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Arms Control and Nonproliferation: A Catalog of Treaties and Agreements

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Summary

Arms control and nonproliferation efforts are two of the tools that have occasionally been used to implement U.S. national security strategy. Although some believe these tools do little to restrain the behavior of U.S. adversaries, while doing too much to restrain U.S. military forces and operations, many other analysts see them as an effective means to promote transparency, ease military planning, limit forces, and protect against uncertainty and surprise. Arms control and nonproliferation efforts have produced formal treaties and agreements, informal arrangements, and cooperative threat reduction and monitoring mechanisms. The pace of implementation slowed, however, in the 1990s, and during the past six years, the Bush Administration has usually preferred unilateral or ad hoc measures to formal treaties and agreements to address U.S. security concerns.

The United States and Soviet Union began to sign agreements limiting their strategic offensive nuclear weapons in the early 1970s. Progress in negotiating and implementing these agreements was often slow, and subject to the tenor of the broader U.S.-Soviet relationship. As the Cold War drew to a close in the late 1980s, the pace of negotiations quickened, with the two sides signing treaties limiting intermediate range and long-range weapons. But progress again slowed in the 1990s, as U.S. missile defense plans and a range of other policy conflicts intervened in the U.S.-Russian relationship. At the same time, however, the two sides began to cooperate on securing and eliminating Soviet-era nuclear, chemical, and biological weapons. Through these cooperative efforts, the United States now allocates more than $1 billion each year to threat reduction programs in the former Soviet Union.

The United States is also a prominent actor in an international regime that attempts to limit the spread of nuclear weapons. This regime, although suffering from some setbacks in recent years in Iran and North Korea, includes formal treaties, export control coordination and enforcement, U.N. resolutions, and organizational controls. The Nuclear Nonproliferation Treaty (NPT) serves as the cornerstone of this regime, with all but four nations participating in it. The International Atomic Energy Agency not only monitors nuclear programs to make sure they remain peaceful, but also helps nations develop and advance those programs. Other measures, such as sanctions, interdiction efforts, and informal cooperative endeavors, also seek to slow or stop the spread of nuclear materials and weapons.

The international community has also adopted a number of agreements that address non-nuclear weapons. The CFE Treaty and Open Skies Treaty sought to stabilize the conventional balance in Europe in the waning years of the Cold War. Other arrangements seek to slow the spread of technologies that nations could use to develop advanced conventional weapons. The Chemical Weapons and Biological Weapons Conventions sought to eliminate both of these types of weapons completely.

This report replaces CRS Report RL30033. It will be updated annually, or as needed.

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Introduction

National Security, Arms Control, and Nonproliferation

For much of the past century, U.S. national security strategy focused on several core, interrelated objectives. These include enhancing U.S. security at home and abroad; promoting U.S. economic prosperity; and promoting free markets and democracy around the world. In addition, the United States has used both unilateral and multilateral mechanisms to achieve these objectives, with varying amounts of emphasis at different times. These mechanisms have included a range of military, diplomatic, and economic tools.

One of these core objectives — enhancing U.S. security — generally is interpreted as the effort to protect the nation's interests and includes, for instance, protecting the lives and safety of Americans; maintaining U.S. sovereignty over its values, territory, and institutions; and promoting the nation's well-being. The United States has wielded a deep and wide range of military, diplomatic, and economic tools to protect and advance its security interests. These include, for instance, the deployment of military forces to deter, dissuade, persuade, or compel others; the formation of alliances and coalitions to advance U.S. interests and counter aggression; and the use of U.S. economic power to advance its agenda or promote democratization, or to withhold U.S. economic support to condemn or punish states hostile to U.S. interests.

In this context, arms control and nonproliferation efforts are two of the tools that have occasionally been used to implement the U.S. national security strategy. They generally are not pursued as ends in and of themselves, and many argue that they should not become more important than the strategy behind them. But many believe their effective employment can be critical to the success of that broader strategy. Many analysts see them as a complement to, rather than a substitute for, military or economic efforts.

Effective arms control measures are thought to enhance U.S. national security in a number of ways. For example, arms control measures that promote transparency might increase U.S. knowledge about and understanding of the size, make-up, and operations of an opposing military force. This might not only ease U.S. military planning, but it might also reduce an opponent's incentives for and opportunities to attack U.S. forces, or the forces of its friends and allies. Transparency measures can also build confidence among wary adversaries. Effective arms control measures can also be designed to complement U.S. force structure objectives by limiting or

restraining U.S. and other nations' forces. In an era of declining defense budget resources, such as the 1980s and 1990s, arms control measures helped ensure reciprocity in force reductions. Indeed, some considered such arms control measures essential to the success of our national military objectives.

Similarly, most agree that efforts to prevent the further spread of weapons of mass destruction and their means of delivery should be an essential element of U.S. national security. For one reason, proliferation can exacerbate regional tensions that might escalate to conflict and involve or threaten U.S. forces or those of its friends and allies. Proliferation might also introduce new, and unexpected threats to the U.S. homeland. Furthermore, proliferation can greatly complicate U.S. national military strategy, force structure design, and conduct of operations. And these weapons could pose a threat to the U.S. homeland if they were acquired by terrorists or subnational groups. Hence, the United States employs diplomatic, economic, and military tools to restrain these threats and enhance its national security.

The Bush Administration has altered the role of arms control in U.S. national security policy. The President and many in his Administration question the degree to which arms control negotiations and formal treaties can enhance U.S. security objectives. For example, the President has argued that the United States did not need formal treaties to reduce or restrain its strategic nuclear forces, and, therefore, initially intended to reduce U.S. nuclear forces without requiring Russia to do the same. The Administration only incorporated these reductions into a formal Treaty after Russia insisted on such a document. Similarly, some in the Administration have noted that some formal, multilateral arms control regimes may go too far in restraining U.S. options without limiting the forces of potential adversaries. Instead, the Administration would prefer, when necessary, that the United States take unilateral military action or join in ad hoc coalitions to stem the proliferation of weapons of mass destruction. The absence of confidence in arms control has extended to the State Department, where the Bush Administration has removed the phrase "arms control" from all bureaus that were responsible for this policy area. The focus remains on nonproliferation, but this is seen as policy area that no longer requires formal arms control treaties to meet its objectives.

The Arms Control Agenda

The United States has participated in numerous arms control and nonproliferation efforts over the past 40 years. These efforts have produced formal treaties and agreements that impose restrictions on U.S. military forces and activities, informal arrangements and guidelines that the United States has agreed to observe, and unilateral restraints on military forces and activities that the United States has adopted either on its own, or in conjunction with reciprocal restraints on other nations' forces and activities. Because these arms control arrangements affect U.S. national security, military programs, force levels, and defense spending, Congress has shown a continuing interest in the implementation of existing agreements and ongoing negotiations.

The changing international environment in the 1990s led many analysts to believe that the United States and other nations could enter a new era of restraint in weapons deployments, weapons transfers, and military operations. These hopes were

codified in several treaties signed between 1991 and 1996, such as the Strategic Arms Reduction Treaties (START I and START II), the Chemical Weapons Convention, and the Comprehensive Nuclear Test Ban Treaty. Yet, for many, hopes for a new era were clouded by the slow pace of ratification and implementation for many agreements. The 1991 START I Treaty did not enter into force until late 1994; the 1993 START II Treaty never entered into force and was replaced by a new, less detailed Strategic Offensive Reductions Treaty in 2002. The 1996 Comprehensive Test Ban Treaty (CTBT), in spite of widespread international support, failed to win approval from the United States Senate in October 1999. Furthermore, India, Pakistan, Iran, and North Korea raised new questions about the viability of the Nuclear Nonproliferation Treaty and its role in stemming nuclear proliferation.

Some progress did occur in the latter years of the decade. In 1997, the United States and Russia, the two nations with the largest stockpiles of chemical weapons, both ratified the Chemical Weapons Convention. In December 1997, more than 120 nations signed an international agreement banning the use of anti-personnel land mines; although, a number of major nations, including the United States, have so far declined to sign. However, the U.S. Senate's rejection of the CTBT, the Bush Administration's withdrawal from the ABM Treaty, and the U.S. rejection of a verification protocol for the Biological Weapons Convention led many nations to question the U.S. commitment to the arms control process.

The United States has outlined many new initiatives in nonproliferation policy that take a far less formal approach, with voluntary guidelines and voluntary participation replacing treaties and multilateral conventions. With these new initiatives, the Administration has signaled a change in the focus of U.S. nonproliferation policy. Instead of offering its support to international regimes that seek to establish nonproliferation norms that apply to all nations, the Administration has turned to arrangements that seek, instead, to prevent proliferation only to those nations and groups that the United States believes can threaten U.S. or international security. In essence, nonproliferation has become a tool of anti-terrorism policy, which, in some ways, may diminish its role as a tool of international security policy.

This report provides an overview of many of the key arms control and nonproliferation agreements and endeavors of the past 40 years. It is divided into three sections. The first describes arms control efforts between the United States and the states of the former Soviet Union, covering both formal, bilateral treaties, and the cooperative threat reduction process. The second section describes multilateral nuclear nonproliferation efforts, covering both formal treaties and less formal accommodations that have been initiated in recent years. The final section reviews treaties and agreements that address chemical, biological, and conventional weapons.

The report concludes with several appendices. These provide a list of treaties and agreements that the United States is a party to, a description of the treaty ratification process, and a list of the bilateral and international organizations tasked with implementation of arms control efforts.

Arms Control Between the United States and States of the Former Soviet Union

The Early Years: SALT I and SALT II

The United States and Soviet Union signed their first formal agreements limiting nuclear offensive and defensive weapons in May 1972. The Strategic Arms Limitation Talks, known as SALT, produced two agreements — the *Interim Agreement ... on Certain Measures with Respect to the Limitation of Strategic Offensive Arms* and the Treaty ... on the *Treaty on the Limitation of Anti-Ballistic Missile Systems.* These were followed, in 1979, by the Strategic Arms Limitation Treaty, known as SALT II, which sought to codify equal limits on U.S. and Soviet strategic offensive nuclear forces.

The Interim Agreement on Offensive Arms. The Interim Agreement on Offensive Arms imposed a freeze on the number of launchers for intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs) that the United States and Soviet Union could deploy. The parties agreed that they would not begin construction of new ICBM launchers after July 1, 1972; at the time the United States had 1,054 ICBM launchers and the Soviet Union had 1,618 ICBM launchers. They also agreed to freeze their number of SLBM launchers and modern ballistic missile submarines, although they could add SLBM launchers if they retired old ICBM launchers. A protocol to the Treaty indicated that the United States could deploy up to 710 SLBM launchers on 44 submarines, and the Soviet Union could deploy up to 950 SLBM launchers on 62 submarines.

The inequality in these numbers raised serious concerns both in Congress and in the policy community in Washington. When approving the agreement, Congress adopted a provision, known as the Jackson amendment, that mandated that all future arms control agreements would have to contain equal limits for the United States and Soviet Union.

The Interim Agreement was to remain in force for five years, unless the parties replaced it with a more comprehensive agreement limiting strategic offensive weapons. In 1977, both nations agreed to observe the agreement until the completed the SALT II Treaty.

The Strategic Arms Limitation Treaty (SALT II). The United States and Soviet Union completed the SALT II Treaty in June 1979, after seven years of negotiations. During these negotiations, the United States sought limits on quantitative and qualitative changes in Soviet forces. The U.S. negotiating position also reflected the congressional mandate for numerically equal limits on both nations' forces. As a result, the treaty limited each nation to a total of 2,400 ICBM launchers, SLBM launchers and heavy bombers, with this number declining to 2,250 by January 1, 1981. Within this total, the Treaty contained sublimits for the numbers launchers that could be deployed for ICBMs with multiple independent reentry vehicles (MIRVed ICBMs); MIRVed ICBMs and MIRVed SLBMs; and MIRVed ICBMs, MIRVed SLBMs, MIRVed air-to-surface ballistic missiles (ASBMs) and heavy bombers. The Treaty would not have limited the total number of warheads that could

be carried on these delivery vehicles, which was a growing concern with the deployment of large numbers of multiple warhead missiles, but the nations did agree that they would not increase the numbers of warheads on existing types of missiles and would not test new types of ICBMs with more than 10 warheads and new types of SLBMs with more than 14 warheads. They also agreed to provisions that were designed to limit missile modernization programs, in an effort to restrain qualitative improvements in their strategic forces.

Although it contained equal limits on U.S. and Soviet forces, the SALT II Treaty still proved to be highly controversial. Some analysts argued that the Treaty would fail to curb the arms race because the limits on forces were equal to the numbers already deployed by the United States and Soviet Union; they argued for lower limits and actual reductions. Other analysts argued that the Treaty would allow the Soviet Union to maintain strategic superiority over the United States because the Soviet force of large, land-based ballistic missiles would be able to carry far greater numbers of warheads, even within the equal limits on delivery vehicles, than U.S. ballistic missiles. Some argued that, with this advantage, the Soviet Union would be able to target all U.S. land-based ICBMs in a first strike, which created a "window of vulnerability" for the United States. The Treaty's supporters argued that the Soviet advantage in large MIRVed ICBMs was more than offset by the U.S. advantage in SLBM warheads, which could not be destroyed in a first strike and could retaliate against Soviet targets, and the U.S. advantage in heavy bombers.

The continuing Soviet build-up of strategic nuclear forces, along with the taking of U.S. hostages in Iran and other challenges to the U.S. international position in the late 1970s, combined with the perceived weaknesses to the Treaty to raise questions about whether the Senate would muster the votes needed to consent to the Treaty's ratification. When the Soviet Union invaded Afghanistan in December 1979, President Carter withdrew the Treaty from the Senate's consideration.

The ABM Treaty. The 1972 ABM Treaty permitted the United States and Soviet Union to deploy ABM interceptors at two sites, one centered on the nation's capital and one containing ICBM silo launchers. Each site could contain up to 100 ground-based launchers for ABM interceptor missiles, along with specified radars and sensors. The ABM Treaty also obligated each nation not to develop, test, or deploy ABM systems for the "defense of the territory of its country" and not to provide a base for such a defense. It forbade testing and deployment of space-based, sea-based, or air-based ABM systems or components and it imposed a number of qualitative limits on missile defense programs. The Treaty, however, imposed no restrictions on defenses against aircraft, cruise missiles, or theater ballistic missiles.

In a Protocol signed in 1974, each side agreed that it would deploy an ABM system at only one site, either around the nation's capital or around an ICBM deployment area. The Soviet Union deployed its site around Moscow; this system has been maintained and upgraded over the years, and remains operational today. The United States deployed its ABM system around ICBM silo launchers located near Grand Forks North Dakota; it operated this facility briefly in 1974 before closing it down when it proved to be not cost effective.

The ABM Treaty was the source of considerable controversy and debate for most of its history. Presidents Reagan, George H. W. Bush, and Clinton all wrestled with the conflicting goals of defending the United States against ballistic missile attack while living within the confines of the ABM Treaty. President George W. Bush resolved this conflict in 2002, when he announced that the United States would withdraw from the ABM Treaty so that it could deploy ballistic missile defenses. The substance of this debate during the Clinton and Bush years is described in more detail below.

The Reagan and Bush Years: INF and START

During the election campaign of 1980, and after taking office in January 1981, President Ronald Reagan pledged to restore U.S. military capabilities, in general, and nuclear capabilities, in particular. He planned to expand U.S. nuclear forces and capabilities in an effort to counter the perceived Soviet advantages in nuclear weapons. Initially, at least, he rejected the use of arms control agreements to contain the Soviet threat. However, in 1982, after Congress and many analysts pressed for more diplomatic initiatives, the Reagan Administration outlined negotiating positions to address intermediate-range missiles, long-range strategic weapons, and ballistic missile defenses. These negotiations began to bear fruit in the latter half of President Reagan's second term, with the signing of the Intermediate-Range Nuclear Forces Treaty in 1987. President George H.W. Bush continued to pursue the first Strategic Arms Reduction Treaty (START), with the United States and Soviet Union signing this Treaty in July 1991. The collapse of the Soviet Union later that year led to calls for deeper reductions in strategic offensive arms. As a result, the United States and Russia signed START II in January 2003, weeks before the end of the Bush Administration.

The Intermediate-Range Nuclear Forces (INF) Treaty. In December 1979, NATO decided upon a "two track" approach to intermediate-range nuclear forces (INF) in Europe: it would seek negotiations with the Soviets to eliminate such systems, and at the same time schedule deployments as a spur to such negotiations. Negotiating sessions began in the fall of 1980 and continued until November 1983, when the Soviets left the talks upon deployment of the first U.S. INF systems in Europe. The negotiations resumed in January 1985. At the negotiations, the Reagan Administration called for a "double zero" option, which would eliminate all short- as well as long-range INF systems, a position at the time viewed by most observers to be unattractive to the Soviets. Nevertheless, significant progress occurred during the Gorbachev regime. At the Reykjavik summit in October 1986, Gorbachev agreed to include reductions of Soviet INF systems in Asia. In June 1987, the Soviets proposed a global ban on short- and long-range INF systems, which was similar to the U.S. proposal for a double zero. Gorbachev also accepted the U.S. proposal for an intrusive verification regime.

The United States and the Soviet Union signed the Treaty on Intermediate-Range Nuclear Forces (INF) on December 8, 1987. The INF Treaty was seen as a significant milestone in arms control because it established an intrusive verification regime and because it eliminated entire classes of weapons that both sides regarded as modern and effective. The United States and Soviet Union agreed to destroy all intermediate-range and shorter-range nuclear-armed ballistic missiles and ground-

launched cruise missiles, which are those missiles with a range between 300 and 3400 miles. The launchers associated with the controlled missiles were also to be destroyed. The signatories agreed that the warheads and guidance systems of the missiles need not be destroyed; they could be used or reconfigured for other systems not controlled by the Treaty.

The Soviets agreed to destroy approximately 1750 missiles and the United States agreed to destroy 846 missiles, establishing a principle that asymmetrical reductions were acceptable in order to achieve a goal of greater stability. On the U.S. side, the principal systems destroyed were the Pershing II ballistic missile and the ground launched cruise missile (GLCM), both single-warhead systems. On the Soviet side, the principal system was the SS-20 ballistic missile, which carried three warheads. These systems, on both sides, were highly mobile and able to strike such high-value targets as command-and-control centers, staging areas, airfields, depots, and ports. The Soviets also agreed to destroy a range of older nuclear missiles, as well as the mobile, short-range SS-23, a system developed and deployed in the early 1980s. The parties had eliminated all their weapons by May 1991.

The verification regime of the INF Treaty permitted on-site inspections of selected missile assembly facilities and all storage centers, deployment zones, and repair, test, and elimination facilities. Although it did not permit "anywhere, anytime" inspections, it did allow up to 20 short-notice inspections of sites designated in the Treaty. The two sides agreed to an extensive data exchange, intended to account for all systems covered by the agreement. The Treaty also established a continuous portal monitoring procedure at one assembly facility in each country. Inspections under the INF Treaty continued until May 2001, however, the United States continues to operate its site at Russia's Votkinsk Missile Assembly facility under the terms of the 1991 START Treaty.

The INF Treaty returned to the news in 2007. Russia, partly in response to U.S. plans to deploy a missile defense radar in the Czech Republic and interceptor missiles in Poland, has stated that it might withdraw from the INF Treaty. Some Russian officials have claimed this would allow Russia to deploy missiles with the range needed to threaten the missile defense system, in case it were capable of threatening Russia's strategic nuclear forces. Analysts outside Russia have also noted that the Russian might be responding to concerns about the growing capabilities of China's missiles, or of those in other countries surrounding Russia. Some analysts have suggested that the United States, Russia, and others negotiate a global agreement banning intermediate range missiles, to address the growing threat these systems might pose to both the United States and Russia.

For Further Reading

CRS Issue Brief IB88003, *Arms Control: Ratification of the INF Treaty*. (Archived. For copies contact Amy Woolf, 202-707-2379.)

CRS Issue Brief IB84131, *Verification and Compliance: Soviet Compliance with Arms Control Agreements*. (Archived. For copies contact Amy Woolf, 202-707-2379.)

