Strategic Arms Control After START: Issues and Options

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March 4, 2010

Congressional Research Service
7-5700
www.crs.gov
R40084

CRS Report for Congress
Prepared for Members and Committees of Congress

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
04 MAR 2010		**00-00-2010 to 00-00-2010**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Strategic Arms Control After START: Issues and Options	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **Congressional Research Service,Library of Congress,101 Independence Ave, SE,Washington,DC,20540-7500**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**37**	

Summary

The United States and Soviet Union signed the Strategic Arms Reduction Treaty in 1991; it entered into force in December 1994 and expired on December 5, 2009. They are currently negotiating a new Treaty that would replace START.

START counts each deployed ICBM, SLBM, and bomber as a single delivery vehicle under the Treaty limit of 1,600 delivery vehicles and attributes an agreed number of warheads to each deployed delivery vehicle. This attribution rule provides the total number of warheads that count under the 6,000 warhead limit in the Treaty. To verify compliance with START, each side monitors the numbers and locations of ballistic missiles, launchers and heavy bombers deployed by the other country. The parties use a wide variety of means to collect information—or monitor—these forces and activities. Some of these monitoring systems, such as overhead satellites, operate outside the territories of the treaty parties. They have also been required to exchange copious amounts of data on locations, operations, and technical characteristics of the treaty-limited items. This verification regime has allowed the parties to remain confident in each other's compliance with the Treaty.

The United States and Russia began to discuss their options for arms control after START in mid-2006. During the Bush Administration, they were unable to agree on a path forward. Neither side wanted to extend START in its current form, as some of the Treaty's provisions have begun to interfere with some military programs on both sides. Russia wants to replace START with a new Treaty that would further reduce deployed forces while using many of the same definitions and counting rules in START. The United States initially did not want to negotiate a new treaty, but, under the Bush Administration, would have been willing to extend, informally, some of START's monitoring provisions. In 2008, the Bush Administration agreed to conclude a new Treaty, with monitoring provisions attached, but this Treaty would resemble the far less formal Strategic Offensive Reductions Treaty that the two sides signed in 2002. In December 2008, the two sides agreed that they wanted to replace START before it expired, but acknowledged that this task would have to be left to negotiations between Russia and the Obama Administration. President Obama and President Medvedev agreed at their meeting on April 2, 2009, to pursue "new and verifiable reductions" in their strategic offensive arms. The two sides are now pursuing negotiations on the new Treaty.

The United States and Russia could have chosen from a number of options for the future of their arms control relationship. They have allowed START to lapse while negotiating a new Treaty, but they could have extended START for five years during this process. They could also have extended START, then amended it to ease some of the outdated provisions. Instead of negotiating a new Treaty, they could have pursued less formal arrangements to manage their nuclear forces. Moreover, if a new treaty includes further reductions in nuclear weapons, it could use some START definitions and counting rules or the less formal Moscow Treaty declarations.

This report will be updated as needed.

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Introduction

The United States and Soviet Union signed the Strategic Arms Reduction Treaty (START) on July 31, 1991. After the demise of the Soviet Union in December 1991, the parties signed a Protocol that named the four former Soviet Republics with nuclear weapons on their territory—Ukraine, Belarus, Kazakhstan, and Russia—parties to the Treaty.[1] START entered into force on December 4, 1994. The Treaty was to remain in force for 15 years, unless replaced by a subsequent agreement, and, therefore, expired on December 5, 2009.[2] According to Article XVII of the Treaty, the parties must meet "no later than one year" before this date to consider whether the Treaty should be extended or allowed to lapse.[3] If the parties agree to extend the Treaty, the extension would last five years, unless START were replaced by a subsequent agreement during that time.

The United States and Russia held several meetings in the latter years of the Bush Administration to discuss the options for continuing their bilateral arms control relationship after START, but did not reach an agreement on whether to extend START or on how to replace it. The Obama Administration resumed the discussions, and is seeking an agreement, in the near term, to replace START. The Administration has also pledged to negotiate another Treaty, after the new START Treaty, that will impose deeper reductions on U.S. and Russian nuclear weapons. The discussions thus far, along with the statements from Members of Congress and others following the process, reflect not only on the specific issues that may be addressed in a possible follow-on Treaty, but, also on the broader question of what, if any, role arms control should play in future U.S.-Russian relations.

The United States and Soviet Union negotiated START between 1984 and 1991. It contains many detailed definitions and restrictions that not only limit the permitted number of nuclear warheads but also restrain the locations and movement of delivery vehicles carrying nuclear warheads and require extensive exchanges of data about them. Many of these provisions reflect the competitive relationship between the United States and Soviet Union evident at the time, and the concerns that drove their inclusion in the Treaty may no longer seem as important to the U.S.-Russian relationship. For example, some officials in the Bush Administration and analysts in the broader foreign policy community argued that, because the United States no longer structures its nuclear forces in response to a Russian threat, it no longer needed a treaty that restrains and reduces the weapons that make up that threat. They, therefore, questioned whether the START Treaty, or U.S.-Russian nuclear arms control in general, remained important as tools in the political relationship between the United States and Russia.

Some U.S. critics of arms control have, therefore, argued that the bilateral arms control process should fade away after START expires. They note that START may have served its purpose by

[1] The leaders in Belarus, Ukraine, and Kazakhstan agreed to eliminate all of the nuclear weapons on their territories and to sign the Nuclear Non-Proliferation Treaty (NPT) as non-nuclear weapons states. These three states have been nuclear free since the late 1990s; all remaining Soviet-era nuclear warheads are deployed in Russia.

[2] The United States and Russia signed the Strategic Offensive Reductions Treaty (also known as the Moscow Treaty) on May 24, 2002. They do not, however, consider this Treaty to be a successor to START. Article II of the Moscow Treaty specifically states that the START Treaty remains in force. See CRS Report RL31448, *Nuclear Arms Control: The Strategic Offensive Reductions Treaty*, by Amy F. Woolf.

[3] The Parties did not need to make a decision about the future of START in December 2008, they just needed to meet to consider the question.

helping to reduce the size of the Russian arsenal after the demise of the Soviet Union and by restraining the permitted operations of the remaining forces, but its reductions have been overtaken by deeper cuts mandated by the 2002 Moscow Treaty. Moreover, they note that a treaty that restricts Russian forces will also serve to restrict the flexibility of U.S. forces. In the current environment, they contend, the United States may be better served by maintaining its own freedom of action in deploying and operating its nuclear forces than by retaining START or negotiating similar restraints on U.S. and Russian forces.

