report their arms exports and imports in seven major categories of weapons.

UN Special Commission (UNSCOM)

A commission created by the United Nations Security Council to carry out on-site inspection and elimination of Iraq's weapons of mass destruction and ballistic missiles with a range greater than 150 kilometers.

Uranium

A naturally occurring radioactive element whose principle isotopes are U-238 and U-235. The primary use for uranium is as a source of fuel for nuclear power reactors. When highly enriched by increasing the percentage of U-235 isotopes, it may also be used in nuclear weapons.

- V -

VEREX

An ad hoc group of governmental verification experts, established at the September 1991 Biological and Toxins Weapons Convention review conference, to investigate biological weapons verification measures in order to strengthen the convention.

Vienna Document 1990 (VD90)

Adopted at a CSCE summit meeting in November 1990, this document expands and improves upon the notification measures and information exchanges (CSBMs) in the Stockholm Document of 1986. It calls for annual information exchanges of troop strength, weapons systems, and military budgets, and establishes a Conflict Prevention Center based in Vienna, Austria.

Vienna Document 1992 (VD92)

Adopted by the CSCE in February 1992, this CSBMs-related document includes provisions of VD90 and adds further measures related to transparency regarding military forces and activities and constraints on military activities. It also expands the zone of application for CSBMs to include the territory of the Soviet Union successor states, which were beyond the traditional zone of Europe.

Vienna Document 1994 (VD94)

Developed by the Forum for Security Cooperation and adopted by CSCE leaders in November 1994, VD94 supersedes VD92 and includes additional CSBM provisions.

Specific changes include mandatory exchange of information on defense planning, force planning, and budget projections, as well as expansion of military contacts and cooperation including visits to naval bases, contacts between military units, and joint academic publications.

Vladivostok Agreement

An agreement on a formula for the SALT II Treaty that resulted from a 1974 summit meeting in Vladivostok, U.S.S.R., between U.S. President Gerald Ford and Soviet General Secretary Leonid Brezhnev.

- W -

Warsaw Treaty Organization (WTO, or Warsaw Pact)

Created in 1955 by the Soviet Union and its six Central European satellites, this military and political security alliance was the Communist counterpart of NATO. It was formally dissolved on April 1, 1991.

Weapons-Grade Material

Nuclear material considered most suitable for a nuclear weapon. It usually connotes uranium enriched to above 90 percent Uranium-235 or plutonium with greater than 90 percent Pu-239. (Crude weapons can be fabricated from lower grade material.)

- Y -

Yield

The amount of energy released by a nuclear explosion, generally measured in equivalent tons of TNT. A kiloton is equivalent to 1,000 tons of TNT; a megaton is equivalent to one million tons of TNT.

- Z -

Zangger Committee

Also known as the Nuclear Non-Proliferation Treaty Exporters Committee, the Zangger Committee developed the Zangger List, which identifies items whose export would "trigger" the application of IAEA safeguards to the facility for which the items are being provided.

Zero Option

A U.S. proposal in the context of the intermediate-range nuclear forces negotiations to eliminate intermediate-range ballistic missiles.

Zero Yield

The absence of the release of any nuclear energy. A "zero-yield" comprehensive test ban treaty bans all nuclear weapons test explosions (see Yield).