The Strategic Arms Reduction Treaty (START). Like, INF, START negotiations began in 1982, but stopped between 1983 and 1985 after a Soviet walk-out in response to the U.S. deployment of intermediate range missiles in Europe. They resumed later in the Reagan Administration, and were concluded in the first Bush Administration. The United States and Soviet Union signed the first Strategic Arms Reduction Treaty (START) on July 31, 1991.

START After the Soviet Union. The demise of the Soviet Union in December 1991 immediately raised questions about the future of the Treaty. At that time, about 70% of the strategic nuclear weapons covered by START were deployed at bases in Russia; the other 30% were deployed in Ukraine, Kazakhstan, and Belarus.[1] Russia initially sought to be the sole successor to the Soviet Union for the Treaty, but the other three republics did not want to cede all responsibility for the Soviet Union's nuclear status and treaty obligations to Russia. In May 1992, the four republics and the United States signed a Protocol that made all four republics parties to the Treaty. At the same time, the leaders of Belarus, Ukraine, and Kazakhstan agreed to eliminate all of their nuclear weapons during the seven-year reduction period outlined in START. They also agreed to sign the Nuclear Non-Proliferation Treaty (NPT) as non-nuclear weapons states.

The U.S. Senate gave its consent to the ratification of START on October 1, 1992. The Russian parliament consented to the ratification of START on November 4, 1992, but it stated that Russia would not exchange the instruments of ratification for the Treaty until all three of the other republics adhered to the NPT as non-nuclear states. Kazakhstan completed the ratification process in June 1992 and joined the NPT as a non-nuclear weapon state on February 14, 1994. Belarus approved START and the NPT on February 4, 1993, and formally joined the NPT as a non-nuclear weapon state on July 22, 1993. Ukraine's parliament approved START in November 1993, but its approval was conditioned on Ukraine's retention of some of the weapons based on its territory and the provision of security guarantees by the other nuclear weapons states.

In early 1994, after the United States, Russia, and Ukraine agreed that Ukraine should receive compensation and security assurances in exchange for the weapons based on its soil, the parliament removed the conditions from its resolution of ratification. But it still did not approve Ukraine's accession to the NPT. The Ukrainian parliament took this final step on November 16, 1994, after insisting on and apparently receiving additional security assurances from the United States, Russia, and Great Britain. START officially entered into force with the exchange of the instruments of ratification on December 5, 1994.

START Provisions. START limits long-range nuclear forces — land-based intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles

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[1] Leaders in these the non-Russian republics did not have control over the use of the nuclear weapons on their territory. Russian President Boris Yeltsin, and now Valdimir Putin, is the sole successor to the Soviet President in the command and control structure for Soviet nuclear weapons and he, along with his Minister of Defense and Military Chief of Staff, have the codes needed to launch Soviet nuclear weapons.

(SLBMs), and heavy bombers — in the United States and the newly independent states of the former Soviet Union. Each side can deploy up to 6,000 *attributed* warheads on 1,600 ballistic missiles and bombers. (Some weapons carried on bombers do not count against the Treaty's limits, so each side could deploy 8,000 or 9,000 actual weapons.) Each side can deploy up to 4,900 warheads on ICBMs and SLBMs. Throughout the START negotiations, the United States placed a high priority on reductions in heavy ICBMs because they were thought to be able to threaten a first strike against U.S. ICBMs. Therefore, START also limits each side to 1,540 warheads on "heavy" ICBMs, a 50% reduction in the number of warheads deployed on the SS-18 ICBMs in the former Soviet republics.

START did not require the elimination of most of the missiles removed from service. The nations had to eliminate *launchers* for missiles that exceeded the permitted totals, but, in most cases, missiles could be placed in storage and warheads could either be stored or reused on missiles remaining in the force.

START contains a complex verification regime. Both sides collect most of the information needed to verify compliance with their own satellites and remote sensing equipment — the National Technical Means of Verification (NTM). But the parties also use data exchanges, notifications, and on-site inspections to gather information about forces and activities limited by the Treaty. Taken together, these measures are designed to provide each nation with the ability to deter and detect militarily significant violations. (No verification regime can ensure the detection of all violations. A determined cheater could probably find a way to conceal some types of violations.) Many also believe that the intrusiveness mandated by the START verification regime and the cooperation needed to implement many of these measures builds confidence and encourages openness among the signatories.

The United States and Russia completed the reductions in their forces by the designated date of December 5, 2001. All the warheads from 104 SS-18 ICBMs in Kazakhstan were removed and returned to Russia and all the launchers in that nation have been destroyed. Ukraine has destroyed all the SS-19 ICBM and SS-24 ICBM launchers on its territory and returned all the warheads from those missiles to Russia. Belarus had also returned to Russia all 81 SS-25 missiles and warheads based on its territory by late November 1996.

The Future of START. The START Treaty expires in December 2009. According to the Treaty, the parties must begin discussions, one year prior to that date, about the future of the Treaty. They could allow it to lapse, extend it without modification for another five years, or seek to modify the Treaty before extending it for five year intervals. The United States and Russia have held some preliminary discussions about the future of START, but the two sides apparently have sharply different views on what that future should be. Some in Russia, including President Putin, have suggested that the two nations replace START with a new Treaty that would reduce the numbers of deployed warheads but contain many of the definitions, counting rules, and monitoring provisions of START. The Bush Administration has rejected that approach, noting that the new Moscow Treaty (described below) calls for further reductions in offensive nuclear weapons and that many of the detailed provisions in START are no longer needed now that the United States and Russia are no longer enemies. The United States has suggested that the two sides extend,

without formal treaty, some of the monitoring and verification provisions in START. Analysts outside government have also suggested that the nations extend the monitoring provisions, at least through 2012, as the Moscow Treaty does not have its own verification regime. Some in the United States, however, object to this approach because some of the monitoring provisions have begun to impinge on U.S. strategic weapons and missile defense programs.

For Further Reading

CRS Report 91-492 F, *Cooperative Measures in START Verification*. (Archived. For copies contact Amy Woolf, 202-707-2379.)

CRS Issue Brief IB98030, *Nuclear Arms Control: The U.S.-Russian Agenda*. (Archived. For copies contact Amy Woolf, 202-707-2379.)

CRS Report 93-617 F, *START I and START II Arms Control Treaties: Background and Issues*. (Archived. For copies contact Amy Woolf, 202-707-2379.)

START II. The United States and Russia signed the second START Treaty, START II, on January 3, 1993, after less than a year of negotiations. The Treaty never entered into force. Its consideration was delayed for several years during the 1990s, but it eventually received approval from both the U.S. Senate and Russian parliament. Nevertheless, it was overcome by events in 2002.

START II Provisions. START II would have limited each side to between 3,000 and 3,500 warheads; reductions initially were to occur by the year 2003 and would have been extended until 2007 if the nations had approved a new Protocol. It would have banned all MIRVed ICBMs and would have limited each side to 1,750 warheads on SLBMs.

To comply with these limits the United States would have removed two warheads (a process known as "downloading") from each of its 500 3-warhead Minuteman III missiles and eliminated all launchers for its 50 10-warhead MX missiles. The United States also stated that it would reduce its SLBM warheads by eliminating 4 Trident submarines and deploying the missiles on the 14 remaining Trident submarines with 5, rather than 8, warheads. Russia would have eliminated all launchers for its 10-warhead SS-24 missiles and 10-warhead SS-18 missiles. It would also have downloaded to a single warhead 105 6-warhead SS-19 missiles, if it retained those missiles. It would also have eliminated a significant number of ballistic missile submarines, both for budget reasons and to reduce to START II limits. These changes would have brought Russian forces below the 3,500 limit because so many of Russia's warheads are deployed on MIRVed ICBMs. As a result, many Russian officials and Duma members insisted that the United States and Russia negotiate a START III Treaty, with lower warhead numbers, so that Russia would not have to produce hundreds of new missiles to maintain START II levels.

START II implementation would have accomplished the long-standing U.S. objective of eliminating the Soviet SS-18 heavy ICBMs. The Soviet Union and

Russia had resisted limits on these missiles in the past. Russia would have achieved its long-standing objective of limiting U.S. SLBM warheads, although the reductions would not have been as great as those for MIRVed ICBMs. The United States had long resisted limits on these missiles, but apparently believed a 50% reduction was a fair trade for the complete elimination of Russia's SS-18 heavy ICBMs.

START II would have relied on the verification regime established by START, with a few new provisions. For example, U.S. inspectors would be allowed to watch Russia pour concrete into the SS-18 silos and to measure the depth of the concrete when Russia converted the silos to hold smaller missiles. In addition, Russian inspectors could have viewed the weapons carriage areas on U.S. heavy bombers to confirm that the number of weapons the bombers are equipped to carry did not exceed the number attributed to that type of bomber.

START II Ratification. Although START II was signed in early January 1993, its full consideration was delayed until START entered into force at the end of 1994. The U.S. Senate further delayed its consideration during a Senate dispute over the future of the Arms Control and Disarmament Agency. The Senate eventually approved ratification of START II, by a vote of 87-4, on January 26, 1996.

The Russian Duma also delayed its consideration of START II. Many members of the Duma disapproved of the way the Treaty would affect Russian strategic offensive forces and many objected to the economic costs Russia would bear when implementing the treaty. The United States sought to address the Duma's concerns during 1997, by negotiating a Protocol that would extend the elimination deadlines in START II, and, therefore, reduce the annual costs of implementation, and by agreeing to negotiate a START III Treaty after START II entered into force. But this did not break the deadlock; the Duma again delayed its debate after the United States and Great Britain launched air strikes against Iraq in December 1998. The Treaty's future clouded again after the United States announced its plans in January 1999 to negotiate amendments to the 1972 ABM Treaty, and after NATO forces began their air campaign in Yugoslavia in April 1999.

President Putin offered his support to START II and pressed the Duma for action in early 2000. He succeeded in winning approval for the treaty on April 14 after promising, among other things, that Russia would withdraw from the Treaty if the United States withdrew from the 1972 ABM Treaty. However, the Federal Law on Ratification said the Treaty could not enter into force until the United States approved ratification of several 1997 agreements related to the 1972 ABM Treaty. President Clinton never submitted these to the Senate, for fear they would be defeated. The Bush Administration also never submitted these to the Senate, announcing, instead, in June 2002, that the United States would withdraw from the ABM Treaty. Russia responded by announcing that it had withdrawn from START II and would not implement the Treaty's reductions.

For Further Reading

CRS Report 93-617 F, *START I and START II Arms Control Treaties: Background and Issues*. (Archived. For copies contact Amy Woolf, 202-707-2379.)

CRS Report 97-359 F, *START II Debate in the Russian Duma: Issues and Prospects*.

The Clinton and Bush Years: Moving Past START and the ABM Treaty

The arms control process between the United States and Russia essentially stalled during the 1990s, as efforts to ratify and implement START II dragged on. In 1997, in an effort to move the agenda forward, Presidents Clinton and Yeltsin agreed to a framework for a START III Treaty. But these negotiations never produced a Treaty, as the U.S.-Russian arms control agenda came to be dominated by U.S. plans for ballistic missile defenses and issues related to the ABM Treaty. When President Bush took office in 2001, he had little interest in pursuing formal arms control agreements with Russia. He signed the Strategic Offensive Reductions Treaty (known as the Moscow Treaty) in 2002, even though he would have preferred that the United States and Russia each set their force levels without any formal limits.

START III Framework for Strategic Offensive Forces. Many in Russia argued the United States and Russia should bypass START II and negotiate deeper reductions in nuclear warheads that were more consistent with the levels Russia was likely to retain in the future. The Clinton Administration did not want to set START II aside, in part because it wanted to be sure Russia eliminated its MIRVed ICBMS. However, many in the Administration eventually concluded that Russia would not ratify START II without some assurances that the warhead levels would decline further. So the United States agreed to proceed to START III, but *only after* START II entered into force; Presidents Clinton and Yeltsin agreed to this timeline in March 2007. The START III framework called for reductions to between 2,000 and 2,500 warheads for strategic offensive nuclear weapons on each side.

The United States and Russia held several rounds of discussions on START III, but they did not resolve their differences before the end of the Clinton Administration. President Bush did not pursue the negotiations after taking office in 2001. The demise of these discussions left many issues that had been central to the U.S.-Russian arms control process unresolved. For example, Presidents Clinton and Yeltsin had agreed to explore possible measures for limiting long-range, nuclear-armed, sea-launched cruise missiles and other tactical nuclear weapons in the START III framework. These weapons systems are not limited by existing treaties. Many in Congress have joined analysts outside the government in expressing concerns about the safety and security of Russia's stored nuclear weapons.

In addition, when establishing the START III framework, the United States and Russia agreed that they would explore proposals to enhance transparency and promote the irreversibility of warhead reductions. Many analysts viewed this step as

critical to lasting, predictable reductions in nuclear weapons. The Bush Administration has, however, rejected this approach. Although it has pledged to eliminate some warheads removed from deployment, it will not offer any measures promoting the transparency or reversibility of this process. It wants to retain U.S. flexibility and the ability to restore warheads to deployed forces. Many critics of the Administration oppose this policy, in part, because it will undermine U.S. efforts to encourage Russia to eliminate warheads that might be at risk of loss or theft.

Ballistic Missile Defenses and the ABM Treaty. As was noted above, the 1972 Anti-Ballistic Missile (ABM) Treaty and 1974 Protocol allowed the United States and Soviet Union to deploy limited defenses against long-range ballistic missiles. The United States completed, then quickly abandoned a treaty-compliant ABM system near Grand Forks, North Dakota in 1974. The Soviet Union deployed, and Russia continues to operate, a treaty-compliant system around Moscow.

Missile Defense Plans and Programs. During the 1980s and early 1990s, the United States conducted research on a variety of ballistic missile defense technologies. In 1983 President Reagan collected and expanded these programs in the Strategic Defense Initiative (SDI), which sought to develop and deploy comprehensive missile defenses that would defend the United States against a deliberate, massive attack from the Soviet Union. The first Bush Administration changed this focus, seeking instead to provide a defense against possible limited missile attacks that might arise from any number of countries throughout the world.

After the Persian Gulf War in 1991, with Iraq's attacks with Scud missiles alerting many to the dangers of missile proliferation and the threats posed by short- and medium-range theater ballistic missiles, the United States began developing several advanced theater missile defense (TMD) systems. At the same time, the Clinton Administration pursued research and technology development for national missile defenses (NMD). The Department of Defense concluded that there was no military requirement for the deployment of such a system after intelligence estimates found that no additional nations (beyond China, Russia, France, and Great Britain) were likely to develop missiles that could threaten the continental United States for at least the next 10-15 years. However, after a congressionally mandated Commission raised concerns about the proliferation of long-range missiles in July 1998 and North Korea tested a three-stage missile in August 1998, the Clinton Administration began to consider the deployment of an NMD, with a program structured to achieve that objective in 2005. On September 1, 2000, after disappointing test results, President Clinton announced that he would not authorize construction needed to begin deployment of an NMD.

President George W. Bush altered U.S. policy on missile defenses. His Administration is seeking to develop layered defense with land-based, sea-based, and space-based components. It is seeking a system that could protect the United States, its allies, and its forces overseas from short, medium, and long-range ballistic missiles. It has begun to deploy land-based missile interceptors for defense against long-range missiles in Alaska and California, and has pursued the deployment of defenses against shorter-range missiles on naval ships. The Administration had hoped that these missiles could be operational by 2004, but the system still is not operational.

ABM Treaty Issues and Negotiations. The missile defense systems advocated by the Reagan and first Bush Administrations would not have been permitted under the ABM Treaty. In 1985, the United States proposed, in negotiations with the Soviet Union, that the two sides replace the ABM Treaty with an agreement that would permit deployment of more extensive defenses. These negotiations failed, and, in 1993, the Clinton Administration altered their focus. It sought a demarcation agreement to clarify the difference between theater missile defenses and strategic missile defenses so the United States could proceed with theater missile defense (TMD) programs without raising questions about compliance with the Treaty.

The United States and Russia signed two joint statements on ABM/TMD Demarcation in September 1997. As amendments to the ABM Treaty, these agreements required the advice and consent of the Senate before they entered into force. But President Clinton never submitted them to the Senate, knowing that the required 67 votes would prove elusive as many of the Senators in the Republican majority believed the ABM Treaty, even if modified, would stand in the way of the deployment of robust missile defenses.

In February 1999, the United States and Russia began to discuss ABM Treaty modifications that would permit deployment of a U.S. national missile defense (NMD) system. The United States sought to reassure Russia that the planned NMD would not interfere with Russia's strategic nuclear forces and that the United States still viewed the ABM Treaty as central to the U.S.-Russian strategic balance. The Russians were reportedly unconvinced, noting that the United States could expand its system so that it could intercept a significant portion of Russia's forces. They also argued that the United States had overstated the threat from rogue nations. Furthermore, after Russia approved START II, President Putin noted that U.S. withdrawal from the ABM Treaty would lead not only to Russian withdrawal from START II, but also Russian withdrawal from a wider range of arms control agreements. Through the end of the Clinton Administration, Russia refused to consider U.S. proposals for modifications to the ABM Treaty. Some argued that Russia's position reflected its belief that the United States would not withdraw from the ABM Treaty and, therefore, if Russia refused to amend it, the United States would not deploy national missile defenses.

Officials in the new Bush Administration referred to the Treaty as a relic of the Cold War and the President stated that the United States would need to move beyond the limits in the Treaty to deploy robust missile defenses. In discussions that began in the middle of 2001, the Bush Administration sought to convince Russia to accept a U.S. proposal for the nations to "set aside" the Treaty together. The Administration also offered Russia extensive briefings to demonstrate that its missile defense program would not threaten Russia but that the ABM Treaty would interfere with the program. Russia would not agree to set the Treaty aside, and, instead, suggested that the United States identify modifications to the Treaty that would allow it to pursue the more robust testing program contained in its proposals. But, according to some reports, Russia would have insisted on the right to determine whether proposed tests were consistent with the Treaty. The Bush Administration would not accept these conditions and President Bush announced, on December 13, 2001, that the United States would withdraw from the ABM Treaty. This withdrawal took effect on June

13, 2002. Russia's President Putin stated that this action was "mistaken." Russia responded by withdrawing from the START II Treaty, but this action was largely symbolic as the Treaty seemed likely to never enter into force.

For Further Reading

CRS Report RL31111, *Missile Defense: The Current Debate*, coordinated by Steven A. Hildreth.

CRS Report 98-496 F, *Anti-Ballistic Missile Treaty Demarcation and Succession Agreements: Background and Issues*.

CRS Issue Brief IB98030, *Nuclear Arms Control: The U.S. Russian Agenda*. (Archived. For copies contact Amy Woolf, 202-707-2379.)

The Strategic Offensive Reductions Treaty. During a summit meeting with President Putin in November 2001, President Bush announced that the United States would reduce its "operationally deployed" strategic nuclear warheads to a level between 1,700 and 2,200 warheads during the next decade. He stated that the United States would reduce its forces unilaterally, without signing a formal agreement. President Putin indicated that Russia wanted to use the formal arms control process, emphasizing that the two sides should focus on "reaching a reliable and verifiable agreement." Russia sought a "legally binding document" that would provide "predictability and transparency" and ensure for the "irreversibilty of the reduction of nuclear forces." The United States, wanted to maintain the flexibility to size and structure its nuclear forces in response to its own needs. It preferred a less formal process, such as an exchange of letters and, possibly, new transparency measures that would allow each side to understand the force structure plans of the other side.

Within the Bush Administration, Secretary of State Powell supported the conclusion of a "legally binding" agreement because he believed it would help President Putin's standing with his domestic critics. He apparently prevailed over the objections of officials in the Pentagon. Although the eventual outcome did differ from the initial approach of the Bush Administration, most observers agree that it did not undermine the fundamental U.S. objectives in the negotiations because the Treaty's provisions would not impede the Bush Administration's plans for U.S. strategic nuclear forces.

The United States and Russia signed the Strategic Offensive Reductions Treaty on May 24, 2002. The U.S. Senate gave its advice and consent to the ratification of the Treaty on March 6, 2003. The Russian Duma approved the Federal Law on Ratification for the Treaty on May 14, 2003. The Treaty entered into force on June 1, 2003.