Others, however, argue that START and the arms control process remain relevant to the U.S.-Russian relationship and that START should be replaced with a similar treaty. In this view, the predictability and transparency created by START's well-defined restrictions on Russian and U.S. nuclear forces can enhance the security of both parties. Moreover, continuing the cooperation fostered by the arms control process can help to restore some trust in the relationship between the two nations. In addition, some in Russia still feel threatened by U.S. nuclear weapons and continue to value the restraints provided by arms control treaties.

Some Members of Congress have joined this debate, with several endorsing the view that extending START, and its monitoring and verification provisions, would help improve the relationship between the United States and Russia. For example, Senator Richard Lugar stated that "the current U.S.-Russian relationship is complicated enough without introducing more elements of uncertainty. Failure to preserve the START Treaty would increase the potential for distrust between the two sides."[4] Some also believe, as Senator Lugar has noted, that the "failure to renew START will be seen worldwide as weakening the international nuclear nonproliferation regime and a further sign to many foreign leaders and experts that U.S. nonproliferation policy is adrift."[5] Others in Congress, however, feel that a rush to complete a new START Treaty could undermine U.S. security by leading to restrictions and compromises that interfere with the U.S. ability to maintain a credible nuclear deterrent.

Congress has limited influence on the process of seeking a replacement for START. If the United States and Russia negotiate a new treaty, the Senate will have to provide its advice and consent before the parties ratify the Treaty. However, if the two parties do not reach any agreement and START lapses, the Senate would not have to approve or reject the outcome. Nevertheless, Congress can, through resolutions, hearings, and consultations, offer the Administration its views on the future of the START Treaty and the U.S.-Russian arms control process.

This report provides background information about the START Treaty and reviews the discussions about a possible successor to START. It also presents a range of alternatives that the United States and Russia might consider if they follow START with a new framework for the arms control process.

[4] Richard Lugar. Speech at Conference on Defense Against Weapons of Mass Destruction. January 20, 2008.

[5] Richard Lugar. "Trust Still Needs Verification." *Washington Times*. July 18, 2008. p. 24.

The START Treaty[6]

Key Provisions

Central Limits

START limits long-range nuclear-capable delivery systems—land-based intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and heavy bombers—in the United States and the four states of the former Soviet Union. The Treaty limits both the number of delivery systems and the number of warheads carried on these systems. As **Table 1** below indicates, each side can deploy 6,000 "attributed" warheads on no more than 1,600 ballistic missiles and heavy bombers, with no more than 4,900 attributed warheads on land-based and submarine-based ballistic missiles.

Table 1. Central Limits in START

Deployed Strategic Nuclear Delivery Vehicles	1,600
Heavy ICBMs	154
Accountable Warheads on Deployed Delivery Vehicles	6,000
Ballistic Missile Warheads	4,900
Warheads on Heavy ICBMs	1,540
Warheads on Mobile ICBMs	1,100
Total Ballistic Missile Throwweight	3,600 metric tons[a]

Source: U.S. Department of State, Text of the Strategic Offensive Reductions Treaty. http://www.state.gov/t/ac/trt/18535.htm.

a. This is around 54% of the amount of throwweight deployed on Soviet missiles when the treaty was signed.

Within the aggregate limits on ballistic missile warheads, START also limits each side to no more than 1,540 warheads on heavy ICBMs, which are defined as those with a throwweight greater than 4,350 kilograms, and 1,100 warheads on mobile ICBMs. These two limits are an added effort to restrain forces that the United States feared would provide the Soviet Union with an avenue to exceed the warhead limit. The United States had long sought to use the arms control process to limit, or eliminate, the Soviet monopoly on heavy ICBMs because it believed that the Soviet Union could expand the capabilities of these missiles by deploying them with more or higher yield. The United States did not have any ballistic missiles of this size, and had no plans to develop or deploy them. The Soviet Union initially resisted U.S. pressures to limit these missiles, but eventually agreed to halve their force of 304 SS-18 ICBMs, each of which was deployed with 10 warheads, under START.

[6] The full text of the Treaty and its many annexes is available at the U.S. State Department website: http://www.state.gov/t/ac/trt/18535.htm.

As the START negotiations proceeded through the 1980s, the United States also grew concerned about the Soviet deployment of ballistic missiles on mobile launchers. The Soviet Union had begun to deploy single-warhead SS-25 missiles on road-mobile launchers and 10-warhead SS-24 missiles on rail-mobile launchers. The United States considered these missiles both a military and an arms control problem. Because the United States did not think it could locate and track these missiles all the time, it believed it would be difficult to target them during a conflict. Moreover, because the Soviet Union had large land areas where it could operate and conceal these missiles, U.S. negotiators argued that the United States would not be able to monitor mobile ICBM deployments well enough to count the missiles and verify Soviet compliance with the limits in START.

The United States initially proposed that START ban mobile ICBMs, even though it was considering the possible use of mobile launchers for its new 10-warhead Peacekeeper (MX) ICBM and for a prospective small, single-warhead ICBM. But, after the United States and Soviet Union began to consider options for a monitoring and verification regime that might track the numbers of mobile ICBMs, they agreed to limit, rather than ban, these systems. The limited numbers, when combined with location restrictions, notifications prior to movement, data exchanges that identified the numbers of missiles and warheads based at approved locations, and a continuous monitoring regime outside the final assembly facility for one type of mobile ICBM, would help each side count the number of acknowledged mobile ICBMs and complicate efforts to conceal extra missiles or warheads. Even though the United States eventually dropped its plans to deploy mobile ICBMs, it agreed to apply these limits and restrictions to the Peacekeeper (MX) missiles that were deployed in silos.

START also limits the total amount of throwweight on each side's ballistic missiles, to an amount equal to around 54% of the amount of throwweight on Soviet missiles before the Treaty entered into force. Throwweight is the combined weight of the post-boost vehicle, warheads, guidance system, penetration aids, and other equipment found on the front end of a missile. It is considered to be a measure of a missile's destructive capacity because larger missiles with greater throwweight can carry larger or greater numbers of warheads. Hence, this limit was a further effort by the United States to limit the potential for the Soviet Union to add warheads to its missiles in violation of the Treaty's limits. Because Soviet forces deployed when START was signed carried had than three times as much throwweight as U.S. missiles, the United States did not have to reduce its forces to comply with this limit. However, the United States could have exceeded the limit on throwweight if it had deployed new, larger missiles while START remained in force.

Counting Rules

START counts each deployed ICBM and its associated launcher, each deployed SLBM and its associated launcher, and each deployed heavy bomber as a single delivery vehicle under the Treaty limit of 1,600 delivery vehicles. They count regardless of whether they are equipped with nuclear or conventional warheads. They also continue to count under the Treaty limits until the launchers or bombers are eliminated according to the Treaty's detailed elimination procedures. For example, a bomber, such as the B-1, that has been converted to carry conventional weapons continues to count under the Treaty limits. Moreover, an empty missile launcher, either on land or on a ballistic missile submarine, continues to count as if it still holds a missile and the missile still carries the attributed number of warheads, even if the missile system is deactivated or the launcher is converted to another purpose.

The number of warheads *attributed* to each type of missile or bomber is listed in an agreed data base.[7] For the most part, the number of warheads attributed to each type of missile equals the maximum number of warheads that the missile had been tested with and could be equipped to carry when the treaty entered into force. In some cases, however, such as for the U.S. Trident II (D-5) missile, the number of warheads attributed to the missile (8) fell below the maximum number the missile could carry (12). The Soviet SS-18 missile had also been tested with 12 or 14 warheads, but the data base counted it as carrying only 10. The parties adopted this formula of counting delivery vehicles and attributing warheads to each type of delivery vehicle, because, although they sought to reduce warheads, they could not monitor the actual numbers of warheads deployed on the delivery vehicles but could identify and count the large delivery vehicles with their monitoring systems.

The number of warheads attributed to heavy bombers falls far below the maximum number that could be carried on those aircraft. Heavy bombers that are not equipped to carry long-range nuclear-armed air-launched cruise missiles (ALCMs)[8]—such as the U.S. B-1 and B-2 bombers—count as only one warhead under the START limits. This number applies even though these bombers can carry at least 16 bombs and short-range missiles. Further, heavy bombers that are equipped to carry ALCMs count as half of the maximum number of weapons they are permitted to carry. START states that U.S. bombers can be equipped to carry up to 20 ALCMs, but they only count as 10 warheads under the Treaty limit of 6,000 warheads. Russian bombers can be equipped to carry up to 16 ALCMs, and count as only 8 warheads under the Treaty limit.

START allows the United States and Soviet Union to reduce the number of warheads attributed to a particular type of ballistic missile through a process known as "downloading." According to the Treaty, each party can reduce the "attributed number" listed in the data base for up to three types of missiles. If they do this, they must then reduce the number of warheads carried on each missile, and if the number declines by more than two warheads, they must replace the platform on the missile that holds the warheads, so that it does not have space for the larger number of warheads. This "downloading" process would allow each country to spread its 4,900 ballistic missile warheads among a greater number of missiles. The countries use short-notice on-site inspections to confirm that the number of warheads actually deployed on a particular missile does not exceed the number of warheads attributed to that type of missile in the data base. The United States has taken advantage of this provision with its Minuteman III and Trident II missiles.

Existing types of missiles cannot be deployed with more warheads than the number attributed to that type of missile in the data base. The number in the data base could only increase if the missile were altered to meet the definition of a "new type" of missile. START bans new types of heavy ICBMs. For smaller missiles, it contains an elaborate definition that is designed to allow the parties to distinguish between modified versions of existing ballistic missiles, which would be subject to the warhead attribution numbers already in the data base, and new types, which would receive a new warhead attribution number. During the negotiations, the parties agreed that the definition would reflect changes in missile characteristics such as the propellant used, the number of stages, its length and diameter, and its throwweight, but they differed on the magnitude of the changes that would define a "new type." The United States feared that, with smaller changes, the

[7] The most recent data base exchanged among the parties to the Treaty can be found at U.S. State Department, Bureau of Verification, Compliance, and Implementation. START Aggregate Numbers of Strategic Offensive Arms. http://www.state.gov/t/vci/rls/prsrl/2008/110337.htm.

[8] Long-range nuclear-armed air-launched cruise missiles are those with a range of more than 600 kilometers.

Soviet Union would be able to have a missile that was virtually identical to an existing missile declared a new type with a greater number of warheads, and then might secretly backfit the older version with more warheads, as well. This was one of the last issues resolved in the START negotiations.[9]

Collateral Constraints

START contains detailed definitions of the items and activities limited by the treaty. The parties have also been required to exchange copious amounts of detailed data on the technical characteristics of the treaty-limited items. The Treaty mandates that the parties locate all strategic forces limited by the Treaty at "declared facilities" which include production, assembly, testing, storage, maintenance, deployment, and elimination facilities. It outlines detailed notifications that must be provided and procedures that must be followed when items move from one location to another. It further defines detailed procedures that the countries must follow when they eliminate weapons limited by the Treaty, or close down facilities that had once housed these items. Designed to reduce ambiguities and minimize the opportunities for dispute, these details provide the "foundation" for the Treaty's verification regime by drawing sharp distinctions between permitted and prohibited forces and activities.

Monitoring and Verification

Verification is the process that one country uses to assess whether another country is complying with an arms control agreement. To verify compliance, a country must determine whether the forces and activities of another country are within the bounds established by the limits and obligations in the agreement. Treaty language forms the core of the verification regime: it describes the limits and obligations the countries must observe and allows them to identify the forces and activities that comply with the terms of the Treaty. The identification of compliant activities also helps a country focus on what it should look for when it collects information about the other country's forces and activities. No verification regime can ensure the detection of all violations, but the START regime is designed to ensure that parties would have a high probability of detecting militarily significant violations.

The parties to a treaty use a wide variety of means to collect information—or monitor—the forces and activities of the other parties. Some of these monitoring systems, such as overhead satellites, operate outside the territories of the treaty parties. But the parties can also cooperate in providing information by exchanging data, displaying treaty-limited items, and allowing on-site inspections. Once they have collected this information, the parties analyze and refine the raw data to help develop a meaningful picture of each other's forces and activities. They then evaluate the results of the monitoring process, compare the observed forces and activities with the expected forces and activities, and determine whether the other party has complied with its obligations under the terms of the Treaty.