The Treaty is due to remain in force until December 31, 2012, after which it could be extended or replaced by another agreement. In theory, the parties might be able to increase their warheads above the 2,200 limit as soon as the Treaty expires. The Treaty also states that either party may withdraw from the Treaty on three months' notice. This provision differs from the withdrawal clause in previous

treaties, which required six months notice and a statement of "extraordinary events" that led to the nation's withdrawal.

Treaty Provisions. Article I contains the only limit in the Treaty, stating that the United States and Russia will reduce their "strategic nuclear warheads" to between 1,700 and 2,200 warheads by December 31, 2012. The text does not define "strategic nuclear warheads" and, therefore, does not indicate whether the parties will count only those warheads that are "operationally deployed," all warheads that would count under the START counting rules, or some other quantity of nuclear warheads. The text does refer to statements made by Presidents Bush and Putin in November and December 2001, when each outlined their own reduction plans. This reference may indicate that the United States and Russia could each use their own definition when counting strategic nuclear warheads. The Treaty does not limit delivery vehicles or impose sublimits on specific types of weapons systems. Each party shall determine its own "composition and structure of its strategic offensive arms."

Monitoring and verification. The Strategic Offensive Reductions Treaty does not contain any monitoring or verification provisions. The Bush Administration has noted that the United States and Russia already collect information about strategic nuclear forces under START I and during implementation of the Nunn-Lugar Cooperative Threat Reduction Program. Some in Congress have questioned, however, whether this information will be sufficient for the duration of the Treaty, since START I expires in 2009, three years before the end of implementation under the new Treaty.

Nonstrategic Nuclear Weapons. The Strategic Offensive Reductions Treaty also does not contain any limits or restrictions on nonstrategic nuclear weapons. Yet, as was noted above, many Members of Congress have argued that these weapons pose a greater threat to the United States and its allies than strategic nuclear weapons. During hearings before the Senate Foreign Relations Committee, Secretary of Defense Rumsfeld and Secretary of State Powell both agreed that the disposition of nonstrategic nuclear weapons should be on the agenda for future meetings between the United States and Russia, although neither supported a formal arms control regime to limit or contain these weapons. These discussions have not occurred, and many analysts outside government have renewed their calls for reductions in nonstrategic nuclear weapons.

For Further Reading

CRS Report RL31448, *Nuclear Arms Control: The Strategic Offensive Reductions Treaty*, by Amy F. Woolf.

CRS Report RL31222, *Arms Control and Strategic Nuclear Weapons: Unilateral vs. Bilateral Reductions*, by Amy F. Woolf.

Threat Reduction and Nonproliferation Assistance

As the Soviet Union collapsed in late 1991, many Members of Congress grew concerned that deteriorating social and economic conditions in Russia would affect

control over Soviet weapons of mass destruction. In December 1991, Congress authorized the transfer of $400 million from the FY1992 Department of Defense (DOD) budget to help the republics that inherited the Soviet nuclear and chemical weapons stockpile — Russia, Kazakhstan, Ukraine, and Belarus — transport and dismantle these weapons. This effort has since grown substantially, with Congress appropriating more than $1 billion each year, in recent years for nonproliferation and threat reduction programs administered by the Department of Defense (DOD), the State Department, and the Department of Energy (DOE). The United States has also worked with other nations, through the G-8 Global Partnership, to expand participation in, and funding for, nonproliferation and threat reduction programs in Russia.

DOD's Cooperative Threat Reduction Program (CTR). At its inception, DOD's CTR program sought to provide Russia, Ukraine, Belarus, and Kazakhstan with assistance in the safe and secure transportation, storage, and dismantlement of nuclear weapons. During the first few years, the mandate for U.S. assistance expanded to include efforts to secure materials that might be used in nuclear or chemical weapons, to prevent the diversion of scientific expertise from the former Soviet Union, to expand military-to-military contacts between officers in the United States and the former Soviet Union, and to facilitate the demilitarization of defense industries. In the late 1990s, Congress added funds to the CTR budget for biological weapons proliferation prevention; this effort has expanded substantially in recent years. Congress also expanded the CTR program to allow the use of CTR funds for emergency assistance to remove weapons of mass destruction or materials and equipment related to these weapons from any of the former Soviet republics.

CTR Implementation. Initial implementation of the Cooperative Threat Reduction (CTR) Program was slowed by administrative requirements on the U.S. side; the complex nature of activities being undertaken; the need for major changes in the attitudes of recipients toward the United States and the idea of weapons dismantlement and destruction; and political and economic upheavals within and among the states of the former Soviet Union. For example, before funds could be obligated for specific projects, the United States had to sign general "umbrella" agreements with each recipient nation that set out the privileges and immunities of U.S. personnel and the legal and customs framework for the provision of the aid. The umbrella agreement between the United States and Russia has recently been renewed for another seven years, after intensive debate between the nations and in the Russian Duma.

The United States provides assistance with several different types of projects. Most of the funding, in recent years, has gone to Russia, as the participants have completed most projects in the other nations. For example, the United States has provided extensive assistance with *destruction and dismantlement* projects. These are designed to help with the elimination of nuclear, chemical, and other weapons and their delivery vehicles. These projects have helped Russia, Ukraine, Belarus, and Kazakhstan remove warheads, deactivate missiles, and eliminate launch facilities for nuclear weapons covered by the START I Treaty. *Chain of custody* projects are designed to enhance the safety, security and control over nuclear weapons and fissile materials. These projects provided Russia with bullet-proof Kevlar blankets, secure canisters, and improved rail cars for warheads transported from Ukraine, Belarus, and

Kazakhstan to storage and dismantlement facilities in Russia. The CTR program also funded several projects at storage facilities for nuclear weapons and materials, to improve security and accounting systems and to provide storage space for plutonium removed from nuclear warheads when they are dismantled. *Demilitarization* projects encourage Russia, Kazakhstan, and Ukraine to convert military efforts to peaceful purposes.

Chemical Weapons Destruction Facility. The United States and Russia have used CTR funds to construct a chemical weapons destruction facility at Shchuch'ye. This facility is intended to help Russia comply with its obligations under the Chemical Weapons convention and to prevent the loss or theft of Soviet era chemical weapons by ensuring their safe and secure destruction. The two nations planned to share the costs of this facility, with the United States spending about $750 million to build and begin operations at the facility and Russia spending about $240 million on related infrastructure improvements. But Russia was slow to meet its obligations in this project and some Members of Congress were concerned that the United States will eventually have to spend more. Congress prohibited the allocation of any new CTR funds for this project in FY2000 and FY2001. However, after completing its review of CTR projects in 2001, the Bush Administration identified this as a high priority project that could be accelerated. The Administration then requested an increasing amount of money for this project, with the amount peaking in FY2003 at $200 million. The Administration requested $42.7 million in FY2007 and no additional funds in FY2008. It indicated that, after years of significant expenditures, no further funds were needed to complete the project. Congress has questioned this conclusion, requesting, in the FY2008 Defense Authorization Bill, that the Secretary of Defense submit a report detailing the strategy for completing the project. The House Armed Services Committee had authorized $47 million more for FY2008, but the Conference Committee reduced that amount to $6 million.

Scope and Priorities for CTR Projects. The initial Nunn-Lugar legislation was tightly focused on the transport, storage, and destruction of weapons of mass destruction. Most in Congress continue to support these core activities. But the focus of CTR funding has changed, as the program evolves. Much of the work on strategic offensive arms reductions has been completed, and a growing proportion of the funding is focused on securing and eliminating chemical and biological weapons. In addition, the Bush Administration has indicated that it views the CTR program, and other U.S. nonproliferation assistance to the former Soviet states, as a part of its efforts to keep weapons of mass destruction away from terrorists. This objective has also altered some of the funding priorities, with a growing number of projects focused on border and export control.

Certification. The initial CTR legislation requires the President to certify that the recipient nations are committed to a number of specific policy areas before they can receive CTR funds. Belarus lost its certification in 1997. In mid-2002, the Bush Administration indicated that it could not certify that Russia was committed to complying with arms control agreements because it continued to fall short of U.S. expectations in providing information about its chemical and biological weapons programs. However, the President asked Congress to waive the certification requirements so that Russia could continue to receive assistance. The Senate supported an unlimited waiver authority for the President; the House sought to limit

the authority to one year. The Conference Committee accepted a waiver authority for three years. In the FY2006 Defense Authorization Bill, the Senate again approved an unlimited waiver authority and the House accepted this proposal. Senator Lugar proposed an amendment to the FY2007 Defense Authorization Bill that would have eliminated the certification requirements; the Senate approved this amendment, but it was dropped from the bill during Conference. The FY2008 Defense Authorization Bill does include provisions that would eliminate the certification requirements.

Expanding Threat Reduction Assistance. The Senate and the Bush Administration have both supported proposals to spend CTR funds in nations outside the former Soviet Union. The House resisted these proposals, but eventually agreed in the FY2004 Defense Authorization Act. Some of these funds have been used to assist with scientist redirection programs in Libya and Iraq, and to help eliminate chemical weapons in Albania. Some analysts have suggested that promises of assistance might also help convince other nations, such as North Korea, to eliminate their nuclear weapons programs. The FY2008 Conference Report on the Defense Authorization Bill includes $10 million specifically for use in nations outside the former Soviet Union and relaxes the restrictions on how those funds can be used.

For Further Reading

CRS Report RL31957, *Nonproliferation and Threat Reduction Assistance: U.S. Programs in the Former Soviet Union*, by Amy F. Woolf.

CRS Report 97-1027 F, *Nunn-Lugar Cooperative Threat Reduction Programs: Issues for Congress*, by Amy F. Woolf.

Department of Energy Nonproliferation Cooperation Programs. The Department of Energy has contributed to U.S. threat reduction and nonproliferation assistance to the former Soviet states from the start, when CTR included a small amount of funding for materials control and protection. Since then, the United States and Russia have been cooperating, through several programs, to secure and eliminate many of the materials that could help terrorists or rogue nations acquire their own nuclear capabilities.

Highly Enriched Uranium. Highly enriched uranium from dismantled weapons is relatively easy to dispose of, since it can be diluted to low-enriched uranium which is directly usable in current operating power reactors. In February 1993 the United States and Russia agreed that highly enriched uranium from weapons would be diluted to a low enrichment level suitable for use in commercial nuclear power reactors. The United States has agreed to purchase 500 metric tons of HEU from Russia's dismantled nuclear warheads, and deliveries have started to the U.S. Enrichment Corporation, which supplies uranium fuel for domestic and foreign reactors. By September 2005 about 250 metric tons of HEU had been recycled, at a purchase price of about $4 billion, according to USEC. The 500-ton total is expected to be completed by 2013.

Plutonium Disposition. In the Plutonium Management and Disposition Agreement, signed in September 2000, each side agreed to dispose of 34 metric tons

of weapons-grade plutonium, and to do so at roughly the same time. The parties could use two methods for disposing of the plutonium — they could either convert it to mixed oxide fuel (MOX) for nuclear power reactors or immobilize it and dispose of it in a way that would preclude its use in nuclear weapons. Russia has expressed little interest in the permanent disposal of plutonium, noting that the material could have great value for its civilian power program. The United States initially intended to pursue both options. However, after reviewing U.S. nonproliferation policies in 2001, the Bush Administration concluded that this approach would be too costly. Instead, it outlined a plan for the United States to convert almost all its surplus plutonium to MOX fuel.

In late July 2003, the Bush Administration announced that the plutonium disposition program would not pursue additional contracts in 2004 because the United States and Russia were unable to agree on the liability provisions for a new implementing agreement for the program. The two nations reportedly reached an a liability agreement in 2005, although it has not yet been signed by Russia's President Putin. The Bush Administration requested $34.7 million for FY2007 for this project, but it may not receive any of this funding. Both the House and the Senate Armed Services Committees have expressed wide-ranging and deep concerns about this program. Russia has not yet signed the liability agreement, and it may require approval by the Russian parliament, which could lead to further delays in resuming the program. In addition, Russia has indicated that it may not pursue the MOX program to eliminate its plutonium, option, instead for the construction of fast breeder reactors that could burn plutonium directly for energy production. The United States is not likely to fund this effort, as many in the United States argue that breeder reactors, which produce more plutonium than they consume, would undermine nonproliferation objectives. In late November 2007, the United States and Russia reached an agreement outlining how they would proceed with this program. However, the Bush Administration had not requested any additional funds for this effort in FY2008, and Congress did not provide funds in the month after the agreement was reached.

Materials Protection, Control, and Accounting. Many in the United States have expressed concerns about the safety and security of nuclear materials located at civilian research facilities in the former Soviet Union. Government-to-government projects at facilities that housed nuclear materials began in 1994. In a parallel effort that sought to reduce delays in these projects, experts from the U.S. nuclear laboratories, which are a part of DOE, also began less formal contacts with their counterparts in Russia to identify and solve safety and security problems at Russian facilities. Together, these government-to-government and lab-to-lab projects evolved into an effort to apply Material Protection, Control and Accounting (MPC&A) techniques to Russian facilities.

According to the Department of Energy, the MPC&A program has provided assistance at more than 50 facilities in the former Soviet Union. At many of these facilities, the program focused on providing upgrades to security to reduce the risk of a loss of materials. These upgrades include the installation of improved security systems that use modern technology and strict material control and accounting systems. The program has also provided security training for Russian nuclear specialists. In recent years, the Bush Administration has expanded the focus of the

program to include efforts to secure radiological materials that would not be suitable for nuclear weapons but could be used in radiological dispersal devices, and to improve border security and monitoring to discourage and detect illicit efforts to transfer these materials. Some have questioned whether the expanded focus might dilute funding for central security and accounting programs. Others, however, note that the Bush Administration and Congress have supported increased funding for these efforts as the focus has expanded.

Access to Russian Facilities. A GAO study released in early 2003 noted that Russia continues to deny the United States access to many facilities that are apart of the weapons complex maintained by Russia's Ministry of Atomic Affairs (MINATOM). As a result, the United States cannot even begin to address security and accounting concerns for a majority of the nuclear materials at risk in Russia. In addition, because access problems have slowed program implementation, DOE maintains significant balances of unallocated funds from prior years. Congress has expressed concerns about these funds, particularly as it adds more money to DOE's budget for nonproliferation programs.

For Further Reading

CRS Report RL31957, *Nonproliferation and Threat Reduction Assistance: U.S. Programs in the Former Soviet Union*, by Amy F. Woolf.

State Department Programs. After the collapse of the Soviet Union in 1991, many experts feared that scientists from Russia's nuclear weapons complex might sell their knowledge to other nations seeking nuclear weapons. Many of these scientists had worked in the Soviet Union's "closed" nuclear cities where they had enjoyed relatively high salaries and prestige, but their jobs evaporated during Russia's economic and political crises in the early 1990s. Even those scientists who retained their jobs saw their incomes decline sharply as Russia was unable to pay their salaries for months at a time. In response to these concerns, the United States, Japan, the European Union, and Russia established the International Science and Technology Center (ISTC) in Moscow. A similar center began operating in Kiev in 1993. In subsequent years, several other former Soviet states have joined and other nations have added their financial support.

The science center programs also began as a part of DOD's CTR program, and were moved to the State Department budget in 1996. The centers fund scientists who have worked on nuclear, chemical, and biological weapons, but they have, historically, focused on nuclear scientists, with many projects going to those who work at institutes in the closed nuclear cities. The State Department estimates that about half of the participants are senior scientists, which means the programs may have reached a significant portion of the estimated 30,000 to 70,000 senior scientists and engineers in the Soviet nuclear complex. However, most of these scientists spend fewer than 50 days per year on projects funded by the science centers. In the remainder of the time, most continue to work at their primary jobs.

Some analysts have noted that, because the science centers do not have enough money to support full pay for a significant number of scientists, they may not achieve

their objective of keeping these scientists away from nations or groups seeking weapons of mass destruction. Others, however, note that, even if the financial support is less than complete, the cooperation with Russian institutes, and the promise of a fairly steady stream of funding, helps build relationships and draw these institutes into the "western orbit." To address this problem, some have suggested that, instead of providing short term grants, the centers should focus on projects that will lead to the long-term redirection of scientists out of weapons work. The State Department seems to agree with this approach with its growing reliance on the Partners Program and its acknowledged need to transition Russia's nuclear scientists to more commercially viable projects.

The collapse of political control along the Soviet borders, along with incentives created by the weakness in the economies of the newly independent states, contribute to concerns about the potential for smuggling or illegal exports of materials and technology from the former Soviet Union. The State Department's Export Control and Related Border Security Assistance (EXBS) program helps the former Soviet states and other nations improve their ability to interdict nuclear smuggling and their ability to stop the illicit trafficking of all materials for weapons of mass destruction, along with dual use goods and technologies. The EXBS program currently has projects underway in more than 30 nations, and is expanding its reach around the globe.

For Further Reading

CRS Report RL31957, *Nonproliferation and Threat Reduction Assistance: U.S. Programs in the Former Soviet Union*, by Amy F. Woolf.

G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. Since the creation of the Nunn-Lugar program in 1992, the United States has pressed its allies to provide similar support. Like the United States, G-7 allies faced difficulties in implementing similar programs. In early 2002, the United States proposed to the G-8 an expansion of its Cooperative Threat Reduction programs called "10 plus 10 over 10" — that is, the other G-8 countries (including Russia) would add $10 billion more over 10 years to the $10 billion the United States was already planning to spend on CTR-related programs. By expanding the programs to include more donors, the participants would not only be able to increase their level of effort in Russia, but might also be able to address potential proliferation problems in other nations. At their June 2002 summit at Kananaskis, the Group of Eight (US, Canada, UK, France, Germany, Italy, Japan (G-7) plus Russia (G-8)) formed the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. Under this partnership, the United States, other members of the G-7 and the European Union have agreed to raise up to $20 billion over ten years for projects in Russia related to disarmament, nonproliferation, counterterrorism and nuclear safety.

The Partnership is intended to span the range of U.S. nonproliferation programs in the former Soviet Union. Russia has identified chemical weapons destruction, and dismantlement of decommissioned nuclear submarines as its top priority projects; the G-7 have additionally identified disposition of fissile materials and employing former

weapon scientists as high priority projects. However, rather than adopting a common approach, a common fund, or a multilateral implementation mechanism, projects are funded bilaterally under government-to-government agreements with Russia. The G8 Global Partnership Working Group provides an informal coordinating mechanism.

The G-8 states have invited others to participate and contribute to the initiative, as well as adopt the nonproliferation principles and guidelines to facilitate implementation. Since 2002, 13 other donors have joined the Global Partnership (Finland, Norway, Poland, Sweden, Switzerland, Netherlands, Australia, Belgium, the Czech Republic, Denmark, Ireland, New Zealand, and the Republic of Korea). Ukraine formally joined as a recipient state in 2004. The Global Partnership has spurred Russia to take on a greater portion of the financial burden for these projects, as second-largest donor. Observers have pointed out that many countries have pledged their support, but that pledges are still about $2 billion short of the $20 billion promised at Kananaskis, and that the pledges represent commitments, not actual allocations by national parliaments.

Nonproliferation Principles. At the summit, G-8 countries also adopted principles to deny terrorists access to WMD and WMD materials. These are:

- Strengthen multilateral treaties and other instruments to prevent WMD proliferation and strengthen the institutions established to implement such agreements;
- Develop and maintain measures that ensure that the production, use, storage and transport of WMD materials is safe and secure and provide such assistance to countries lacking the ability to secure such materials;
- Ensure that WMD storage facilities are physically secure and provide assistance to states where facilities lack protection;
- Implement border controls, law enforcement efforts and international cooperation to detect and interdict attempts to smuggle WMD materials and items and provide assistance to countries that lack appropriate resources;
- Maintain export controls over items that could be used to develop weapons of mass destruction and missiles; and
- Work to manage and dispose of fissile materials stocks that are no longer required for defense purposes, destroy all chemical weapons and "minimize" stockpiles of dangerous biological agents."

U.S. Participation. Across the board, the United States has led its allies in pushing for effective controls on WMD and WMD materials, so U.S. participation is unlikely to be a stumbling block in this program. U.S. leadership may be judged, however, on continued funding levels for existing programs, effective export controls, and efforts to support and strengthen multilateral treaties, all of which Congress is involved in.