[9] The Soviet Union suggested that a 15% change in throwweight would be enough to distinguish a new type of missile, while the United States wanted a throwweight change of 30% and a change in one other missile characteristic. They eventually agreed to essentially split their differences and defined a new types of missile as one with a 21% change in throwweight and at least a 5% change in the length of the first stage. This would make new types of missiles significantly different from existing types.

To verify compliance with START, each side monitors the numbers and locations of ballistic missiles, launchers and heavy bombers deployed by the other country. To achieve this goal, the countries have had to

- establish the number and location of deployed and stored ballistic missiles and deployed bombers when the Treaty entered into force;
- confirm the technical characteristics of existing types of weapons and establish the measurements for new types of weapons;
- add the number of ballistic missiles and heavy bombers deployed after the treaty entered into force;
- subtract the number of ballistic missiles and heavy bombers eliminated, according to treaty rules, during the life of the treaty;
- track treaty-limited items when they move between declared facilities;
- monitor the armament on permitted systems, to confirm that missiles and bombers are deployed with the numbers and types of warheads permitted by the START data base; and
- monitor ballistic missile flight tests to determine the characteristics of different types of ballistic missiles.

START contains a complex verification regime that is designed to allow the parties to achieve these objectives. Both sides use their own satellites and remote sensing equipment—their National Technical Means of Verification (NTM)—to gather the vast majority of the information each needs to monitor the other country's forces and activities and to determine whether the other country has complied with the limits in START. But the Treaty also contains a number of specific verification provisions that are designed to help the parties gather and confirm the needed information. For example, it bans measures that would interfere with the parties' ability to collect information with their NTM, and requires that they use data exchanges, notifications, and on-site inspections to gather information about forces and activities limited by the Treaty. These measures do not replace monitoring with NTM, but they can add detail to information collected by NTM, enhance a country's confidence in the meaning and reliability of the information, and help deter violations. The Treaty also established the Joint Compliance and Inspection Commission (JCIC), where the parties meet to discuss treaty implementation issues and compliance questions.

Access Measures

START contains several verification measures that allow the countries' NTM to gain access to information about the other country's treaty-limited forces. These measures include a ban on interference with NTM—for example, the parties cannot interfere with the launch or operation of the other side's satellites—and a requirement that they broadcast telemetry, the technical data generated during missile flight tests, over open channels. START also bans efforts to conceal forces and activities from NTM and mandates that the parties display treaty limited items under certain circumstances, so that NTM can confirm their locations and some characteristics.

The ban on data denial during missile flight tests was a particularly important feature of START for the United States. Each nation transmits data, known as telemetry, during its flight tests of ballistic missiles. Even without START, each nation monitored the other's missile flight tests to

gain information about characteristics such as missile throwweight, launch weight, and the number of reentry vehicles releases tested during the flight. The nations could deny each other access to this data by encrypting it and transmitting it in coded form, recording it during the flight and storing it aboard the missile for recovery after the test, or by jamming and otherwise interfering with the other side's receiving instruments. Because the United States believed that this information would be critical to its efforts to monitor Soviet compliance with the throwweight limits and warhead counting rules in START, it insisted that the Treaty contain a nearly complete ban on the denial of data generated during flight tests. Not only must the parties broadcast unencrypted data during the tests, they also agreed to exchange the tapes of data recorded during the flight tests.

Information Exchanges

START mandates that the parties exchange detailed information about the numbers, locations, and characteristics of treaty-limited ballistic missiles and heavy bombers. For the most part, this information confirms information that each country collects with its own NTM. It can provide additional details and help the countries interpret ambiguous or incomplete data. The countries have also had to notify each other when they move ballistic missiles or bombers that are limited by the treaty. These notifications help each country monitor the locations of the other side's permitted systems and detect the possible presence of excess or illegal systems.

On-site Inspections

Under START, the United States and Russia have conducted several different types of on-site inspections. They use these inspections to collect information about permitted systems and activities at declared facilities, but they are not permitted to go "anywhere, anytime" in search of treaty violations. These inspections may not provide much new information that is needed to verify compliance with the Treaty, but can confirm and add detail to information collected by NTM and data exchanges. Further, with the short notice available before many of these inspections, a country would find it difficult to hide evidence of a violation at a declared facility.

START has permitted inspections at all the declared facilities that produce, house, and support ballistic missiles and heavy bombers. The countries use these inspections to confirm information about the number of systems located at each facility. They have also viewed treaty-limited items to confirm information about their characteristics; for example, they can use short-notice inspections to confirm that the number of warheads on a missile does not exceed the number attributed to that type of missile in the data base. Each country has also established permanent monitoring systems around a final assembly facility for one of the other country's mobile ICBMs to help them count mobile ICBMs as they enter the force.

Each of the inspections permitted by the START Treaty is governed by complex and detailed procedures that address everything about the inspection process. These procedures outline, among other things, the airports the inspectors can use when they arrive in the country, the amount of notice they need to give before the start of the inspection, the amount of time the host country has to transport the inspectors to the selected site, the types of equipment the inspectors can use, the amount of time that can transpire during the inspection, and the procedures the inspectors and hosts would use to resolve questions that came up during the visit. These procedures and rules are designed to outline the rights and responsibilities of both parties, and minimize any potential conflict that might occur during inspections, but they also can create conflicts and of their own if

questions about procedures come up during the process. Most analysts agree, however, that the START inspection process has had few significant problems over the years.

Synergy in Monitoring and Verification

Each verification provision in START is designed to provide the parties with a distinct source of information about the forces and activities of the other side. They also mesh together in a way that is designed to deter violations and increase confidence in the parties' compliance with the Treaty. For example, much of the data collected during on-site inspections can also be collected by NTM or shared during data exchanges. The inspections essentially confirm expected information. Nevertheless, this redundancy can detect inconsistencies and thereby complicate efforts to hide information and evade Treaty limits. For example, if one party did not notify the other before it moved a treaty-limited item to a different facility, but the other party's NTM detected the movement, the inconsistency might raise questions about whether the first party were trying to hide or conceal an item limited by the treaty. Over time, the START regime has also allowed the parties to collect information that may not be central to the goals of the Treaty but could still add to their understanding of the forces and operations of the other side. Many of the Treaty's supporters argue that this adds confidence and predictability to assessments of the other side's strategic forces.

START Implementation

In September 1990, before START entered into force, the United States had more than 10,500 accountable warheads deployed on nearly 2,250 delivery vehicles.[10] By July 2009, this number had declined to 5,916 accountable warheads on 1,188 delivery vehicles.[11] Soviet forces had declined from more than 10,000 accountable warheads on 2,500 delivery vehicles in September 1990 to 3,897 accountable warheads on 809 delivery vehicles in July 2009. All the nuclear warheads from the SS-18 ICBMs and heavy bombers in Kazakhstan had been returned to Russia by May 1995. All the nuclear weapons had been removed from Ukraine's territory by June 1996, and all 81 SS-25 mobile ICBMs had been moved from Belarus to Russia by late November 1996. Ukraine has eliminated all the ICBM silos and heavy bombers that were deployed on its territory. All the parties have also participated in the on-site inspections permitted under the Treaty. They continued to meet, twice each year, in the JCIC, until START expired. While both the United States and Russia have raised some questions about compliance with the Treaty, both agree that there have been few significant compliance disputes.

The Strategic Offensive Reductions Treaty[12]

In 2001, during its first year in office, the Bush Administration conducted a Nuclear Posture Review to evaluate the size, structure, and role of the U.S. nuclear arsenal. As a part of that review, the Administration determined that the United States could reduce its strategic forces to

[10] U.S. Arms Control and Disarmament Agency Archives. START Data Base, exchanged September 1, 1990.

[11] U.S. Department of State. Bureau of Verification, Compliance, and Implementation. Fact Sheet. START Aggregate Numbers of Strategic Offensive Weapons. October 1, 2009.

[12] The text of this treaty can be found at U.S. Department of State. Bureau of Verification, Compliance, and Implementation. Treaties and Agreements. http://www.state.gov/t/ac/trt/10527.htm.

between 1,700 and 2,200 "operationally deployed nuclear warheads." During a summit meeting with Russia's President Vladimir Putin in November 2001, President Bush announced that the United States would pursue these reductions unilaterally in the next decade, without signing a formal arms control agreement. President Putin indicated that Russia wanted to use the formal arms control process to achieve deeper reductions in nuclear arsenals, and emphasized that the two sides should focus on "reaching a reliable and verifiable agreement."[13]

Within the Bush Administration, Secretary of State Colin Powell supported the conclusion of a "legally binding" arms control agreement. He apparently prevailed over the objections of officials in the Pentagon who reportedly wanted the United States to maintain the flexibility to size and structure its nuclear forces in response to its own needs.[14] Consequently, the United States and Russia signed the Strategic Offensive Reductions Treaty (also known as the Moscow Treaty) on May 24, 2002. It received the advice and consent of the Senate on March 6, 2003 and the approval of the Russian parliament on May 14, 2003; it entered into force on June 1, 2003.

The Moscow Treaty states that the United States and Russia will reduce their "strategic nuclear warheads" to between 1,700 and 2,200 warheads by December 31, 2012.[15] 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. The text does refer to statements made by Presidents Bush and Putin in November and December 2001, when each outlined their own reduction plans. As a result, the United States and Russia each use their own definition when counting strategic nuclear warheads, and neither uses the START counting rules. 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." In addition, the Treaty does not contain any definitions or descriptions of the types missiles and bombers whose warheads count under the Treaty limits.

In addition, the Moscow Treaty does not contain any monitoring or verification provisions. During the hearings on the resolution of ratification, the Bush Administration noted that the United States and Russia already collected information about strategic nuclear forces under START and during implementation of the Nunn-Lugar Cooperative Threat Reduction Program. At the time, some in Congress questioned whether this information would be sufficient for the duration of the Treaty, since START was to expire three years ahead of the Moscow Treaty.[16] According to Senator Richard Lugar, the Bush Administration assured the Senate that it would have plenty of time, before START expired, to negotiate a new treaty or extend the monitoring provisions to the Moscow Treaty. But this never happened.[17] This break in the time lines is one of the primary reasons why many analysts and Members of Congress argued that the two sides should at least extend the monitoring and verification provisions in START through the end of the Moscow Treaty.

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[13] The White House, Office of the Press Secretary. Press Conference. President Bush and President Putin Discuss New Relationship. November 13, 2001.

[14] Jonathan Landay. "Rumsfeld Reportedly Resists Firm Limits on Nuclear Arms," *San Jose Mercury News*. April 27, 2002.

[15] For details on the substance of the Treaty, see CRS Report RL31448, *Nuclear Arms Control: The Strategic Offensive Reductions Treaty*, by Amy F. Woolf.

[16] For details, see U.S. Congress, Senate. Committee on Foreign Relations. Hearing. Treaty on Strategic Offensive Reductions. Testimony of Secretary of State Colin Powell. July 9, 2002.

[17] Senator Richard G. Lugar, "Close the Verification Gap," *The Washington Times*, November 9, 2009.

Preparing for START Expiration

U.S.-Russian Discussions

In September 2006, U.S. Undersecretary of State Robert Joseph and Russian Deputy Foreign Minister Sergei Kislyak met to initiate a new strategic security dialogue. This dialogue evolved into a series of meetings that addressed a range of issues. START was included, but was not high on the agenda of the meetings. During the first meeting, and at a second one in December 2006, the two sides outlined their goals for the talks. Russia indicated that it wanted to follow START with a new formal treaty that would be "similar in size and complexity to START" and would use many of the same definitions and counting rules as START. Russia also suggested that the two sides establish a regular working group, with meetings chaired at the Assistant Secretary level, to work out the details of this new Treaty. According to a Bush Administration official, the United States had "no appetite for those big, giant documents that try to script every single element of strategic forces."[18] The Administration emphasized that the United States and Russia no longer needed arms control agreements to manage their strategic relationship. The United States also did not want to set up a working group or negotiate a new Treaty to follow START, and preferred to pursue broader "strategic discussions" within a political framework.[19]

In spite of their differences, the United States and Russia agreed that they should continue to implement some of the monitoring and verification provisions in START after the Treaty expired. Russia proposed that they include these verification provisions in a new, legally binding Treaty that would also limit the number of warheads permitted on each side. According to one Russian official, these measures would have to be a part of a legally binding agreement to be permitted by domestic Russian law.[20] The United States, however, argued for a less formal arrangement of transparency and confidence-building measures. These could include voluntary notifications and site visits, but would not contain the detailed procedures and provisions included in START.[21]

Although Undersecretary of State Joseph initially rejected the idea, the two sides did hold a series of meetings chaired at the Assistant Secretary level in search of a possible monitoring and verification agreement. They continued to disagree, however, on whether the verification measures should be voluntary or legally binding, and whether they should be attached to a formal treaty that would also limit the numbers of deployed warheads.