Allied Participation. As was noted above, the other participants in the global partnership have not yet reached their pledges to raise $10 million dollars, and it remains uncertain whether they will eventually fulfill these pledges. Budget

constraints, along with the difficulties associated with project implementation in Russia, may discourage long-term participation. Congress, in its oversight role, may choose to pay close attention to the progress these other nations are making in identifying and implementing projects and in sustaining their pledged levels of cooperation.

Potential Recipients. The United States has suggested that the funding provided by the G-8 global partnership address proliferation problems in nations outside the former Soviet Union. For example, it proposed that the funds contribute to programs in both Libya and Iraq that are designed to redirect weapons scientists away from work on weapons of mass destruction. The G-8 participants have agreed to consider this proposal, but have not yet adopted such an expansion. Congress has supported legislation allowing the United States to expand its CTR program to nations outside the former Soviet Union; it may also consider whether G-8 funding could address these objectives.

For Further Reading

CRS Report RL31957, *Nonproliferation and Threat Reduction Assistance: U.S. Programs in the Former Soviet Union*, by Amy F. Woolf.

CRS Issue Brief IB98038, *Nuclear Weapons in Russia: Safety, Security, and Control Issues*. (Archived. For copies contact Amy Woolf, 202-707-2379.)

CRS Report RL32359, *Globalizing Cooperative Threat Reduction: A Survey of Options*, by Sharon Squassoni.

Multilateral Nuclear Nonproliferation Activities

The International Nuclear Nonproliferation Regime

The United States is a leader of an international regime that attempts to limit the spread of nuclear weapons through treaties, export control coordination and enforcement, and U.N. security council resolutions. Recent challenges to the regime — notably North Korea's October 2006 nuclear test and Iran's continued defiance of international demands to stop uranium enrichment — raise questions about and reinforce the importance of nonproliferation policy. Moreover, increased awareness of the need to keep sensitive materials and technologies out of terrorist hands has reinvigorated efforts to control not just nuclear weapons and weapons-usable materials, but also radioactive materials that could be used in radiological dispersal devices. Key issues in this area that the 110th Congress might consider include how the nuclear nonproliferation regime is affected by: North Korea's nuclear weapons activities; Iran's suspected weapons program and Russia's nuclear cooperation with Iran; the proposed nuclear cooperation with India, in light of the tensions between India and Pakistan as amplified by their nuclear activities; and continued concerns about access by terrorists to nuclear materials.

The Nuclear Nonproliferation Treaty. The Nuclear Nonproliferation Treaty (NPT), which entered into force in 1970 and was extended indefinitely in 1995, is the centerpiece of the nuclear nonproliferation regime. It is complemented by national export control laws, coordinated export control policies under the Nuclear Suppliers Group, U.N. Security Council resolutions and ad hoc initiatives. The NPT recognizes five nations (the United States, Russia, France, Britain, and China) as nuclear weapon states — a distinction that is carried over in other parts of the regime and in national laws. Three nations that have not signed the NPT — India, Israel, and Pakistan — possess significant nuclear weapon capabilities. North Korea, which had signed the NPT but withdrew in 2003, is now thought to possess a small number of nuclear weapons. Several countries, including Argentina, Brazil, and South Africa suspended their nuclear weapons programs and joined the NPT in the 1990s. Others — Ukraine, Belarus, and Kazakhstan — gave up former Soviet weapons on their territories and joined the NPT as non-nuclear weapon states in the 1990s.

The Nuclear Nonproliferation Treaty is unique in its near universality — only India, Pakistan, Israel, and North Korea are now outside the treaty. In signing the NPT, non-nuclear weapon states (NNWS) pledge not to acquire nuclear weapons in exchange for a pledge by the nuclear weapon states (NWS) not to assist the development of nuclear weapons by any NNWS and to facilitate "the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy." (NPT, Article IV-2) The NWS, defined as any state that tested a nuclear explosive before 1967, also agree 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...." (NPT, Article VI). Many NNWS have often expressed dissatisfaction with the apparent lack of progress toward disarmament.

Nuclear proliferation often has significant regional security repercussions, but there is also a growing realization that the current constellation of proliferation risks may require further improvements to the system itself. Concern has shifted from keeping technology from the states outside the NPT to stemming potential further proliferation, either from those states outside the regime or through black markets, such as the Pakistani A.Q. Khan network. Currently, member states of the NPT are grappling with ways to strengthen controls within the current system and through ad hoc complementary measures.

The International Atomic Energy Agency (IAEA). The International Atomic Energy Agency was established in 1957 to assist nations in their peaceful nuclear programs (primarily research and nuclear power programs) and to safeguard nuclear materials from these peaceful programs to ensure that they are not diverted to nuclear weapons uses. The IAEA safeguards system relies on data collection, review, and periodic inspections at declared facilities. The IAEA may also inspect other facilities if it suspects undeclared nuclear materials or weapons-related activities are present.

Non-nuclear weapon NPT members are required to declare and submit all nuclear materials in their possession to regular IAEA inspections to ensure that sensitive nuclear materials and technologies are not diverted from civilian to military purposes. Some states who are not parties to the NPT (India, Israel, Pakistan) are

members of the IAEA and allow inspections of some, but not all, of their nuclear activities. The IAEA also provides technical assistance for peaceful applications of nuclear technology for energy, medicine, agriculture, and research.

After the 1991 Persian Gulf War, IAEA inspection teams working with the U.N. Special Commission on Iraq (UNSCOM) revealed an extensive covert nuclear weapons program that had been virtually undetected by annual inspections of Baghdad's declared facilities. This knowledge inspired efforts to strengthen the IAEA's authority to conduct more intrusive inspections of a wider variety of installations, to provide the Agency with intelligence information about suspected covert nuclear activities, and to provide the Agency with the resources and political support needed to increase confidence in its safeguards system. In 1998, the IAEA adopted an "Additional Protocol" that would give the agency greater authority and access to verify nuclear declarations. The protocol enters into force for individual NPT states upon ratification. The Additional Protocol was gradually adopted by many countries, and in February 2004 President Bush recommended that it be required of all NPT signatories. He urged the Senate to consent to it on the part of the United States, and on March 31, 2004, the Senate ratified the protocol (Treaty Doc. 107-7, Senate Executive Report 108-12). On December 18, 2006, implementing legislation was passed in P.L. 109-401, as part of the Hyde Act. Although Iran signed an Additional Protocol in December 2003, its implementation of the protocol was voluntary; current efforts to restrain Iran's weapons activities are focused on getting that country to ratify and fully implement the new inspection protocol, and agree to abandon uranium enrichment.

Nuclear-Weapon-Free Zones. In addition to the NPT, several states have signed treaties that ban the development, deployment and use of nuclear weapons in certain regions. These regions include Latin America (Treaty of Tlatelolco), Central Asia (Treaty on a Nuclear-Weapon- Free Zone in Central Asia), the South Pacific (Treaty of Rarotonga), Africa (Treaty of Pelindaba), and Southeast Asia (Treaty of Bangkok). By and large, the nuclear-weapon-free zones reinforce the undertakings of NPT non-nuclear-weapon state members.

Nuclear Suppliers Group. The United States has been a leader in establishing export controls, a key component of the nuclear nonproliferation regime. The Atomic Energy Act of 1954 and Nuclear Nonproliferation Act of 1978 established controls on nuclear exports that gradually gained acceptance by other nuclear suppliers. The Export Administration Act of 1979 (EAA) authorized controls on dual-use technology that could contribute to foreign weapons. Export controls require exporters to get a license before selling sensitive technology to foreign buyers and, in some cases, ban certain exports to some countries.

International nuclear controls are coordinated by an informal association of nuclear exporters called the Nuclear Suppliers Group (NSG), founded in 1975. NSG members agree to a common policy to restrict exports of certain goods such as uranium enrichment and plutonium reprocessing technology that could be used by proliferants to make nuclear weapons. The NSG's effectiveness is limited by its voluntary nature and, therefore, lack of verification or enforcement mechanisms. Countries such as Iraq, Pakistan, and individuals like A.Q. Khan and others have

exploited weaknesses in the national export control systems of many countries to acquire a wide range of nuclear items.

Convention on the Physical Protection of Nuclear Material. The Convention on the Physical Protection of Nuclear Material, adopted in 1987, sets international standards for nuclear trade and commerce. The Convention established security requirements for the protection of nuclear materials against terrorism; parties to the treaty agree to report to the IAEA on the disposition of nuclear materials being transported and agree to provide appropriate security during such transport. For several years, the United States has been trying to strengthen this treaty by extending controls to domestic facility security, not just transportation. In July 2005, states parties convened to extend the Convention's scope to cover not only nuclear material in international transport, but also nuclear material in domestic use, storage, and transport, as well as the protection of nuclear material and facilities from sabotage. The new rules will come into effect once they have been ratified by two-thirds of the States Parties of the Convention, which could take several years. As of November 9, 2007, only 13 states had deposited their instruments of ratification, acceptance, or approval of the amendment with the depositary. The United States has not yet done so. On September 4, 20007, President Bush submitted the amendment to the Senate for its advice and consent on ratification.

For Further Reading

CRS Report RL31559, *Proliferation Control Regimes: Background and Status*, by Sharon Squassoni, Steve Bowman, and Steven A. Hildreth.

CRS Report RL33016, *U.S. Nuclear Cooperation With India: Issues for Congress*, by Sharon Squassoni.

International Convention for the Suppression of Acts of Nuclear Terrorism. The UN General Assembly adopted the International Convention for the Suppression of Acts of Nuclear Terrorism (also known as the Nuclear Terrorism Convention) in 2005 after eight years of debating a draft treaty proposed by Russia in 1997.[2] Disputes over the definition of terrorism, omitted in the final version, and over the issue of nuclear weapons use by states, complicated the discussions for many years. After September 11, 2001, states revisited the draft treaty and the necessary compromises were made. The Convention entered into force in July 2007 and had 24 States Parties and 115 signatories as of July 2007. The United States has strongly supported the Convention, and President Bush was the second to sign it (after Russian President Putin) on September 14, 2005.

The Convention defines offenses related to the unlawful possession and use of radioactive or nuclear material or devices, and the use or damage to nuclear facilities. The Convention commits each party to adopt measures in its national law to criminalize these offenses and make them punishable. It covers acts by individuals, not states, and does not govern the actions of armed forces during an armed conflict.

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[2] See full text at [http://untreaty.un.org/English/Terrorism/English_18_15.pdf].

The Convention also does not address "the issue of legality of the use or threat of use of nuclear weapons by States." It also commits States Parties to exchange information and cooperate to "detect, prevent, suppress and investigate" those suspected of committing nuclear terrorism, including extraditions.

For Further Reading

CRS Report RL32595, *Nuclear Terrorism: A Brief Review of Threats and Responses*, by Jonathan Medalia.

Comprehensive Test Ban Treaty[3]

The Comprehensive Test Ban Treaty (CTBT), which would ban all nuclear explosions, opened for signature in 1996 but has not yet entered into force. Previous treaties have banned certain kinds of nuclear testing (the 1963 Limited Test Ban Treaty barred explosions in the atmosphere, in space, and under water and the 1974 U.S.-U.S.S.R. Threshold Test Ban Treaty and the 1976 Peaceful Nuclear Explosions Treaty limited the explosive yield of underground nuclear explosions). Following the indefinite extension of the NPT in 1995, the early conclusion of the CTBT was seen as an important gesture of good faith by nuclear weapon states, as well as a significant step for the three states outside the NPT. President Clinton signed the CTBT soon after it opened for signature and submitted the treaty to the Senate for advice and consent in 1997. The Senate rejected the treaty by a vote of 48 for, 51 against and 1 present, on October 13, 1999.

The United States is not the sole obstacle to the CTBT's entry into force. Provisions of the treaty require 144 states, including the 44 states with nuclear reactors, to ratify the treaty before it can enter into force. By December 2007, 177 nations had signed it and 141 had ratified it. Of the 44 required nations, 3 have not signed (India, Pakistan, and North Korea) and 10 have not ratified, including the United States and China. Although the United States conducted its last nuclear test on September 23, 1992, observing a nuclear test moratorium since then, the current Administration opposes U.S. ratification of the CTBT. States that have ratified the treaty have held conferences every two years since 1999 to discuss how to accelerate entry into force.

Parties to the treaty agree "not to carry out any nuclear weapon test explosion or any other nuclear explosion." The treaty establishes a Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) of all member states to implement the treaty. The CTBTO oversees a Conference of States Parties, an Executive Council, and a Provisional Technical Secretariat, which operates an International Data Center that processes and reports on data from an International Monitoring System. Several CTBTO components would handle requests for on-site inspections if the treaty enters into force. A Protocol details the monitoring system and inspection procedures. The CTBT remains on the calendar of the Senate Foreign Relations Committee, but given the requirement for a two-thirds-plus-one majority vote to consent to ratification, the

[3] For further details, contact Jonathan Medalia, CRS Specialist in National Defense, 7-7632.

Senate may do little more than hold hearings in the next few years. If hearings are held, topics for substantive discussion could include technical issues of verification, the value of the CTBT for the nuclear nonproliferation regime, and the potential effect of a CTBT on U.S. nuclear deterrence.

An ongoing issue for Congress is how to maintain the U.S. nuclear stockpile in the absence of nuclear testing. In 1995, President Clinton conditioned U.S. adherence to a CTBT on, among other things, funding a stockpile stewardship program to ensure confidence in nuclear weapons without testing. The FY2008 appropriation for stewardship was $6.5 billion. The aim of the program is to allow certification that (1) the U.S. nuclear weapons stockpile is safe, secure and reliable and (2) that there is no need to resume underground testing. More recently, the Department of Energy has sought funding for the Reliable Replacement Warhead (RRW) program, which seeks to replace existing warheads with simpler designs that would be less prone to fail. DOE intends that RRWs could be certified for the stockpile without nuclear testing. Congress, however, declined to appropriate any funds for this program in FY2008; some believe the program should not proceed until the United States reviews its nuclear posture and determines what role these weapons will play in U.S. security policy in the future.

For Further Reading

CRS Report RS20351, *Comprehensive Test Ban Treaty: Pro and Con*, by Jonathan Medalia.

CRS Report RL33548, *Nuclear Weapons: Comprehensive Test Ban Treaty*, by Jonathan Medalia.

CRS Report RL32130, *Nuclear Weapon Initiatives: Low-Yield R&D, Advanced Concepts, Earth Penetrators, Test Readiness*, by Jonathan Medalia.

CRS Report RL32929, *Nuclear Weapons: The Reliable Replacement Warhead Program*, by Jonathan Medalia.

CRS Report 97-1007F, *Nuclear Testing and Comprehensive Test Ban: Chronology Starting September 1992*, by Jonathan Medalia.

Fissile Material Production Cutoff Treaty (FMCT)

The United States first proposed that the international community negotiate a ban on the production of fissile material (plutonium and enriched uranium) that could be used in nuclear weapons over fifty years ago. Negotiators of the NPT realized that fissile material usable for nuclear weapons could still be produced under the guise of peaceful nuclear activities within the Treaty. Consequently, a fissile material production ban, or FMCT, has remained on the long-term negotiating agenda at the Conference on Disarmament (CD) in Geneva. These negotiations have been largely stalled since 1993. The Bush Administration undertook a comprehensive review of the U.S. position on the FMCT in 2004 and concluded that such a ban would be useful in creating "an observed norm against the production of fissile material

intended for weapons," but it has argued that such a ban is inherently unverifiable. The Bush Administration proposed a draft treaty in May 2006 that contained no verification measures.

Substantively, it has always been important to capture the undeclared nuclear weapon states (initially India, Pakistan, and Israel, but now also North Korea) that were not parties to the NPT and therefore subject to very few if any restrictions or monitoring. Many observers believed that negotiations at the CD were preferable to smaller, eight-party talks (United States, United Kingdom, France, China, Russia, India, Pakistan, and Israel) because they would establish a global norm and would not have the appearance of conferring nuclear weapons status upon India, Pakistan, and Israel. Since the mid-1990s, however, both India and Pakistan have openly tested nuclear weapons, and North Korea has pulled out of the NPT and tested a nuclear device. Negotiators may have to balance the very real need to halt production by such states against traditional concerns of the nuclear nonproliferation community.

In addition to North Korean capabilities, Iran's burgeoning enrichment capabilities are a cause for concern. Also, the uncovering of the A.Q. Khan nuclear black market network in late 2003 and 2004, points to the need for greater efforts to halt the spread of production capabilities. Director General Mohamed El Baradei of the International Atomic Energy Agency in early 2004 called for renewed efforts to negotiate an FMCT as one response to the proliferation of enrichment capabilities by the Khan network. President Bush notably did not include FMCT in his list of approaches to combating the Khan network, but instead called for supplier controls and a voluntary ban on enrichment and reprocessing by NPT member states. One key issue is whether or not such a treaty would seek to include existing stocks of fissile material; the United States has strongly objected to such an approach.

It is not clear from official statements that the Bush Administration will vigorously pursue FMCT negotiations at the CD in Geneva in the near term. However, while negotiations are still in their infancy, it could be important to begin a public debate through hearings on various options and approaches to end the production of fissile material for weapons. Some outcomes, particularly those that include intrusive verification, could have an impact on U.S. facilities that are not currently being monitored. Another aspect for congressional consideration is how well-equipped the U.S. intelligence community is to verify any such agreement.

For Further Reading

CRS Report RS22474, *Banning Fissile Material Production for Nuclear Weapons: Prospects for a Treaty (FMCT)*, by Sharon Squassoni.

CRS Report RL31559, *Proliferation Control Regimes: Background and Status*, by Sharon Squassoni, Steve Bowman, and Steven A. Hildreth.

Informal Cooperative Endeavors

Global Threat Reduction Initiative. On May 26, 2004, Secretary of Energy Spencer Abraham announced the Global Threat Reduction Initiative (GTRI). GTRI has consolidated and accelerated several programs the Department of Energy was already conducting:

- Russian Research Reactor Fuel Return (RRRFR) program (to repatriate all fresh and spent Russian-origin nuclear fuel residing at reactors around the world);
- Reduced Enrichment for Research and Test Reactors (RERTR) program (to convert the cores of 105 civilian research reactors that use high-enriched uranium (HEU) to low-enriched uranium (LEU));
- Foreign Research Reactor Spent Nuclear Fuel (FRRSNF) Acceptance program (to accelerate and complete the repatriation of U.S.-origin research reactor spent HEU fuel (about 20 metric tons from more than 40 locations worldwide));
- U.S. and International Radiological Threat Reduction (USRTR and IRTR) programs (to identify, recover and store domestic radioactive sealed sources and other radiological materials and reduce the international threat posed by radiological materials that could be used in "dirty bombs.")

A new program added to the mix is the Global Research Reactor Security Program, which provides security upgrades to research reactor facilities that store highly enriched uranium (HEU) that could be used to develop a nuclear weapon. The Kazakhstan Spent Fuel program provides security for long-term storage of nearly 3 tons of weapons-grade plutonium and 10 tons of HEU in spent fuel.

In September 2004, the United States and Russia convened a GTRI International Partners' Conference to build support for GTRI-related projects. Reportedly, over 90 countries joined GTRI after its inception, promising to spend about $450 million over the next decade.

Following a 2007 strategic review of the program, GTRI is now organized under three functional categories: HEU Reactor Conversion, Nuclear and Radiological Material Removal, and Nuclear and Radiological Material Protection.[4] According to DoE, GTRI since May 2004 has removed more than 39 nuclear bombs' worth of highly enriched uranium and secured more than 565 radiological sites around the world.[5] Since May 2004, 12 research reactors have been converted to LEU fuel and four HEU research reactors have been shut down.

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[4] "Strategic Plan: Reducing Nuclear and Radiological Threats Worldwide," National Nuclear Security Administration Office of Global Threat Reduction, January 2007 [http://www.nnsa.doe.gov/Na-20/docs/GTRI_Strategic_Plan_2007.pdf]

[5] DoE Fact Sheet, "GTRI: More Than Three Years of Reducing Nuclear Threats," December 2007, available at [http://www.nnsa.doe.gov/docs/factsheets/2007/NA-07-FS-03.pdf].