In addition to the periodic meetings at the Undersecretary level (Joseph/Kislyak, then Rood/Kislyak) and the working group meetings at the Assistant Secretary level, the United States and Russia held several high level meetings that addressed the future of U.S.-Russian arms control. For example, Secretary of State Condoleezza Rice met with Russia's Foreign Minister Sergey Lavrov in July 2007. Their formal statement after the meeting said that "The United States and Russia reiterate their intention to carry out strategic offensive reductions to the lowest possible level consistent with their national security requirements and alliance commitments." It

[18] Sebastian Sprenger. "Nations to Kick off Initiative Against Nuclear Terrorism Next Week. Separate U.S.-Russian meeting on START expected." *Inside Defense.com*, October 26, 2006.

[19] Nicholas Kralev. "Russia, U.S. to Discuss START." *Washington Times*. March 6, 2007. p. 1.

[20] Wade Boese. "U.S., Russia exploring post-START Options." *Arms Control Today*. May 2007.

[21] Nicholas Kralev. "Russia, U.S. to Discuss START." *Washington Times*. March 6, 2007. p. 1.

added that the "Ministers discussed development of a post-START arrangement to provide continuity and predictability regarding strategic offensive forces.[22] But the United States still did not accept Russia's proposal to pursue a formal Treaty.

The U.S. position began to shift later in 2007. Secretary Rice and Secretary of Defense Robert Gates held joint meetings in Moscow with their counterparts in October, and concluded that, although the United States was still seeking something "far less formal than a major treaty" it might accept, according to Secretary Gates, "a binding agreement" preserving some of START, as long as it was "narrowly focused."[23] Nevertheless, the United States continued to reject a formal treaty that would limit the number of nuclear weapons. When Secretary Gates and Secretary Rice traveled to Moscow to discuss START again in March 2008, Secretary Rice argued the current U.S.-Russian relationship does not require "the kind of highly articulated, expensive limitations and verification procedures that attended the strategic arms relationship with the Soviet Union."[24] Russian officials, however, continued to reject the U.S. proposals for an informal "notification" regime.

Presidents Bush and Putin failed to break this stalemate when they met in Sochi, Russia, in April 2008. Although they signed a new Strategic Framework that contained a pledge to enact nuclear weapons reductions "to the lowest possible level consistent with our national security requirements and alliance commitments," they failed to agree on the way forward in their arms control relationship. Russia still wanted to negotiate a Treaty based on the START framework; the United States was only willing to codify some verification measures.[25]

The talks continued through the spring and summer of 2008, although, according to some news reports they were "irregular and unproductive."[26] Some reports suggested that the United States might suspend the talks in response to the Russian incursion into Georgia in August, 2008, but both sides agreed the talks were important enough to continue in September and October.[27] Nevertheless, the two sides remained far apart. Russia was unwilling to recede from its call for a formal Treaty with detailed definitions and counting rules; the United States still preferred a less formal agreement that outlined transparency and confidence-building measures. The United States did, however, recognize that Russia would not permit on-site visits without a formal Treaty, so Washington proposed in October 2008 that the two sides attach an informal transparency regime to a legally binding Treaty that essentially reiterated the limits and declarations outlined in the Moscow Treaty. This transparency regime would have relied on occasional visits to some facilities, and would not have included some of the more intrusive inspections permitted under START, like the continuous perimeter and portal monitoring system outside the Votkinsk missile assembly facility in Russia. Russia rejected this proposal.[28] In a speech delivered on October 10, Russian President Dmitry Medvedev said that Russia attaches "exceptional importance to concluding a new, legally binding Russian-American agreement on nuclear disarmament" to

[22] U.S. State Department. Office of the Spokesman. Joint Statement by U.S. Secretary of State Condoleezza Rice and Minister for Foreign Affairs of the Russian Federation Sergey Lavrov. July 3, 2007.

[23] Ken Fireman. "Gates, Rice made Last-Minute Offer of New Arms Ideas in Moscow." *Bloomberg News*, October 13, 2007.

[24] Wade Boese. "U.S., Russia at Odds on Key Arms Issues." *Arm Control Today*. April 2008.

[25] Wade Boese. "Bush, Putin Leave Arms Disputes Unsettled." *Arms Control Today*. May 2008.

[26] Wade Boese. "Russia Wants Limits on Prompt Global Strike." *Arms Control Today*. June 2008.

[27] Wade Boese. "U.S.-Russian Strategic Dialogue in Limbo." *Arms Control Today*. October 2008.

[28] Nicholas Kralev, "U.S. to Stop Counting New Missiles in Russia," *Washington Times*, December 1, 2009, p. 1.

replace START. He further noted that "what we need is a treaty and not a declaration," which is a reference to the format used in the Moscow Treaty.[29]

The United States and Russia, along with representatives from Ukraine, Belarus, and Kazakhstan, met in the JCIC from November 13 through 21, 2008. This forum provided the venue for the formal meeting, mandated by START, where the parties considered whether to extend the Treaty.[30] They did not reach any agreements during this meeting, other than to note that they were leaving the options open for the Obama Administration. The United States and Russia held one final meeting in their series of strategic security discussions on December 15, 2008; bi-lateral arms control was one of many issues on the agenda.[31] They held extensive discussions about the U.S. draft treaty, but they failed to reach agreement on any of the outstanding issues.