Proliferation Security Initiative (PSI). President Bush announced the Proliferation Security Initiative (PSI) on May 31, 2003. This Initiative is primarily a diplomatic tool developed by the United States to gain support for interdicting shipments of weapons of mass destruction-related (WMD) equipment and materials. Through the PSI, the Bush Administration seeks to "create a web of counterproliferation partnerships through which proliferators will have difficulty carrying out their trade in WMD and missile-related technology." The states involved in PSI have agreed to review their national legal authorities for interdiction, provide consent for other states to board and search their own flag vessels, and conclude ship-boarding agreements. The Proliferation Security Initiative has no budget, no formal offices supporting it, no international secretariat, and no formal mechanism for measuring its effectiveness (like a database of cases). To many, these attributes are positive, allowing the United States to respond swiftly to changing developments. Others question whether the international community can sustain this effort over the longer term.

Sixteen "core" nations have pledged their cooperation in interdicting shipments of WMD materials, agreeing in Paris in 2003 on a set of interdiction principles. As of December 2007, the Bush Administration states that 86 nations have committed formally to PSI participation, although it is not clear what this entails beyond limited participation in operational exercises. Although the Bush administration stresses the global reach of PSI, officials have noted that Iran and North Korean activities are a focus of particular concern. Thus, it may be important to win the support of states that may lie along established sea, air, and land transportation routes to and from those states, as well as states that may manufacture key materials and equipment. The 9/11 Commission Act of 2007 recommended that PSI be expanded and coordination within the U.S. government improved.

Bush Administration officials have stressed that PSI is an activity, not an organization. It seeks to develop, according to key officials, "new means to disrupt WMD trafficking at sea, in the air, and on land. However, very few new means of disruption appear to have been developed so far, although old means may be applied more rigorously to improve disruption. For example, key WMD supplier states have cooperated for many years with the United States in interdicting shipments of WMD-related items, whether through sharing intelligence information or the actual boarding of ships and airplanes. In particular, the United States is pursuing vigorously the conclusion of ship-boarding agreements with key states that have high volumes of international shipping. So far, the United States has signed agreements with Belize, Croatia, Cyprus, Liberia, Malta, the Marshall Islands, Mongolia and Panama.

In February 2004, President Bush proposed expanding PSI to address more than shipments and transfers, including shutting down facilities, seizing materials and freezing assets. Although this proposal has not yet been realized, in April 2004, the UN Security Council adopted Resolution 1540, which requires all states to "criminalize proliferation, enact strict export controls and secure all sensitive materials within their borders. UNSCR 1540 called on states to enforce effective domestic controls over WMD and WMD-related materials in production, use, storage, and transport; to maintain effective border controls, and to develop national export and trans-shipment controls over such items, all of which should help interdiction efforts. The resolution did not, however, provide any enforcement

authority, nor did it specifically mention interdiction. About two-thirds of all states have reported to the UN on their efforts to strengthen defenses against WMD trafficking.

Since PSI is an activity rather than an organization, and has no budget or internal U.S. government organization, it may be difficult for Congress to track PSI's progress. Several intelligence resource issues may be of interest to Congress, including whether intelligence information is good enough for effective implementation and whether intelligence-sharing requirements have been established with non-NATO allies. Another issue may be how PSI is coordinated with other federal interdiction-related programs, like export control assistance. Reporting and coordination requirements now in public law may result in more information and better interagency coordination than in the past.

For Further Reading

CRS Report RS21881, *Proliferation Security Initiative (PSI)*, by Sharon Squassoni.

Global Initiative to Combat Nuclear Terrorism. In July 2006, Russia and the United States announced the creation of the Global Initiative to Combat Nuclear Terrorism before the G-8 Summit in St. Petersburg. Like PSI, this initiative is non-binding, and requires agreement on a statement of principles. Thirteen nations — Australia, Canada, China, France, Germany, Italy, Japan, Kazakhstan, Morrocco, Turkey, the United Kingdom, the United States and Russia — endorsed a Statement of Principles at the Initiative's first meeting in October 2006.[6] The International Atomic Energy Agency (IAEA) and the European Union (EU) have observer status. As of December 2007, 64 states have agreed to the statement of principles and are Global Initiative partner nations.

U.S. officials have described the Initiative as a "flexible framework" to prevent, detect, and respond to the threat of nuclear terrorism. It is meant to enhance information sharing and build capacity worldwide. The Statement of Principles pledges to improve each nation's ability to: secure radioactive and nuclear material, prevent illicit trafficking by improving detection of such material, respond to a terrorist attack, prevent safe haven to potential nuclear terrorists and financial resources, and ensure liability for acts of nuclear terrorism.[7] Participating states share a common goal to improve national capabilities to combat nuclear terrorism by sharing best practices through multinational exercises and expert level meetings. Without dues or a secretariat, actions under the Initiative will take legal guidance from the International Convention on the Suppression of Acts of Nuclear Terrorism,

[6] "Partner Nations Endorse Global Initiative to Combat Nuclear Terrorism Statement of Principles," U.S. Department of State, Bureau of International Security and Nonproliferation, November 7, 2006. Available at [http://www.state.gov/t/isn/rls/fs/75845.htm].

[7] Ibid.

the Convention on the Physical Protection of Nuclear Materials and UN Security Council Resolutions 1540 and 1373.[8]

Global Initiative partner nations met in February 2007 in Ankara, Turkey, and in June 2007 in Astana, Kazakhstan, to plan future activities. An International Nuclear Terrorism Law Enforcement Conference, organized by the FBI, was held in Miami in June 2007 for Global Initiative partners. Tabletop and field exercises are planned for 2008 to identify and address individual states' vulnerabilities. While this Initiative has potential to bolster nuclear terrorism prevention efforts, it is unclear how activities under this initiative will be coordinated with related international efforts such as PSI and GTRI. The Global Initiative does not have program funding of its own in the U.S. budget, and therefore Congress may consider whether its goals can be achieved with these constraints.

Ad Hoc Sanctions and Incentives. Other efforts — such as economic, military, or security assistance — may also help slow the proliferation of nuclear weapons. These cooperative measures have been effective in some cases (South Korea, Taiwan, Belarus, Kazakhstan, Ukraine), but failed in others (Iraq, Israel, Pakistan). Some favor greater use of sanctions against countries that violate international nonproliferation standards, while others view sanctions as self-defeating. Most observers conclude that a mix of positive and negative incentives, including diplomacy to address underlying regional security problems, provides the best opportunity for controlling the spread of nuclear weapons. However, when diplomacy fails, some policy-makers have argued that military measures may be necessary to attack nuclear and other weapons of mass destruction and related facilities in states hostile to the United States or its allies. For example, the Bush Administration claimed that the overthrow of the Saddam Hussein regime in Iraq was justified, in part, on the basis of claims that Iraq possessed chemical and biological weapons and might resume efforts to develop nuclear weapons. As developments revealed, however, accurate intelligence is a key component of both diplomatic and military approaches to nonproliferation.

Non-Nuclear Multilateral Endeavors

The international community has concluded a number of arms control agreements, conventions, and arrangements that affect non-nuclear weapons. Two of these, the Conventional Armed Forces in Europe Treaty (CFE) and the Open Skies Treaty were a part of the late-Cold War effort to enhance stability and predictability in Europe. Others seek to control the spread of technologies that might contribute to developing conventional or unconventional weapons programs. Finally, several seek to ban whole classes of weapons through international conventions.

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[8] "U.S.-Russia Joint Fact Sheet on The Global Initiative to Combat Nuclear Terrorism," July 15, 2006. Available at [http://www.state.gov/r/pa/prs/ps/2006/69016.htm].

European Conventional Arms Control

Conventional Armed Forces in Europe Treaty (CFE). In late 1990, 22 members of NATO and the Warsaw Pact signed the Conventional Armed Forces in Europe (CFE) Treaty, agreeing to limit NATO and Warsaw Pact non-nuclear forces in an area from the Atlantic Ocean to the Ural Mountains. The CFE treaty did not anticipate the dissolution of the Soviet Union and the Warsaw Pact. Consequently, the participants signed the so-called "Tashkent Agreement" in May 1992, allocating responsibility for the Soviet Union's Treaty-Limited items of Equipment (TLEs) among Azerbaijan, Armenia, Belarus, Kazakhstan, Moldova, Russia, Ukraine, and Georgia. It also established equipment ceilings for each nation and the implied responsibility for the destruction/transfer of equipment necessary to meet these national ceilings. In 1999, the CFE Adaptation Agreement was signed to further adjust to the dissolution of the Warsaw Pact and the expansion of NATO. As discused below, this agreement has not entered into force pending its ratification by NATO members.

Key Limits and Restrictions. CFE placed alliance-wide, regional (zonal), and national ceilings on specific major items of military equipment.[9] It sought to promote stability not only by reducing armaments, but also by reducing the possibility of surprise attack by preventing large concentrations of forces. The CFE treaty also provides for 1) very detailed data exchanges on equipment, force structure, and training maneuvers; 2) specific procedures for the destruction or redistribution of excess equipment, and 3) verification of compliance through on-site inspections. Its implementation has resulted in an unprecedented reduction of conventional arms in Europe, with over 50,000 (TLEs) removed or destroyed; almost all agree it has achieved most of its initial objectives.

Under the CFE treaty all equipment reductions needed to comply with overall, national, and zonal ceilings were to have been completed by November 1995. As this deadline approached, it was evident that Russia would not meet those requirements, particularly in the so-called "flank zones," which include the Leningrad Military District in the north, and more importantly, the North Caucasus Military District in the south. The outbreak of armed ethnic conflicts in and around the Caucasus, most notably in Chechnya, led Russia to claim it needed to deploy equipment in excess of treaty limits in that zone. Russia placed this claim in the context of broader assertions that some CFE provisions reflected Cold War assumptions and did not fairly address its new national security concerns. Further, it argued that economic hardship was making the movement of forces unaffordable in some cases.

To address these concerns, the CFE parties negotiated a Flank Agreement, in early 1996. This Agreement removed several Russian (and one Ukrainian)

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[9] The Treaty limits battle tanks, artillery, armored combat vehicles, attack helicopters, and combat aircraft. Other types of equipment are subject to operating restrictions and reporting requirements: primary trainer aircraft, unarmed trainer aircraft, combat support helicopters, unarmed transport helicopters, armored vehicle-launched bridges, armored personnel carrier "look-alikes" and armored combat vehicle "look-alikes."

administrative districts from the old "flank zone," thus permitting existing flank equipment ceilings to apply to a smaller area. To provide some counterbalance to these adjustments, reporting requirements were enhanced, inspection rights in the zone increased, and district ceilings were placed on armored combat vehicles to prevent their concentration.

The Adaptation Agreement. The 1996 CFE Review Conference opened negotiations to modify the treaty to account for the absence of the USSR and the Warsaw Pact, and the expansion of NATO into the Czech Republic, Poland, and Hungary. Most CFE signatories did not want to completely renegotiate the treaty. Russia, however, sought broader revisions, and, ironically, it sought to maintain the alliance-wide equipment ceilings. An alliance-wide cap on NATO would presumably force adjustments of national holdings as the NATO alliance expanded; such adjustments probably would *not* favor new member nations close to Russia's borders. The CFE parties did not adopt Russia's position and Russia ultimately agreed to a largely NATO-drafted document. This agreement called for, among other things, lower equipment levels throughout the "Atlantic to the Urals" area; enhanced verification procedures; and the replacement of NATO-Warsaw Pact "bloc to bloc" ceilings with national limits on all categories of TLE's. It also stated that the Flank Agreement was to remain in effect. The Adaptation Agreement reiterates that NATO has "no plan, no intention, and no reason" to deploy nuclear weapons on new members' territory; and seeks to improve new members' defensive capabilities through interoperability and capability for reinforcement, rather than by stationing additional combat forces on new members' territory. Russia's most serious focus has been, however, on NATO enlargement and how CFE could adapt to mitigate what many Russians see as an encroaching threat. Russia has called for the new members of NATO, particularly the Baltic states of Latvia, Lithuania, and Estonia, to become CFE state parties. These countries have indicated a willingness to join, however they currently cannot do so until the Adaptation Agreement is ratified and the new CFE regime comes into force.

At the Istanbul Summit in 1999, where the Adaptation Agreement was concluded, Russia undertook the so-called Istanbul Commitments to remove its troops from both the Republic of Georgia and the "breakaway" province of Transdniestra in Moldova.[10] Though not part of the CFE Adaptation Agreement document, NATO members have considered Russian fulfilment of these commitments a prerequisite for the ratification of the Agreement. Consequently, of the CFE signatories only Russia, Belarus, Ukraine, and Kazakhstan have ratified the adapted treaty.

Compliance Concerns. In its most recent compliance report, the State Department has asserted that Russian equipment holdings "continue to exceed most

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[10] For more information concerning the Georgian and Moldovan negotiations with Russia over its troop deployments in their countries, see CRS Report RS21981 *Moldova: Background and U.S. Policy* by Steve Woehrel, and CRS Report RL33453 *Armenia, Azerbaijan, and Georgia: Political Developments and Implications for U.S. Interests* by Jim Nichol.

of the legally binding limits for both the original and revised flank zones."[11] It also cites Russia for relatively minor reporting violations and for its failure to complete withdrawals of its troops from Georgia and Moldova. It also cites Armenia, Azerbaijan, Belarus, and Ukraine for non-compliance.[12] Armenia and Azerbaijan, still engaged in a conflict over the Nagorno-Karabakh territory, have not completed equipment reductions; nor provided complete equipment declarations; nor provided timely notification of new equipment acquisition. Belarus is again cited for questionable equipment declarations and its refusal to allow inspectors access to an equipment storage site. The State Department deems Ukraine to have substantially complied with CFE requirements, but notes that it retains several hundred equipment items in excess of treaty limits.

Russian CFE Suspension. On April 26, 2007, in his last State of the Union speech, President Putin announced a "moratorium" on Russian CFE compliance, pointing to, among other things, the NATO nations' not having ratified the treaty as adapted. Subsequently, in statements to the press and diplomatic conferences, Russian officials elucidated the Russian position and its concerns. Among the major points are the following[13]:

- During its CFE "moratorium" Russia will not allow CFE inspections nor will it report on its military movements.

- The Istanbul Commitments regarding troop withdrawals in Georgia and Moldova are not an integral part of the CFE Adaptation Agreement document, and consequently not legally binding and should not stand in the way of NATO members' ratification of the Agreement.

- The Baltic States and Slovakia are not bound by the CFE and their NATO membership, coupled with the new U.S. basing agreements with Poland, Bulgaria, and Romania, constitute an unacceptable encroachment on Russian national security.

- If the NATO nations do not ratify the CFE Adaptation Agreement within a year, Russia with consider complete withdrawal from the treaty.

Russian officials, military leaders, and political commentators are increasingly referring to the CFE treaty as a "Cold War agreement," which no longer reflects the realities of the European security environment. Russian military officials' consultations at NATO Headquarters on May 10 brought no softening of the Russian

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[11] *Adherence to and Compliance with Arms Control and Nonproliferation Agreements and Commitments.* Department of State, 2005 p. 47. The State Department did not publish this statutorily-mandated report to Congress in 2006.

[12] Ibid., pp. 16-28

[13] "Russia May Withdraw from Agreement with NATO", *RIA Novosti*, April 27, 2007; "Russian Paper Examines NATO Ties, Impact of CFE Moratorium," BBC Monitoring Service May 1, 2007. Translation from *Kommersant*, April 28, 2007.

position. A Russian request to the Organization for Security and Cooperation in Europe for a special conference of CFE signatories in June was granted.[14] The conference failed to resolve any of the outstanding issues, and the State Parties were unable to find sufficient common ground to issue a final joint statement.

The European and U.S. governments, have reacted with some surprise at the harshness of Russian statements, and have urged Russia to address its concerns within the consultative framework of the treaty rather than pursue a withdrawal. However, Secretary of State Rice and Secretary of Defense Gates, in conversations with President Putin and Russian Foreign Minister Lavrov, and Assistant Secretary of State for European and Eurasian Affairs in testimony before the U.S. Commission on Security and Cooperation in Europe, have reiterated the U.S. position that ratification of the CFE Adaptation Agreement still remains contingent upon Russia fulfilling its commitment to withdraw its military forces from Georgia and Moldova.[15]

On July 14, President Putin announced that Russia would institute an "moratorium" on its implementation of CFE in 150 days. On November 30, he signed legislation from the Duma that suspends Russian compliance with CFE, effective December 12, 2007. This action came during the Madrid OSCE summit meeting and evoked an expression of regret on the part of NATO officials, who noted that Russia's military posture would be under discussion at the NATO foreign ministers meeting in December. Undersecretary of State Nicholas Burns characterized the Russian action as a "mistake" and urged Russia to negotiate its concerns within the CFE framework. Russian officials have emphasized that this action is not a withdrawal from the treaty, and that they are willing to participate in further discussions if they perceive a greater willingness on the part of the NATO allies to address their concerns. Though no immediate redeployment of Russian forces is expected, Deputy Defense Minister Kolmakov has indicated that some bolstering of forces on Russian's western borders is under consideration. For their part, the NATO nations are maintaining their insistence that Russia fulfill the 1999 Istanbul Commitments prior to ratification of the Adapted CFE.

Some observers, and Russian spokesmen, have portrayed the Russian moves regarding CFE as an asymmetrical response to the proposed deployment of a U.S. ground-based missile defense system in Poland and the Czech Republic.[16] Others, including Chief of the Russian General Staff Baluyevsky, have discounted a specific linkage, seeing the missile defense controversy as merely one element of a more

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[14] "Russian MP Says New Structure of European Security on the Agenda," *ITAR-TASS World Service*, May 11, 2007.

[15] Transcript of Secretary of State Rice Media Availability, Moscow, May 15, 2007. Federal Document Clearing House; Transcript of Hearing before the U.S. Commission on Security and Cooperation in Europe, May 24, 2007. Federal Document Clearing House.

[16] "U.S. and NATO Dissect Putin Treaty Threat," *Financial Times*, April 27, 2007 p. 2.

broadly ranged dissatisfaction with changes in the European security environment. which, from the Russian perspective, have favored the NATO allies[17]

Companion legislation has been introduced in both the House and Senate (H.Res. 603, S.Res. 278) characterizing the Russian actions as "regrettable", and urging the Russian Federation to reconsider its intentions and to fulfill the Istanbul Commitments, while encouraging all CFE State Parties to seek "innovative and constructive" mechanisms to resolves these issues. S.Res. 278 passed the Senate by unanimous consent, while H.Res. 603 remains under consideration by the House Foreign Affairs Committee.

For Further Reading

Treaty on Conventional Armed Forces in Europe.
[http://www.state.gov/t/ac/trt/4781.htm]

Adherence to and Compliance with Arms Control and Nonproliferation Agreements and Commitments. Department of State, 2005.

CRS Report 90-615 RCO, *Treaty of Conventional Armed Forces in Europe (CFE): A Primer*. (Archived. For copies contact Amy Woolf, 202-707-2379.)

Treaty on Open Skies.[18] On March 24, 1992, the United States, Canada and 22 European nations signed the Treaty on Open Skies. The parties agreed to permit unarmed aircraft to conduct observation flights over their territories. Although the flights will likely focus on military activities, the information they gather was not intended to be used to verify compliance with limits in other arms control agreements. Instead, Open Skies is designed as a confidence-building measure that will promote openness and enhance mutual understanding about military activities. The Treaty entered into force on January 1, 2002.

Open Skies was originally proposed by President Eisenhower in 1955. In the years before satellites began to collect intelligence data, aerial overflights were seen as a way to gain information needed for both intelligence and confidence-building purposes. The Soviet Union rejected President Eisenhower's proposal because it considered the overflights equal to espionage. President George H.W. Bush revived the Open Skies proposal in May 1989. By this time, both the United States and Soviet Union employed satellites and remote sensors for intelligence collection, so aircraft overflights would add little for that objective. But, at the time when Europe was emerging from the East-West divide of the Cold War, the United States supported increased transparency throughout Europe as a way to reduce the chances of military confrontation and to build confidence among the participants. The Senate

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[17] "Chief of the General Staff Makes a Policy Speech," *WPS: What the Papers Say*. WPS Russian Media Monitoring Agency. May 8, 2007; "Russian Move on Key Arms Treaty Not Linked to US ABM Plans," *BBC Monitoring News File*. April 26, 2007.

[18] For details contact Amy F. Woolf, Specialist in National Defense, 7-7613.

consented to the ratification of the treaty on August 6, 1993 and President Clinton signed the instruments of ratification on November 3, 1993, but entry-into-force was delayed until Russia and Belarus approved ratification in May 2001.

The Provisions of Open Skies. The parties to the Open Skies Treaty have agreed to make all of their territory accessible to overflights by unarmed fixed wing observation aircraft. They can restrict flights over areas, such as nuclear power plants, where safety is a concern, but they cannot impede or prohibit flights over any area, including military installations that are considered secret or otherwise off-limits. In most cases, the nation conducting the observation flight will provide the aircraft and sensors for the flight. However, Russia insisted that the Treaty permit the observed country to provide the aircraft if it chose to do so. Nations can also team up to conduct overflights to share the costs of the effort or use aircraft and sensor suites provided by other nations. Each nation is assigned a quota of overflights that it can conduct and must be willing to receive each year. The quota is determined, generally, by the size of the nation's territory. For the United States, this quota is equal to 42 observation flights per year.

The Treaty permits the nations to use several types of sensors — including photographic cameras, infrared cameras, and synthetic aperture radars — during their observation flights. The permitted equipment will allow the nations to collect basic information on military forces and activities, but it will provide them with little detailed technical intelligence. For example, the resolution on the sensors probably will allow the nations to identify vehicles and distinguish between tanks and trucks, but it probably will not allow them to tell one type of tank from another. Each observation flight will produce two sets of data — one for the observing nation and one for the observed nation. Other parties to the Treaty can purchase copies of the data. Each nation is responsible for its own analysis of the data.

The Open Skies Treaty was designed as a confidence-building measure, allowing all nations, including those without access to satellites, to collect information on military forces and activities of other parties to the Treaty. It is not designed to provide detailed intelligence information or data needed to verify compliance with arms control limits. Instead, it allows the participants to gain an improved understanding of military activities in other nations. Overflights may provide early signs of efforts to build up military forces or, conversely, assurances that an adversary or neighbor is not preparing its military for a possible conflict. In any case, it is designed to promote openness and transparency as a way to ease tensions and reduce the likelihood of misunderstandings about military intentions.

Implementation. Although several of the participating nations conducted practice missions in the years before the Treaty entered into force, the first official overflight mission occurred in 2002. The parties have conducted more than 140 missions since that time. The United States has not only conducted several missions over territories in Europe and the former Soviet Union, it has also hosted numerous observation flights over its own territory.

For Further Reading

CRS Report 95-1098 F, *The Open Skies Treaty: Observation Overflights of Military Activities*. (Archived. For copies contact Amy Woolf, 202-707-2379.)

Conventional Technology Controls

The Missile Technology Control Regime. The United States, Canada, France, Germany, Italy, Japan, and the United Kingdom established the Missile Technology Control Regime (MTCR) on April 16, 1987. Designed to slow the proliferation of ballistic and cruise missiles, rockets, and unmanned air vehicles (UAV) capable of delivering weapons of mass destruction, the MTCR is an informal, voluntary arrangement in which participants agree to adhere to common export policy guidelines applied to an "annex" that lists controlled items. Partner-countries adopt the guidelines as national policy and are responsible for restraining their own missile-related transfers. In addition, partners regularly exchange information on relevant export licensing issues, including denials of technology transfers. The MTCR has neither an independent means to verify whether states are adhering to its guidelines or monitor nor a mechanism to penalize states if they violate them.

The MTCR is based on the premise that foreign acquisition or development of delivery systems can be delayed and made more difficult and expensive if major producers restrict exports. Analysts credit the Regime with slowing missile development in several countries. Partner countries have tightened their export control laws and procedures, and several have taken legal action against alleged missile-technology smugglers. On the other hand, some analysts note that the MTCR does not regulate countries' acquisition or production of missiles and cannot prevent non-Partners from exporting missiles and technology. Furthermore, some Partners have, on occasion, failed to exercise constraint on their own exports of ballistic and cruise missile technology. In addition, many analysts have argued that advances in missile-related technology will challenge the MTCR's future ability to check missile proliferation.

Participants. Since 1987, the number of countries that adhere to the MTCR has grown from seven to 34, with Bulgaria joining the Regime in June 2004.[19] Several non-partners, inluding China, Israel, Romania, Slovakia, and India, have said they will restrict their transfers of missile equipment and technology according to the MTCR.

Membership in the Regime is decided by consensus. According to former MTCR Chairman Per Fischer, "[p]otential members are reviewed on a case-by case basis, and decisions regarding applications are based on the effectiveness of a state's export controls…its potential contribution to the regime and its proliferation

[19] "Treaty Update: MTCR," *Arms Control Today*, September 2004, p. 5.

record."[20] The United States supports new requests for membership to the regime only if the country in question agrees not to develop or acquire missiles (excluding space launch vehicles) that exceed MTCR guidelines.

The Substance of the MTCR. The MTCR guidelines[21] call on each partner country to exercise restraint when considering transfers of equipment or technology, as well as "intangible" transfers, that would provide, or help a recipient country build, a missile capable of delivering a 500 kilogram (1,100 pound) warhead to a range of 300 kilometers (186 miles) or more. The 500 kilogram weight threshold was intended to limit transfers of missiles that could carry a relatively crude nuclear warhead. A 1993 addition to the guidelines calls for particular restraint in the export of any missiles or related technology if the nation controlling the export judges that the missiles are intended to be used for the delivery of weapons of mass destruction (nuclear, chemical, or biological). Thus some missiles with warheads weighing less than 500 kilograms also fall under MTCR guidelines. From time to time, Regime partners update the MTCR guidelines and annex.

The MTCR annex contains two categories of controlled items. Category I items are the most sensitive. There is "a strong presumption to deny such transfers," according to the MTCR guidelines. Regime partners have greater flexibility in exports of Category II items.

Category I items include complete rocket systems (including ballistic missiles, space launch vehicles, and sounding rockets), UAV systems (including cruise missiles systems, target and reconnaissance drones), production facilities for such systems, and major subsystems (including rocket stages, re-entry vehicles, rocket engines, guidance systems, and warhead mechanisms). Transfers of Category I production facilities are not to be authorised. Category II items are other less sensitive and dual-use missile-related components that could be used to develop a Category I system, and complete missiles and major subsystems of missiles capable of delivering a payload of any size to a range of 300 km.

Analysts credit the MTCR with slowing missile development in Brazil and India, blocking a cooperative missile program of Argentina, Egypt, and Iraq, and eliminating missile programs in South Africa and Hungary. Partner countries have tightened their export control laws and procedures, and several have taken legal action against alleged missile-technology smugglers. On the other hand, some analysts note that the MTCR cannot prevent countries such as North Korea, Iran, Syria, India, and Pakistan from acquiring and producing missiles, nor prevent non-Partners (China, North Korea, and others) from exporting missiles and technology. It has also been difficult to restrain exports of ballistic and cruise missile technology from some Partners — Russia has exported technology to Iran and Great Britain has done so to the United Arab Emirates. Analysts and experts in the international community have also discussed the possibility that the "supply side" approach of the

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[20] "20 Years of the Missile Technology Control Regime and Beyond," paper given to the DIIS Conference on Missile Proliferation, Copenhagen, May 2, 2007.

[21] The MTCR guidelines and annex may be found at [http://www.mtcr.info].

MTCR has outlived its usefulness and that a "demand side" approach to proliferation, on a regional or global basis, might prove more effective.

Hague Code of Conduct Against Ballistic Missile Proliferation (HCOC). The Hague Code of Conduct Against Ballistic Missile Proliferation (HCOC) was inaugurated on November 25, 2002. As of December11, 2007, 127 countries subscribed to the Code.[22] The HCOC is not a treaty but instead a set of "fundamental behavioral norms and a framework for cooperation to address missile proliferation." It focuses on the possession of ballistic missiles, as a complement to the supply-side-oriented MTCR.

The Code intends to "prevent and curb the proliferation of Ballistic Missile systems capable of delivering weapons of mass destruction." It calls on subscribing states "to exercise maximum possible restraint in the development, testing and deployment of Ballistic Missiles capable of delivering weapons of mass destruction [WMD], including, where possible, to reduce national holdings of such missiles." Subscribing states also agree not to assist ballistic missile programs in countries suspected of developing WMD. The HCOC also calls for subscribing states to "exercise the necessary vigilance" in assisting other countries' space-launch programs, which could serve as covers for ballistic missile programs.

Additionally, subscribing states "resolve to implement" several transparency measures, such as producing annual declarations that provide outlines of their ballistic missile policies, as well as "information on the number and generic class" of such missiles launched during the preceding year. The Code also calls on subscribing states to provide similar annual declarations regarding their "expendable Space Launch Vehicle" programs.

Furthermore, the HCOC calls on states to "exchange pre-launch notifications on their Ballistic Missile and Space Launch Vehicle launches and test flights." The Code does not specify a pre-launch notification mechanism, and subscribing governments have not yet been established one. The United States had said that its notifications and annual declarations would be based on a U.S.-Russian Pre-Launch Notification System, which was to have been established in connection with the U.S.-Russian Joint Data Exchange Center (JDEC).[23] That center, however, has not yet been established, and the United States has not provided pre-launch notifications. U.S. policy is to provide them when the JDEC is complete.[24] Russia had been providing pre-launch notifications since 2004, but reportedly stopped doing so

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[22] Hague Code of Conduct Against Ballistic Missile Proliferation (HCOC), [http://www.bmeia.gv.at/fileadmin/user_upload/bmeia/media/test/List_of_HCOC_Subscribing_States_01.pdf]. The full text is available at [http://www.bmeia.gv.at/fileadmin/user_upload/bmeia/media/2-Aussenpolitik_Zentrale/114_hcoc.pdf].

[23] Paul Kerr, "Code of Conduct Aims to Stop Ballistic Missile Proliferation," *Arms Control Today*, January/February 2003.

[24] Interview with Department of State official January 17, 2008.

effective January 1, 2008. The lack of U.S. notifications is one reason for this action.[25]

Ambassador Jose Julio Pereira Gomes said in an October 19, 2007, statement on behalf of the European Union that some unnamed subscribing states have not been providing declarations. "[C]ontinued disregard for obligations accepted upon subscribing to the HCOC threatens the functioning and thus the viability of the Code as a whole," he added.

Austria serves as the Immediate Central Contact and Executive Secretariat for the HCOC. Subscribing states have held six conferences since the Code came into effect. The most recent was held May 31-June 1, 2007, in Vienna. The next is scheduled for May 2008.

For Further Reading

CRS Report RL31848 *Missile Technology Control Regime (MTCR) and International Code of Conduct Against Ballistic Missile Proliferation (ICOC): Background and Issues for Congress*, by Andrew Feickert.

CRS Report RL31559, *Proliferation Control Regimes: Background and Status*, by Sharon Squassoni, Steve Bowman, and Steven A. Hildreth.

"U.S. Efforts to Combat the Biological Weapons Threat." State Department Fact Sheet. November 14, 2002. [http://www.state.gov/t/ac/rls/fs/15150.htm]

Tucker, Jonathan, *The Sixth Review Conference of the Biological Weapons Convention: Success or Failure?* Center for Nonproliferation Studies, January 4, 2007. [http://cns.miis.edu/pubs/week/070104.htm]

The Wassenaar Arrangement.[26] In July 1996, 33 nations approved the Wassenaar Arrangement (formally titled the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies) on export controls for conventional arms and dual-use goods and technologies.[27] This agreement replaces the Coordinating Committee For Multilateral Export Controls (CoCom) — the Cold War organization that controlled sensitive exports of technologies to Communist nations.

According to its Guidelines and Procedures, the Wassenaar Arrangement is not formally targeted at "any state or group of states." But it is "intended to enhance co-operation to prevent the acquisition of armaments and sensitive dual-use items for

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[25] Wade Boese, "Russia Halts Missile Launch Notices," *Arms Control Today*, March 2008.

[26] For details, contact Richard Grimmett, Specialist in National Defense, 7-7675

[27] Dual-use goods are those commodities, processes, or technologies used primarily for civilian purposes which can also be used to develop or enhance the capabilities of military equipment.

military end-uses, if the situation in a region or the behaviour of a state is, or becomes, a cause for serious concern."[28]

The Arrangement, which currently has 40 members, is designed "to contribute to regional and international security and stability, by promoting transparency and greater responsibility in transfers of conventional arms and dual-use goods and technologies, thus preventing destabilizing accumulations." Member decisions are made by consensus. This group has a broader membership but smaller lists of controlled goods than did CoCom. Its control regime is also less rigorous. Under Wassenaar, each national government regulates its own exports, whereas under CoCom, any member could disapprove the export by any other member of a controlled item to a proscribed destination. There is also no mechanism to punish a Participating State for violating Wassenaar guidelines.

Membership. The Arrangement's guidelines specify that several factors must be considered when deciding on a potential new member's eligibility. These include whether the state has adopted the Arrangement's control lists "as a reference in its national export controls," the government's "adherence to fully effective export controls," and whether the state adheres to several other multilateral agreements.[29]

Materials To Be Controlled. Participating States agree to control exports and retransfers of items on a Munitions List and a List of Dual-Use Goods and Technologies. The decision to allow or deny transfer of an item is the sole responsibility of each Participating State. The control lists are updated frequently.

Organization and Operations. Twice a year Participating States report all transfers or licenses issued for sensitive dual-use goods or technology and all deliveries of items on the Munitions List. The data exchange identifies the supplier, recipient, and items transferred.

Participating States also report denials of licenses to transfer items on the Dual-Use list to non-member states. The Arrangement does not prohibit a participating country from making an export that has been denied by another participant (this practice is called "undercutting"). But participants are required to report soon after they approve a license for an export of dual-use goods that are essentially identical to those that have been denied by another participant during the previous three years.

During plenary and working group discussions, Participating States voluntarily share information on potential threats to peace and stability and examine dangerous acquisition trends. The participants review the scope of reporting and coordinating national control policies and develop further guidelines and procedures. Twice a

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[28] The Arrangement's Guidelines and Procedures may be found at [http://www.wassenaar.org/guidelines/index.html].

[29] These agreements include the guidelines for the Nuclear Suppliers Group, the Zangger Committee, the Missile Technology Control Regime, and the Australia Group. They also include the Nuclear Non-Proliferation Treaty, the Biological and Toxicological Weapons Convention, and the Chemical Weapons Convention.

year, the group reviews the Munitions List with a view to extending information and notifications.

Implementation. Although some progress has been made in getting Wassenaar states to subscribe to general principles regarding strong enforcement mechanisms, Members of Congress may question whether other participants will be as diligent as the United States in controlling exports of dual-use technologies. Most countries place fewer restrictions on exports than does the United States. The Arrangement may support U.S. interests by encouraging other suppliers to forgo irresponsible exports that they might consider politically or financially beneficial. On the other hand, if the other participants do not restrain their exports of weapons and dual-use items to an extent comparable to the United States, U.S. businesses may be placed at a disadvantage in world markets and the U.S. trade balance may be affected negatively.

For Further Reading

CRS Report RS20517, *Military Technology and Conventional Weapons Export Controls: the Wassenaar Arrangement*, by Richard F. Grimmett.

CRS Report RL31832, *The Export Administration Act: Evolution, Provisions, and Debate*, by Ian F. Fergusson.

Weapons Elimination Conventions

Chemical Weapons Convention. The Chemical Weapons Convention (CWC) bans the development, production, transfer, stockpiling, and use of chemical and toxin weapons, mandates the destruction of all CW production facilities, and seeks to control the production and international transfer of the key chemical components of these weapons. Negotiations began in 1968, but made little progress for many years.[30] Verification issues, in particular, stalled the talks until the Soviet Union accepted challenge inspections. In September 1992, the Conference on Disarmament's forty member-nations agreed on the final draft for the Convention, and it opened for signature in January 1993. As of January 3, 2008, 183 nations, including the United States and Russia, have ratified the treaty, which entered into force April 29, 1997. Five states have signed but not ratified the Convention. Eight nations have neither signed nor acceded to the CWC.[31] The next CWC Review Conference is to be held in 2008. Under the Convention, states-parties provide declarations, which detail chemical weapons-related activities or materials and relevant industrial activities, to the Organization for the Prohibition of Chemical Weapons (OPCW). The OPCW inspects and monitors states-parties' facilities and activities that are relevant to the convention.

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[30] The United States and Soviet Union — possessors of the world's largest CW stockpiles — also conducted bilateral negotiations from 1976 to 1980.

[31] Angola, Egypt, Iraq, Lebanon, North Korea, Somalia, and Syria.

The U.S. Senate held hearings and debated the CWC for more than four years, before consenting to its ratification on April 24, 1997. Congress passed the CWC implementing legislation, as a part of the FY1999 Omnibus Appropriations Act (P.L. 105-277), in late October, 1998. This legislation provides the statutory authority for U.S. domestic compliance with the Convention's provisions. The legislation also provides detailed procedures to be used for on-site inspections by the OPCW, including limitations on access and search warrant procedures, should they be required.

Limits and Restrictions. Parties to the Convention have agreed to cease all offensive chemical weapons research and production and close all relevant facilities. They agreed to declare all CW stockpiles, allow an inventory by international inspectors, and seal their stocks. They must also destroy their weapons within 10 years, unless the OPCW approves an extension. They must also destroy all CW production facilities within 10 years. In "exceptional cases of compelling need," the OPCW may approve the conversion of these facilities to peaceful purposes.

The CWC contains a complex verification regime, with different obligations applying to different types of chemical facilities. The Convention establishes three schedules of chemicals, grouped by relevance to CW production and extent of legitimate peaceful uses. Some facilities are subject to systematic on-site verification, others are subject to periodic verification inspections. Facilities for a third class of chemicals are subject to random or "ad hoc" inspections. Signatories may also request challenge inspections at facilities suspected to be in violation of the Convention. The OPCW will carry out these inspections on short notice. Inspected nations will have the right to negotiate the extent of inspectors' access to any facility, but must make every reasonable effort to confirm compliance.[32]

Destruction Deadlines. All of the member-states' declared CW production facilities have been destroyed, according to the OPCW. Moreover, the Organization's Director-General, Rogelio Pfirter, stated in an October 19, 2007, speech to the UN First Committee that more than 30% of declared CW stockpiles had been destroyed.

In July 2007, the OPCW confirmed that Albania had become the first country to have destroyed its declared CWs. Five other states — India, Libya, Russia, South Korea, and the United States — have declared possession of CWs. All have stated that they will destroy their weapons by the Convention's April 29, 2012, deadline. However, observers have expressed doubts that all will do so.

Russian Compliance and Financial Aid. Information exchanges under a bilateral U.S.-Russian CW destruction agreement, amplified by charges of deception from former Russian CW scientists, have led to charges that the Russians have not been forthright in declaring details about their CW program, particularly in the area of binary agent research. The U.S. intelligence community has provided the

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[32] For more information on CWC verification issues, see CRS Report RL31559, *Proliferation Control Regimes: Background and Status*, by Mary Beth Nikitin.

relevant Senate Committees with classified briefings on attempts to reconcile these concerns through continued high-level consultations.

Russia has maintained that it needs significant foreign aid to carry out its destruction program, including substantial assistance in infrastructure improvements for the communities where destruction sites are located. Under DOD's Cooperative Threat Reduction Program, the United States has provided Russia with considerable financial assistance for chemical weapons destruction[33]. The impetus for continued funding, despite reservations about this program, has been the concern that the Russian CW stockpile is a potential source of covert CW proliferation.

Even with foreign assistance, Russia will almost certainly not be able to meet CWC destruction deadlines. It requested an extension until 2012, but few believe that extension will be sufficient. Consequently, the CWC Conference of States Parties has approved an extension of Russia's interim deadline to destroy 20% of its stockpile to April 2007 and also agreed to an extension of subsequent deadlines in principle, with no date specified. In November 2004, a senior Russian official announced schedules for the construction of five new CW destruction facilities and still projected that the new 2012 deadline will be met.[34] As of October 2007, Russia had destroyed more than 30% of its CW stocks, according to Pfirter.