The talks resumed, and gained momentum, during the first few months of the Obama Administration. In early March 2009, Secretary of State Hillary Clinton met with Russia's Foreign Minister Sergey Lavrov in Geneva. They agreed that the two nations would seek to reach an agreement that would replace START by the end of 2009. They said they would develop a plan with "a very specific set of objectives and responsibilities" that they could present to the nations' presidents before their meeting in early April.[32]

In April, after their meeting in London prior to the G-20 summit, Presidents Obama and Medvedev endorsed these negotiations and their goal of reaching an agreement by the end of 2009. In a statement issued after their meeting, they said they were instructing their negotiators to begin talks immediately and to report their results before the presidents met again in July 2009.[33] They indicated that the subject of new agreement "will be the reduction and limitation of strategic offensive arms"; that they would seek to reduce their forces to levels below those in the 2002 Moscow Treaty; and that the new agreement would "mutually enhance the security of the Parties and predictability and stability in strategic offensive forces, and will include effective verification measures drawn from the experience of the Parties in implementing the START Treaty."[34]

Assistant Secretary of State Rose Gottemoeller and the security and disarmament chief from the Russian Foreign Ministry, Anatoly Antonov, began these negotiations with a meeting in Rome on April 24, 2009. Both representatives noted that the talks had gotten off to a good start, and they expected to have a good report for the presidents in July. At this meeting, the two sides focused on procedural and scheduling issues; they have held nine rounds of formal negotiations since that

[29] Wade Boese. "Bush Administration Sets Russian Arms Talks." *Arms Control Today*. October 2008.

[30] U.S. Department of State. Bureau of Verification, Compliance, and Implementation. Statement by the United States Representative to the Joint Compliance and Inspection Commission for the Strategic Arms Reduction Treaty. Fact Sheet. November, 21, 2008.

[31] U.S. Department of State. Office of the Spokesman. "Acting Under Secretary for Arms Control and International Security John C. Rood To Travel to Moscow for Bilateral Strategic Security Dialogue Talks." Media Note. December 12, 2008.

[32] Nicholas Kralev, "U.S., Russia aim to Cut Nukes," *The Washington Times*, March 9, 2009, p. 9.

[33] The White House, Office of the Press Secretary, *Joint Statement by President Dmitriy Medvedev of the Russian Federation and President Barack Obama of the United States of America*, April 1, 2009. http://www.whitehouse.gov/the_press_office/Joint-Statement-by-President-Dmitriy-Medvedev-of-the-Russian-Federation-and-President-Barack-Obama-of-the-United-States-of-America/

[34] The White House, Office of the Press Secretary, *Joint Statement by Dmitriy A. Medvedev, President of the Russian Federation, and*, April 1, 2009, http://www.whitehouse.gov/the_press_office/Joint-Statement-by-Dmitriy-A-Medvedev-and-Barack-Obama/.

time. The first three rounds of talks produced the framework that the presidents wanted to review at their summit in Moscow in early July.[35] They held another round of talks in late July, and reportedly made enough progress to conclude the talks a day earlier than planned,[36] and continued to hold meetings in August and September, and October. They began the eighth round of talks in Geneva in mid-November 2009. In addition, in late October, General James Jones, President Obama's national security advisor, traveled to Moscow with new proposals that were designed to resolve the outstanding issues in the discussions. Reports indicate Russia responded with a counterproposal, and that the two sides moved forward on some of the issues addressed at the time.[37]

In January, the Admiral Mullen, the Chairman of the Joint Chiefs of Staff, and General Jones, the President's National Security Advisor, traveled to Moscow in an effort to resolve some of the last remaining issues in the negotiations. Press reports indicate that they were able to reach some compromises on verification issues and, in particular, the question of whether the treaty would continue to mandate the open broadcast of telemetry during missile flight tests. The negotiating teams began a ninth round of talks in late January 2010. Press reports indicate that during this time they were close to completing an agreement and were simply working out some final technical details and translating prior agreements into the language that would be included in the Treaty and its annexes. However, reports also indicated that Russia had again raised its concerns about the relationship between offensive and defensive weapons, and that this issue was delaying a conclusion to the talks. The negotiators concluded this session at the end of February, but planned to resume discussions around March 9, 2010.

When Presidents Obama and Medvedev met in Moscow on July 6-7, 2009, they signed a Joint Understanding for the START follow-on Treaty.[38] This statement contains the possible range for the numerical limits that will be in the Treaty—between 500 and 1,100 of strategic delivery vehicles and between 1,500 and 1,675 for their associated warheads. It also includes a list of other issues—such as provisions for calculating the limits, provisions on definitions, and a provision on the relationship between strategic offensive and strategic defensive weapons—that will be addressed in the Treaty. They reportedly discussed the new START Treaty during other meetings and phone conversations in the past few months.

START expired on December 5, 2009. At the time, the negotiating teams continued to meet in Geneva, and statements from both governments indicated that they still hoped to conclude a new treaty before the end of the year. However, the negotiations concluded without reaching a final agreement shortly before the end of 2009. Reports indicate that the formal talks will resume in mid-to-late January 2010, although consultations have continued in the interim.

On December 4, Presidents Obama and Medvedev released a Joint Statement on the expiration of START. They stated that they recognized "our mutual determination to support strategic stability between the United States of America and the Russian Federation." They also expressed "our commitment, as a matter of principle, to continue to work together in the spirit of the START Treaty following its expiration, as well as our firm intention to ensure that a new treaty on

[35] "First round of US-Russia arms treaty talks in May ," *Agence France-Presse,* April 27, 2009.

[36] "Progress Made In Nuclear Treaty Talks, U.S. Says," *Global Security Newswire,* July 24, 2009.

[37] Desmond Butler, "U.S.-Russia Arms Control Talks Progressing," *Associated Press*, November 15, 2009.

[38] http://www.whitehouse.gov/the_press_office/The-Joint-Understanding-for-The-START-Follow-On-Treaty/.

strategic arms enter into force at the earliest possible date."[39] This statement did not indicate what steps they would take to work together "in the spirit of START," but most observers expect the two sides will continue to implement at least some of START's monitoring provisions while the complete the negotiations on a new treaty.

U.S. and Russian Proposals

Neither the United States nor Russia believed the two parties should extend the START Treaty in its current form. Neither wanted to continue to implement all the monitoring and verification provisions included in START; the lengthy and highly detailed lists of procedures and requirements have proven costly and complicated. In some cases, these details were designed to address concerns about the potential for cheating and evasion that no longer exist in the current environment. Moreover, as is noted below, some of the limits and restrictions had begun to interfere with ongoing weapons programs for both nations. A simple extension of START would not reduce these pressures, and, unless the parties could agree on a new Treaty, could remain in force for five years.