U.S. Chemical Demilitarization Program. The United States has also encountered difficulties in destroying its CW stockpile. In October 2003, the United States acknowledged that it would not be able to destroy 45% of its CW stockpile by the interim deadline of April 29, 2004; it requested an extension of the interim deadline to December 2007 — a full eight months after the Convention's deadline for the destruction of the entire stockpile. Accepting that the United States is undertaking a good faith effort to destroy its stockpile, the Eighth OPCW Conference of States Parties approved the extension of the 45% deadline to December 2007 and the extension of the final deadline in principle, with no date specified.

In April 2006, the United States submitted its formal request to the OPCW Chairman and Director-General to extend the United States' final chemical weapons destruction deadline from April 2007 to April 29, 2012, the latest possible date allowed under the CWC.[35] However, Ambassador Eric Javits, U.S. Permanent Representative to the OPCW, added that "we do not expect to be able to meet that deadline" because Washington had encountered "delays and difficulties" in

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[33] See CRS Report RL31957, *Nonproliferation and Threat Reduction Assistance: U.S. Programs in the Former Soviet Union*, by Amy Woolf.

[34] Nartker, Mike. "Russian Official Outlines Detailed Schedule to Eliminate Chemical Weapons Arsenal by 2012" *Global Security Newswire*, November 12, 2004.

[35] Ambassador Eric Javits, U.S. Permanent Representative to the OPCW, Statement Concerning Request to Extend the United States' Destruction Deadline Under the Chemical Weapons Convention, April 20, 2006. Available at [http://www.state.gov/t/isn/rls/rm/64878.htm].

destroying its stockpile.[36] These delays have generally resulted from the need to meet state and federal environmental requirements and from both local and congressional concerns over the means of destruction.

Reinforcing Javits's statement, former Secretary of Defense Donald Rumsfeld notified Congress in April 2006 that destruction of the U.S. stockpile by the April 2012 deadline "was in doubt based on the current schedules, but that the Department of Defense would continue requesting resources needed to complete destruction as close to the 2012 deadline as practicable."

The United States destroyed 50% of its stockpile as of December 10, 2007.[37] Washington projects that its five operating destruction facilities will have destroyed 90% of the total U.S. stockpile by 2017.[38] Two other facilities under construction will destroy the remaining chemical agents stockpiles located at Pueblo, CO, and Lexington, KY. A 2007 estimate from the Department of Defense's Assembled Chemical Weapons Alternatives (ACWA) program states that these stockpiles will be destroyed by 2020 and 2023, respectively.[39] However, Sec. 8119 of the 2008 Defense Appropriations Act (P.L. 110-116) requires the Defense Department to "complete work on the destruction" of the U.S. chemical weapons stockpile" by the 2012 deadline "and in no circumstances later than December 31, 2017." In response, ACWA has "initiated an assessment of potential opportunities for accelerating the destruction of the Colorado and Kentucky chemical weapons stockpiles."[40]

Other Compliance Issues and Participation. No violations of the CWC have been detected, the OPCW's Verification Director Horst Reeps told the First

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[36] Ibid.

[37] "Army Destroys Half of Chemical Stockpile," APG News, January 17, 2008, available at [http://apgnews.apg.army.mil/Archive/pdf2008/Jan1708/Jan1708_1.pdf].

[38] The United States has destroyed all of its chemical weapons munitions. As of June 2007, its remaining stockpile consisted of GB (also known as sarin) and VX nerve agents, as well as mustard, a blister agent. See *Chemical Demilitarization: Additional Management Actions Needed to Meet Key Performance Goals of DOD's Chemical Demilitarization Program*, GAO-08-134, December 2007, pp.12-13.

[39] See ACWA Cost and Schedule Information. Available at [http://www.pmacwa.army.mil/ip/dl/acwa_cost_schedule.pdf]

[40] ACWA Quarterly Brief, December 2007. Available at [http://www.pmacwa.army.mil/ip/dl/acwa_quarterlybrief_december2007.pdf].

Additionally, Sec. 922 of the National Defense Authorization Act for Fiscal Year 2008 (P.L.110-181) requires that the Secretary of Defense submit a report to Congress which includes the "anticipated schedule at the time of such report for the completion of destruction of chemical agents, munitions, and materiel at each chemical weapons demilitarization facility in the United States" and a "description of the options and alternatives for accelerating the completion of chemical weapons destruction at each such facility, particularly in time to meet the destruction deadline of April 29, 2012, currently provided by the Chemical Weapons Convention, and by December 31, 2017." ACWA's December brief states that "Defense Department officials will meet with Congress by next summer to discuss the acceleration options and come to an agreement on the path forward."

Committee in October 2007. However, a 2005 State Department report assesses that, in violation of its CWC obligations, China has not acknowledged past transfers of chemical weapons" and also "may not have declared the full extent of its CW related facilities." The report adds that Beijing maintains a "CW production mobilization capability," which would also violate its CWC obligations. However, the report also states that "there is insufficient information available to determine whether" China has "an active offensive CW research and development program."[41] The State Department report further assesses that Iran is in violation of the CWC by "retaining and modernizing key elements of its CW infrastructure, including offensive research and development, a possible undeclared stockpile, and an offensive production capability."[42]

The United States has not requested challenge inspections for any facilities in these countries. The Administration has also not sought to impose unilateral sanctions.

Several nations suspected of possessing chemical weapons (e.g. Syria, North Korea) have not joined nor are expected to join the CWC. The most notable recent accession to the CWC is Libya, which has ended its WMD programs and is undertaking the destruction of its CW stockpile under OPCW supervision. The newly elected government of Iraq is expected to sign and ratify the CWC in the near future.

For Further Reading

Chemical Weapons Convention and Related Documents, [http://www.state.gov/t/ac/cwc/].

CRS Report RL32158, *Chemical Weapons Convention: Issues for Congress*.

Biological Weapons Convention. In 1969, the Nixon Administration unilaterally renounced U.S. biological weapons. Offensive BW development and production ceased, and destruction of the U.S. BW stockpile began. Simultaneously, the United States pressed the Soviet Union to follow its example. After some delay, agreement was reached, and the Biological Weapons Convention (BWC) was signed in 1972. The United States, after lengthy Senate consultations, ratified the Convention in 1975, the same year that the Convention entered into force.

The BWC bans the development, production, stockpiling, and transfer of biological weapons, as well as biological agents and toxins. It also bans "equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict. In addition, the Convention requires States-Parties to destroy all relevant "agents, toxins, weapons, equipment and means of delivery."

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[41] *Adherence to and Compliance with Arms Control and Nonproliferation Agreements and Commitments.* Department of State, 2005. p. 55.

[42] Ibid., p. 56.

The BWC permits only defensive biological warfare research (e.g., vaccines, protective equipment), and allows production and stockpiling of BW agents only in amounts justifiable for protective or peaceful purposes. Unlike the Chemical Weapons Convention (CWC), the BWC does not specify particular biological agents, but generically defines them as: "Microbial or other biological agents or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic or peaceful purposes."

The Convention has 159 States Parties, including the United States, and there are 15 additional countries that have signed, but not ratified the Convention. The Convention does not contain any independent verification or enforcement mechanisms.[43] Since 2001, the United States has opposed strengthening the BWC, emphasizing instead voluntary measures by individual national governments.[44]

Verification and Enforcement. The November 2001 Review Conference of the BWC ended in disarray, unable to agree upon a final declaration. The primary deadlock was the issue of an adaptive protocol to the Convention, intended to enhance its enforcement. In July 2001, after almost seven years of negotiations, the United States declared the 200-page protocol unacceptable as basis for further negotiation. A Bush Administration review concluded that the draft protocol would not provide adequate security against covert violations, yet could endanger the security of U.S. biodefense programs and U.S. commercial proprietary information. Alone in its complete rejection of the draft protocol, the United States came under widespread international criticism, including from close allies, for "jeopardizing" the future of biological arms control. In response, the Administration put forward several proposals at the 2001 Review Conference, urging their adoption by BWC State Parties at the national level. These included:

- Criminalization of BWC violations and expedited extradition procedures for violators.
- United Nations investigation of suspicious disease outbreaks or alleged BW use.
- Procedures for addressing BWC compliance concerns.
- Improved international disease control.
- Improved security over research on pathogenic organisms.

The Review Conference was unable to reach a compromise final declaration on future activities satisfactory to all State Parties, and adjourned until November 2002. The U.S. has continued to oppose further negotiations on verification, while calling for international action against Iran and North Korea whom it has identified as BWC

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[43] Article V of the Convention does speak to the issue of compliance, stating that the States Parties "undertake to consult one another and to cooperate in solving any problems which may arise in relation to the objective of, or in the application of the provisions of, the Convention. Consultation and Cooperation pursuant to this article may also be undertaken through appropriate international procedures within the framework of the United Nations and in accordance with its Charter."

[44] The text of the BWC and associated documents are available at the United Nations website: Biological Weapons Convention [http://disarmament2.un.org/wmd/bwc//]

violators. Confronted with the U.S. position, the Chairman of the 2002 Review Conference, presented a minimal program emphasizing only annual meetings to discuss strengthening national laws and ways to respond to BW attacks. These were endorsed by the United States and accepted by the Conference.

The 6th BWC Review Conference, held in December 2006, could not reach consensus on a comprehensive set of guidelines for national implementation of the Convention owing to differences between the United States and the non-aligned nations group over technology transfer control issues. The assumption of the United States' opposition also precluded consideration of enhanced verification or enforcement provisions for the Convention. The Conference did establish a new program of work for annual meetings, which are to take place before the 7th Review Conference in 2011, for discussion and information exchanges on a variety of issues, including domestic enforcement of BWC provisions, pathogen security, and oversight of potentially dual-use research. The United States required, however, that these sessions be prohibited from reaching binding decisions, reserving that for the next Review Conference. The first meeting of the BWC States-Parties was held December 10-14 in Geneva.

Compliance Concerns. No nation publically acknowledges either an offensive biological weapons (BW) program or stockpile. Examination of unclassified sources indicates that several nations are considered, with varying degrees of certainty, to have some BW capability. These are China, Cuba, Egypt, Iran, Israel, North Korea, Russia, Syria, and Taiwan. There is evidence that Al-Qa'ida had a BW program prior to the 2001 U.S.-led invasion of Afghanistan.[45]

Terrorism Concerns. The Fall 2001 postal anthrax attacks in the United States spurred significant congressional interest in biological weapons, but the focus has been primarily on increased domestic security and medical protective/treatment measures. Though there has been some congressional criticism of the Administration's position on the BWC, there has been no political initiative to refocus biological arms control efforts. While those in favor of strengthening the BWC have pointed to the anthrax attacks and rapid advances in biotechnology as emphasizing the need for greater efforts to control biological weapons, those supporting the Administration's position maintain that the difficulties in apprehending the perpetrator(s) of the anthrax attacks and wide dissemination of biotechnology merely highlight the futility of an international BW verification regime.

Controlling the Use of Anti-Personnel Landmines. Anti-personnel landmines are small, inexpensive weapons that kill or maim people upon contact. Abandoned, unmarked minefields can remain dangerous to both soldiers and civilians for an indefinite time. Mines were addressed in *The Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed To Be Excessively Injurious or To Have Indiscriminate Effects* also

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[45] For more information on suspected BW programs, see CRS Report RL30699, *Nuclear, Biological, and Chemical Weapons and Missiles: Status and Trends*, by Paul Kerr.

known as the Convention on Conventional Weapons (CCW).[46] Protocol II of this contains rules for marking, registering, and removing minefields. The CCW was concluded in 1980 and entered into force in 1993. The United States signed it in 1982 and the U.S. Senate gave its advice and consent to ratification on March 24, 1995.

U.S. Initiatives. In 1992, Congress established a one year moratorium on U.S. exports of APL (P.L. 102-484) and subsequently extended it for fifteen more years (see P.L. 107-115). H.R. 948, introduced in the 1st Session, 107th Congress, sought to make the ban permanent but was not brought to a vote. Many nations have followed the U.S. example and imposed their own moratoria. In the FY1996 Foreign Operations Appropriations Act (P.L. 104-107) Congress established a one-year ban on the use of APL by U.S. personnel to begin in 1999 — but, the 105th Congress repealed the moratorium in the FY1999 Defense Authorization Act (P.L. 105-261).

In 1996, President Clinton announced a policy that immediately discontinued U.S. use of "dumb" APL (except in the DMZ of Korea); supported negotiation of a worldwide ban on APL in the United Nations; supported development of alternative technologies to perform landmine functions without endangering civilians (he subsequently set a goal of 2003 to replace even smart mines everywhere except Korea, and of 2006 in Korea); and, expanded mine detection and clearing technology efforts and assistance to mine-plagued countries. This initiative temporarily retained the possible use of "smart" mines that render themselves harmless after a certain period of time, either through self-destruction, self-neutralization, or self-deactivation.

In November 1996, the United States introduced a resolution to the U.N. General Assembly to pursue an international agreement that would ban use, stockpiling, production, and transfer of APL — there were 84 co-sponsors. Some countries, such as Canada, already abided by the intent of the proposed agreement and pushed for an early deadline to reach agreement. Others, however, were concerned that verifying such an agreement would be difficult, or that AP landmines still have a useful and legitimate role in their security planning. Landmine control, specifically a ban on exports, was briefly on the agenda of the Conference on Disarmament (CD) in Geneva for 1999. During 2000, however, that body could not agree on its program of work and the landmine issue was not addressed again.

During 1997, the government of Canada and a number of non-governmental organizations, such as the International Campaign to Ban Landmines, sponsored conferences to craft a treaty outside the CD process. Over 100 nations signed the Ottawa Treaty, formally titled the *Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-personnel Mines and on Their Destruction,* which entered into force for its parties on March 1, 1999. Currently, 156 states are party to the treaty. The Clinton Administration participated in the Ottawa Process, but declined to sign the Treaty after failing to gain certain temporary exceptions to treaty language. Specifically, the United States wanted to continue to

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[46] *Convention on Certain Conventional Weapons* [http://www.ccwtreaty.com/ccwtreatytext.htm].

use APL in the defense of South Korea until 2006 if necessary, and the ability to include smart APL (or "devices") within anti-tank landmine munitions. President Clinton suggested that the United States would sign the Ottawa Treaty in 2006 if effective alternatives to APL were available.[47]

The Ottawa Convention requires States-Parties to stop the production, use, and transfer of APL, as well as destroy all stockpiled APL, except for the "minimum number absolutely necessary" for training purposes, within four years. States-Parties are also required to clear APL within 10 years, but can request extensions of up to 10 years to complete this task.[48] Of the 156 States-Parties, 80 have destroyed their APL; 10 have not yet done so. There is no evidence that any States-Parties are currently violating the Convention. However, 14 states "appear not to be on course" to meet their mine-clearance deadlines.[49]

The Convention does not include a verification body, but States-Parties may submit allegations of non-compliance, as well as requests for "clarification" from relevant governments, to the UN Secretary-General. A State-Party may also request that a special meeting of other treaty members address the compliance matters. States-Parties can initiate fact-finding missions and also request relevant governments to address compliance issues.

In February 2004, the Bush Administration announced that, after 2010, the United States would not use any type of persistent landmines, whether anti-personnel or — a new policy — anti-vehicle. Self-destruct and self-deactivating landmines will be used and will meet or exceed specifications of the Amended Mines Protocol, CCW. It also indicated that alternatives to persistent landmines would be developed that incorporate enhanced technologies.

This new policy does not include a date to join the Ottawa Treaty. A March 1, 2007, U.S. Department of State Bureau of Intelligence and Research Background Note indicates that the United States does not plan to sign the Ottawa Convention. If needed, U.S. forces will use non-persistent mines. Various U.S. landmine systems were reportedly prepositioned in the Middle East in preparation for the 2003 war in Iraq, but were not used.

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[47] The Army has an APL Alternatives effort underway. The Non Self-Destruct Alternative [http://www.globalsecurity.org/military/systems/munitions/nsda.htm] is in the engineering and manufacturing development stage; it combines lethal and non-lethal payloads and includes a "man-in-the-loop" to determine when they are fired.

[48] The full text of the Convention may be found at [http://www.icbl.org/content/download/7050/165094/file/treatyenglish.pdf].

[49] *Landmine Monitor Report 2007: Toward a Mine-Free World*, pp. 2-3, 5.

Further Reading

CRS Report 96-362, *Landmines: Basic Facts and Congressional Concerns*, by Edward F. Bruner and Thomas Hawkins. (Archived. For copies contact Amy Woolf, 202-707-2379.)

To Walk the Earth in Safety: The United States Commitment to Humanitarian Demining, Fifth Edition, September 2004. U.S. Department of State.

New United States Policy on Landmines, Bureau of Political-Military Affairs, U.S. Department of State, February 2004. [http://www.state.gov/t/pm/rls/fs/30044.htm]

Appendix A. List of Treaties and Agreements

This appendix lists a wide range of arms control treaties and agreements. The date listed in each entry indicates the year in which the negotiations were completed. In some cases, entry into force occurred in a subsequent year.

The Geneva Protocol, 1925: Bans the use of poison gas and bacteriological weapons in warfare.

The Antarctic Treaty, 1959: Demilitarizes the Antarctic continent and provides for scientific cooperation on Antarctica.

Memorandum of Understanding ... Regarding the Establishment of a Direct Communications Link (The Hot Line Agreement), 1963: Provides for a secure, reliable communications link between Washington and Moscow. Modified in 1971, 1984, and 1988 to improve the method of communications.

Limited Test Ban Treaty, 1963: Bans nuclear weapons tests or any nuclear explosions in the atmosphere, outer space, and under water.

Outer Space Treaty, 1967: Bans the orbiting or stationing on celestial bodies (including the moon) of nuclear weapons or other weapons of mass destruction.

Treaty for the Prohibition of Nuclear Weapons in Latin America (Treaty of Tlatelolco), 1967: Obligates nations in Latin America not to acquire, possess, or store nuclear weapons on their territory.

Treaty on the Non-Proliferation of Nuclear Weapons, 1968: Non-nuclear signatories agree not to acquire nuclear weapons; nuclear signatories agree to cooperate with non-nuclear signatories in peaceful uses of nuclear energy.

Seabed Arms Control Treaty, 1971: Bans emplacement of military installations, including those capable of launching weapons, on the seabed.

Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War (Accident Measures Agreement), 1971: Outlines measures designed to reduce the risk that technical malfunction, human failure, misinterpreted incident, or unauthorized action could start a nuclear exchange.

Biological Weapons Convention, 1972: Bans the development, production, stockpile, or acquisition of biological agents or toxins for warfare.

Agreement ... on the Prevention of Incidents On and Over the High Seas, 1972: Establishes "rules of the road" to reduce the risk that accident, miscalculation, or failure of communication could escalate into a conflict at sea.

Interim Agreement ... on Certain Measures with Respect to the Limitation of Strategic Offensive Arms (SALT I Interim Agreement), 1972: Limits numbers of some types of U.S. and Soviet strategic offensive nuclear weapons.

Treaty ... on the Limitation of Anti-Ballistic Missile Systems (ABM Treaty), 1972: Limits United States and Soviet Union to two ABM sites each; limits the number of interceptor missiles and radars at each site to preclude nationwide defense. Modified in 1974 to permit one ABM site in each nation. U.S. withdrew in June 2002.

Agreement ... on the Prevention of Nuclear War, 1973: United States and Soviet Union agreed to adopt an "attitude of international cooperation" to prevent the development of situations that might lead to nuclear war.

Treaty ... on the Limitation of Underground Nuclear Weapons Tests (Threshold Test Ban Treaty), 1974: Prohibits nuclear weapons tests with yields of more than 150 kilotons. Ratified and entered into force in 1990.

Treaty ... on Underground Nuclear Explosions for Peaceful Purposes (Peaceful Nuclear Explosions Treaty), 1976: Extends the limit of 150 kilotons to nuclear explosions occurring outside weapons test sites. Ratified and entered into force in 1990.

Concluding Document of the Conference on Security and Cooperation in Europe (Helsinki Final Act), 1975: Outlines notifications and confidence-building measures with respect to military activities in Europe.

Convention on the Prohibition of Military or any other Hostile Use of Environmental Modification Techniques, 1978: Bans the hostile use of environmental modification techniques that have lasting or widespread effects.

Treaty ... on the Limitation of Strategic Offensive Arms (SALT II), 1979: Places quantitative and qualitative limits on some types of U.S. and Soviet strategic offensive nuclear weapons. Never ratified.

The Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed To Be Excessively Injurious or To Have Indiscriminate Effects: This Convention, also known as the Convention on Conventional Weapons (CCW), was concluded in Geneva in 1980 and entered into force in 1993. Protocol II (Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-traps and Other Devices) contains rules for marking, registering, and removing minefields, in an effort to reduce indiscriminate casualties caused by anti-personnel landmines. Protocol IV prohibits laser weapons designed to cause blindness.

Document of the Stockholm Conference on Confidence- and Security-Building Measures and Disarmament in Europe (Stockholm Document), 1986: Expands on the notifications and confidence-building measures in the Helsinki Final Act. Provides for ground and aerial inspection of military activities.

Treaty of Rarotonga, 1986: Establishes a Nuclear Weapons Free Zone in the South Pacific. The United States signed the Protocols in 1996; the Senate has not yet provided its advice and consent to ratification.

Agreement ... on the Establishment of Nuclear Risk Reduction Centers, 1987: Establishes communications centers in Washington and Moscow and improves communications links between the two.

Treaty ... on the Elimination of their Intermediate-Range and Shorter-Range Missiles, 1987: Bans all U.S. and Soviet ground-launched ballistic and cruise missiles with ranges between 300 and 3,400 miles.

Agreement ... on Notifications of Launches of Intercontinental Ballistic Missiles and Submarine Launched Ballistic Missiles, 1988: Obligates United States and Soviet Union to provide at least 24 hours notice before the launch of an ICBM or SLBM.

Agreement on the Prevention of Dangerous Military Activities, 1989: Outlines cooperative procedures that are designed to prevent and resolve peacetime incidents between the armed forces of the United States and Soviet Union.

U.S.-U.S.S.R. Chemical Weapons Destruction Agreement, 1990: Mandates the destruction of the bulk of the U.S. and Soviet chemical weapons stockpiles.

Vienna Document of the Negotiations on Confidence- and Security-Building Measures, 1990: Expands on the measures in the 1986 Stockholm Document.

Treaty on Conventional Armed Forces in Europe (CFE Treaty), 1990: Limits and reduces the numbers of certain types of conventional armaments deployed from the "Atlantic to the Urals."

Treaty ... on the Reduction and Limitation of Strategic Offensive Arms (START), 1991: Limits and reduces the numbers of strategic offensive nuclear weapons. Modified by the Lisbon Protocol of 1992 to provide for Belarus, Ukraine, Kazakhstan, and Russia to succeed to Soviet Union's obligations under the Treaty. Entered into force on December 5, 1994.

Vienna Document of the Negotiations on Confidence- and Security-Building Measures, 1992: Expands on the measures in the 1990 Vienna Document.

Treaty on Open Skies, 1992: Provides for overflights by unarmed observation aircraft to build confidence and increase transparency of military activities.

Agreement ... Concerning the Safe and Secure Transportation, Storage, and Destruction of Weapons and Prevention of Weapons Proliferation, 1992: Provides for U.S. assistance to Russia for the safe and secure transportation, storage, and destruction of nuclear, chemical, and other weapons.

Agreement Between the United States and Republic of Belarus Concerning Emergency Response and the Prevention of Proliferation of Weapons of Mass Destruction, 1992: Provides for U.S. assistance to Belarus in eliminating nuclear weapons and responding to nuclear emergencies in Belarus.

Treaty ... on the Further Reduction and Limitation of Strategic Offensive Arms (START II) 1993: Would have further reduced the number of U.S. and Russian

strategic offensive nuclear weapons. Would have banned the deployment of all land-based multiple-warhead missiles (MIRVed ICBMs), including the Soviet SS-18 "heavy" ICBM. Signed on January 3, 1993; U.S. Senate consented to ratification in January 1996; Russian Duma approved ratification in April 2000. Treaty never entered into force.

Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction: Bans chemical weapons and requires elimination of their production facilities. Opened for signature on January 13, 1993; entered into force in April 1997.

Agreement ... Concerning the Disposition of Highly Enriched Uranium Resulting from the Dismantlement of Nuclear Weapons in Russia, 1993: Provides for U.S. purchase of highly enriched uranium removed from Russian nuclear weapons; uranium to be blended into low enriched uranium for fuel in commercial nuclear reactors. Signed and entered into force on February 18, 1993.

Agreement Between the United States and Ukraine Concerning Assistance to Ukraine in the Elimination of Strategic Nuclear Arms, and the Prevention of Proliferation of Weapons of Mass Destruction: Provides for U.S. assistance to Ukraine to eliminate nuclear weapons and implement provisions of START I. Signed in late 1993, entered into force in 1994.

Agreement Between the United States and Republic of Kazakhstan Concerning the Destruction of Silo Launchers of Intercontinental Ballistic Missiles, Emergency Response, and the Prevention of Proliferation of Weapons of Mass Destruction, 1993: Provides for U.S. assistance to Kazakhstan to eliminate nuclear weapons and implement provisions of START I.

Trilateral Statement by the Presidents of the United States, Russia, and Ukraine, 1994: Statement in which Ukraine agreed to transfer all nuclear warheads on its territory to Russia in exchange for security assurances and financial compensation. Some compensation will be in the form of fuel for Ukraine's nuclear reactors. The United States will help finance the compensation by purchasing low enriched uranium derived from dismantled weapons from Russia.

Treaty of Pelindaba, 1996: Establishes a nuclear weapons free zone in Africa. The United States has signed, but not yet ratified Protocols to the Treaty.

Comprehensive Nuclear Test Ban Treaty (CTBT), 1996: Bans all nuclear explosions, for any purpose. The United States and more than 130 other nations had signed the Treaty by late 1996. The U.S. Senate voted against ratification in October, 1999.

Ottawa Treaty, 1997: Convention for universal ban against the use of anti-personnel landmines, signed in 1997 and entered into force in 1999. The United States and other significant military powers are not signatories.

Strategic Offensive Reductions Treaty (Moscow Treaty): Obligates the United States and Russia to reduce strategic nuclear forces to between 1,700 and 2,200 warheads. Does not define weapons to be reduced or provide monitoring and verification

provisions. Reductions must be completed by December 31, 2012, when the Treaty limits then expire. Signed in May 2002, entered into force June 1, 2003.

Appendix B. The U.S. Treaty Ratification Process

Article II, Section 2, Clause 2 of the United States Constitution establishes responsibilities for treaty ratification. It provides that the President "shall have Power, by and with the Advice and Consent of the Senate, to make Treaties, provided two thirds of the Senators present concur." Contrary to common perceptions, the Senate does not ratify treaties; it provides its advice and consent to ratification by passing a resolution of ratification. The President then "ratifies" a treaty by signing the instrument of ratification and either exchanging it with the other parties to the treaty or depositing it at a central repository (such as the United Nations).

In section 33 of the Arms Control and Disarmament Act (P.L. 87-297, as amended), Congress outlined the relationship between arms control agreements and the treaty ratification process. This law provides that "no action shall be taken under this or any other law that will obligate the United States to disarm or to reduce or to limit the Armed Forces or armaments of the United States, except pursuant to the treaty-making power of the President under the Constitution or unless authorized by further affirmative legislation by the Congress of the United States."

In practice, most U.S. arms control agreements have been submitted as treaties, a word reserved in U.S. usage for international agreements submitted to the Senate for its approval in accordance with Article II, Section 2 of the Constitution. The Senate clearly expects future arms control obligations would be made only pursuant to treaty in one of its declarations in the resolution of ratification of the START Treaty. The declaration stated: "The Senate declares its intention to consider for approval international agreements that would obligate the United States to reduce or limit the Armed Forces or armaments of the United States in a militarily significant manner only pursuant to the treaty power set forth in Article II, Section 2, Clause 2 of the Constitution."

Nonetheless, some arms control agreements have been made by other means. Several "confidence building" measures have been concluded as legally binding international agreements, called executive agreements in the United States, without approval by Congress. These include the Hot Line Agreement of June 20, 1963, the Agreement on Prevention of Nuclear War of June 22, 1973, and agreements concluded in the Standing Consultative Commission established by the Anti-ballistic Missile Treaty. In another category that might be called statutory or congressional-executive agreements, the SALT I Interim Agreement was approved by a joint resolution of Congress in 1972. In a third category, the executive branch has entered some arms control agreements that it did not submit to Congress on grounds that they were "politically binding" but not "legally binding." Such agreements include several measures agreed to through the Conference on Security and Cooperation in Europe, such as the Stockholm Document on Confidence- and Security-Building Measures and Disarmament in Europe, signed September 19, 1986.

Senate Consideration

The conclusion or signing of a treaty is only the first step toward making the agreement legally binding on the parties. First, the parties decide whether to ratify,

that is, express their consent to be bound by, the treaty that the negotiators have signed. Each party follows its own constitutional process to approve the treaty.

In the United States, after a treaty has been signed, the President at a time of his choice submits to the Senate the treaty and any documents that are to be considered an integral part of the treaty and requests the Senate's advice and consent to ratification. The President's message is accompanied by a letter from the Secretary of State to the President which contains an analysis of the treaty. After submittal, the Senate may approve the agreement, approve it with various conditions, or not approve it.

Senate consideration of a treaty is governed by Senate Rule XXX, which was amended in 1986 to simplify the procedure.[50] The treaty is read a first time and the injunction of secrecy is removed by unanimous consent, although normally the text of a treaty has already been made public. The treaty is then referred to the Senate Committee on Foreign Relations under Senate Rule XXV on jurisdiction. After consideration, the Committee reports the treaty to the Senate with a proposed resolution of ratification that may contain any of the conditions described below. If the Committee objects to a treaty, or believes the treaty would not receive the necessary majority in the Senate, it usually simply does not report the treaty to the Senate and the treaty remains pending indefinitely on the Committee calendar.[51]

After it is reported from the Committee, a treaty is required to lie over for one calendar day before Senate consideration. The Senate considers the treaty after adoption of a non-debatable motion to go into executive session for that purpose.[52] Rule XXX provides that the treaty then be read a second time, after which amendments to the treaty may be proposed. The Majority Leader typically asks unanimous consent that the treaty be considered to have passed through all the parliamentary stages up to and including the presentation of the resolution of ratification. After the resolution of ratification is presented, amendments to the treaty itself, which are rare, may not be proposed. The resolution of ratification is then "open to amendment in the form of reservations, declarations, statements, or understandings." Decisions on amendments and conditions are made by a majority vote. Final approval of the resolution of ratification with any conditions that have been approved, requires a two-thirds majority of those Senators present.

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[50] The 1986 amendment eliminated a stage in which the Senate met "as in Committee of the Whole" and acted on any proposed amendment to the treaty.

[51] For further information, see *Rejection of Treaties: A Brief Survey of Past Instances*. CRS Report No. 87-305 F, by Ellen C. Collier, March 30, 1987. (Archived. For copies, call Amy Woolf, 202-707-2379.)

[52] Earlier, treaties could only be taken out of the order in which they were reported from the Committee and appeared on the Senate Executive Calendar by debatable motion. In 1977 the Threshold Test Ban and Peaceful Nuclear Explosions Treaties were ordered reported by the Committee and then delayed partly so that they would not be placed on the Senate calendar ahead of the Panama Canal Treaties. Senate Committee on Foreign Relations. *Treaties and Other International Agreements: The Role of the United States Senate*. November 1993. P. 101.

After approving the treaty, the Senate returns it to the President with the resolution of ratification. If he accepts the conditions of the Senate, the President then ratifies the treaty by signing a document referred to as an instrument of ratification. Included in the instrument of ratification are any of the Senate conditions that State Department officials consider require tacit or explicit approval by the other party. The ratification is then complete at the national level and ready for exchange or deposit. The treaty enters into force in the case of a bilateral treaty upon exchange of instruments of ratification and in the case of a multilateral treaty with the deposit of the number of ratifications specified in the treaty. The President then signs a document called a proclamation which publicizes the treaty domestically as in force and the law of the land.

If the President objects to any of the Senate conditions, or if the other party to a treaty objects to any of the conditions and further negotiations occur, the President may resubmit the treaty to the Senate for further consideration or simply not ratify it.

Approval with Conditions

The Senate may stipulate various conditions on its approval of a treaty. Major types of Senate conditions include amendments, reservations, understandings, and declarations or other statements or provisos. Sometimes the executive branch recommends the conditions, such as the December 16, 1974, reservation to the 1925 Geneva Protocol prohibiting the use of poison gas and the understandings on the protocols to the Treaty for the Prohibition of Nuclear Weapons in Latin America.

An amendment to a treaty proposes a change to the language of the treaty itself, and Senate adoption of amendments to the text of a treaty is infrequent. A formal amendment to a treaty after it has entered into force is made through an additional treaty often called a protocol. An example is the ABM (Anti-Ballistic Missile) Protocol, signed July 3, 1974, which limited the United States and the Soviet Union to one ABM site each instead of two as in the original 1972 ABM Treaty. While the Senate did not formally attach amendments to the 1974 Threshold Test Ban and 1976 Peaceful Nuclear Explosion treaties, it was not until Protocols relating to verification were concluded in 1990 that the Senate approved these two Treaties.

A reservation is a limitation or qualification that changes the obligations of one or more of the parties. A reservation must be communicated to the other parties and, in a bilateral treaty, explicitly agreed to by the other party. President Nixon requested a reservation to the Geneva Protocol on the use of poison gases stating that the protocol would cease to be binding on the United States in regard to an enemy state if that state or any of its allies failed to respect the prohibition. One of the conditions attached to the INF treaty might be considered a reservation although it was not called that. On the floor the sponsors referred to it as a Category III condition. The condition was that the President obtain Soviet consent that a U.S.-Soviet agreement concluded on May 12, 1988, be of the same effect as the provisions of the treaty.

An understanding is an interpretation or elaboration ordinarily considered consistent with the treaty. In 1980, the Senate added five understandings to the agreement with the International Atomic Energy Agency (IAEA) for the Application of Safeguards in the United States. The understandings concerned implementation

of the agreement within the United States. A condition added to the INF treaty resolution, requiring a presidential certification of a common understanding on ground-launched ballistic missiles, might be considered an understanding. The sponsor of the condition, Senator Robert Dole, said, "this condition requires absolutely nothing more from the Soviets, but it does require something from our President."[53]

A declaration states policy or positions related to the treaty but not necessarily affecting its provisions. Frequently, like some of the understandings mentioned above, declarations and other statements concern internal procedures of the United States rather than international obligations and are intended to assure that Congress or the Senate participate in subsequent policy. The resolution of ratification of the Threshold Test Ban Treaty adopted in 1990 made approval subject to declarations (1) that to preserve a viable deterrent a series of specified safeguards should be an ingredient in decisions on national security programs and the allocation of resources, and (2) the United States shared a special responsibility with the Soviet Union to continue talks seeking a verifiable comprehensive test ban. In a somewhat different step, in 1963 the Senate attached a preamble to the resolution of ratification of the limited nuclear test ban treaty. The preamble contained three "Whereas" clauses of which the core one stated that amendments to treaties are subject to the constitutional process.

The important distinction among the various conditions concerns their content or effect. Whatever designation the Senate applies to a condition, if the President determines that it may alter an international obligation under the treaty, he transmits it to the other party or parties and further negotiations or abandonment of the treaty may result.

During its consideration of the SALT II Treaty, the Senate Foreign Relations Committee grouped conditions into three categories to clarify their intended legal effect; (I) those that need not be formally communicated to or agreed to by the Soviet Union, (II) those that would be formally communicated to the Soviet Union, but not necessarily agreed to by them, and (III) those that would require the explicit agreement of the Soviet Union. In the resolution of ratification of the START Treaty, the Senate made explicit that some of the conditions were to be communicated to the other parties.

The Senate approves most treaties without formally attaching conditions. Ten arms control treaties were adopted without conditions: the Antarctic, Outer Space, Nuclear Non-Proliferation, Seabed, ABM, Environmental Modification, and Peaceful Nuclear Explosions Treaties, the Biological Weapons and the Nuclear Materials Conventions, and the ABM Protocol. In some of these cases, however, the Senate Foreign Relations Committee included significant understandings in its report.

Even when it does not place formal conditions in the resolution of ratification, the Senate may make its views known or establish requirements on the executive

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[53] *Congressional Record*, May 27, 1988, p. S 6883.

branch in the report of the Foreign Relations Committee or through other vehicles.[54] Such statements become part of the legislative history but are not formally transmitted to other parties. In considering the Limited Nuclear Test Ban Treaty in 1963, the Senate turned down a reservation that "the treaty does not inhibit the use of nuclear weapons in armed conflict," but Senate leaders insisted upon a written assurance on this issue, among others, from President Kennedy. In reporting the Nuclear Non-Proliferation Treaty, the Committee stated that its support of the Treaty was not to be construed as approving security assurances given to the non-nuclear-weapon parties by a UN Security Council resolution and declarations by the United States, the Soviet Union, and the United Kingdom. The security assurances resolution and declarations were, the committee reported, "solely executive measures."[55]

For Further Reading

The Congressional Role in Arms Control. Part IX in *Fundamentals of Nuclear Arms Control*, Subcommittee on Arms Control, International Security and Science of Committee on Foreign Affairs Committee Print, December 1986.

CRS Report No. 90-548 F, *Executive Agreements Submitted to Congress: Legislative Procedures Used Since 1970*. (Archived. For copies call Amy Woolf, 202-707-2379.)

CRS Report No. 93-276 F, *Senate Approval of Treaties: A Brief Description with Examples from Arms Control*. (Archived. For copies call Amy Woolf, 202-707-2379.)

Treaties and Other International Agreements: The Role of the United States Senate, Senate Foreign Relations Committee Print, November 1993.

[54] For a discussion of methods by which Congress influences arms control negotiations, see House Committee on Foreign Affairs. *Fundamentals of Nuclear Arms Control*. Part IX — The Congressional Role in Nuclear Arms Control. Prepared for the Subcommittee on Arms Control, International Security, and Science by the Congressional Research Service. June 1986.

[55] Senate. Executive Report 91-1, March 6, 1969. 91st Congress, 1st session.

Appendix C. Arms Control Organizations

Bilateral (U.S.-Former Soviet Republics)	**Jurisdiction**	**Mandate and issues currently under discussion**
Standing Consultative Commission (SCC)	ABM Treaty	Established to resolve compliance questions and to consider amendments to Treaty; currently debating ABM/TMD demarcation issues
Special Verification Commission (SVC)	INF Treaty	Established to resolve compliance questions; continues to discuss issues raised during monitoring and inspection process
Joint Compliance and Inspection Commission (JCIC)	START I	Established to resolve compliance questions and to promote implementation; meetings began before Treaty was ratified
Bilateral Inspection Commission (BIC)	START II	U.S.-Russian commission will promote implementation and resolve compliance questions under START II
Delegation on Safety, Security and Disarmament of Nuclear Weapons (SSD)	Nunn-Lugar Cooperative Threat Reduction Programs	U.S. delegations meet with counterparts in former Soviet republics to identify areas where U.S. assistance is needed and to implement programs
Multilateral		
Conference on Disarmament (CD)	Multilateral negotiations under the U.N.	Negotiating Fissile Material Production Ban and ban on the export of anti-personnel landmines
Joint Consultative Group (JCG)	CFE Treaty	Established to resolve compliance questions and to ease implementation; recent discussions have addressed Russian request for changes in some Treaty limits
Open Skies Consultative Committee (OSCC)	Open Skies Treaty	Established to facilitate implementation of the Treaty; it has already addressed a number of technical, procedural and cost issues related to Open Skies flights
Organization for the Prohibition of Chemical Weapons (OPCW)	Chemical Weapons Convention	Established to oversee CWC implementation and monitor chemical industry worldwide; preparatory commission is currently working out the procedural details for OPCW
Comprehensive Nuclear Test-Ban Treaty Organization	Comprehensive Nuclear Test Ban Treaty	Oversees three groups — a Conference of States Parties, an Executive Council, and a Technical Secretariat — responsible for implementing the CTBT