Russian Proposals

In a speech to Russian diplomats in June 2006, then-President Vladimir Putin proposed that the United States and Russia begin negotiations to replace START with a new Treaty.[40] Since then, Russia has consistently and repeatedly insisted that the two sides replace START with a treaty that would not only reduce each side's strategic offensive forces to 1,500 warheads, but would count the warheads on all deployed delivery vehicles, as START has done.[41] Such an agreement would maintain the predictability and the stability afforded by START, an outcome that would not be possible in the absence of a detailed, legally binding Treaty.[42] The new treaty would not need to keep all the provisions of START, but should preserve "the main systematic structure of the agreement," including limitations on delivery vehicles and warhead deployments.[43]

Reports indicate that Russia specifically wanted the new treaty to relax or eliminate START's provisions addressing new types of ballistic missiles. As was noted above, START contains a precise definition of the changes needed to have a new missile counted as a "new type." These provisions were designed to prevent Russia from deploying its SS-25 missile with more than one warhead. But Russia has developed the RS-24 missile, a new variant of its single-warhead SS-27 missile, which is, itself, a variant of the SS-25, and it plans to deploy this new missile with three warheads on each missile.[44] Because the missile does not satisfy the Treaty's "new types"

[39] The White House, Office of the Press Secretary, Joint Statement by the President of the United States of America and the President of the Russian Federation on the Expiration of the Strategic Arms Reduction Treaty (START), Washington, DC, December 4, 2009, http://www.whitehouse.gov/the-press-office/joint-statement-president-united-states-america-and-president-russian-federation-ex.

[40] Wade Boese. "Russia Seeks New Nuclear Accord." *Arms Control Today*, September 2006.

[41] Wade Boese. "Arms Issues Divide U.S. and Russia." *Arms Control Today*. September 2007.

[42] Nikolai Sokov, "START I Replacement: The End of Cold War Disarmament." *PONARS Policy Memo No. 418.* Monterey Institute of International Studies. December 2006.

[43] Arms Control Association, *Interview with Sergey Kislyak, Russian Ambassador to the United States*. December, 2008. http://www.armscontrol.org/act/2008_12/KislyakInterview.

[44] Pavel Podvig. "Why START is Important." *Bulletin of the Atomic Scientists*. July 3, 2007.

definition, it would have been limited to a single warhead under START, and a three-warhead version would violate the Treaty. This missile had its third successful test launch in late November 2008, and press reports indicate that Russia planned to deploy this missile in December 2009, as soon as START expires. Russian officials have indicated that this missile is critical to the future of Russia's strategic forces, not only because it can carry up to three warheads, but also because it will incorporate technologies that would allow it to penetrate U.S. ballistic missile defenses.[45]

Russia also wanted the new Treaty to limit, as START did, both deployed delivery vehicles and their associated warheads. Many have noted that, over the next 8-10 years, the number of delivery vehicles in Russia's nuclear arsenal will continue to decline sharply, as Russia retires many of its aging missiles and replaces them with smaller numbers of newer systems. It will, therefore, retain far fewer than the 1,600 delivery vehicles permitted by START and fewer than the 809 delivery vehicles it reported in its START data exchange in mid-2009. A lower limit on delivery vehicles in a new Treaty would not only recognize the coming changes in Russia's arsenals, but also move the United States toward similar, lower numbers of delivery vehicles. Moreover, Russia has long expressed concerns about the U.S. ability to add warheads to its missiles quickly by restoring warheads that had been removed under START's downloading provisions. Limiting delivery vehicles and counting all the warheads on these vehicles with START-type counting rules would limit the number of warheads the United States could add to its force in a short period a time. Russia may also propose that a new Treaty require the that United States replace the platforms on all downloaded missiles, instead of just those that have had more than two warheads removed.[46]

Russia would like to retain some of START's monitoring and verification provisions, although it would like to make them less costly and cumbersome. For example, the two sides could reduce the numbers of short-notice inspections permitted each year, and replace these inspections with less formal "visits." The parties could also reduce the number of mandatory notifications, which were intended to help each side monitor the numbers and locations of treaty-limited items, and replace them with routine, periodic data exchanges.[47] Russia would also like the new Treaty to exclude the permanent perimeter and portal monitoring systems permitted under START at missile final assembly facilities.[48] Russia had already ceased its operations at the U.S. facility at Magna, UT, in part because the United States no longer produces ICBMs. As a result, Russia has claimed that the monitoring provisions are one-sided, and should not continue in a new START Treaty. As a result, the United States ceased operations at its facility at Votkinsk, in Russia, on December 4, 2009, as START expired.[49]

According to some reports, Russia also would like the new Treaty to ease some of the restrictions that START imposes on mobile ICBMs.[50] Although these restrictions were intended to apply to both parties, the United States has never been affected by them because it never deployed mobile

[45] "Russia To Deploy Missile To Counter US Missile Shield Next Year." *London Daily Telegraph.* November 29, 2008. This deployment has not yet occurred, and analysts now speculate that the missile may join the force in early 2010.

[46] Ibid.

[47] Ibid.

[48] Vladimir Isachenkov, "U.S., Russia Begin Arms Control Talks," *Washington Times*, September 22, 2009, p. 15.

[49] "U.S. Inspectors Left Votkinsk Plant," *Interfax, Moscow*, December 4, 2009.

[50] Anatoli Diakov and Eugene Miasnikov. "ReSTART: The Need for a New U.S.-Russian Strategic Arms Agreement." *Arms Control Today*. September 2006.

ICBMs. These provisions, including limits on the size of deployment areas, notifications about exercises, and the rights to special on-site inspections after the missiles have dispersed for exercises, were designed to complicate any effort to hide extra missiles within the legal deployments of mobile ICBMs. But they also impinge on the operations of the permitted missiles and add to the costs of operating the systems.[51] According to press reports, the United States suggested that the new treaty retain, or even enhance, some of the START restrictions on mobile ICBMs, while Russia has argued that the provisions are not only unfair, because they apply only to Russian forces, but also destabilizing, because they undermine the mobility and survivability or Russia's ballistic missile force. The disagreements over these provisions reportedly are among the few remaining issues that the parties must resolve before they complete a new treaty.[52]

Russia has also insisted that the new Treaty relax the requirements for the parties to broadcast and exchange data generated during missile flight tests (this is known as *telemetry*.) The United States had insisted, and the Soviet Union agreed, that the parties exchange this data in START because it would help monitor the technical characteristics of missiles while they were under development, and because it would help the parties identify the maximum number of warheads that could be carried on a particular type of missile. Russia does not want to exchange this data anymore because it feels that the provision is far too intrusive and one-sided, in part because the United States is no longer developing new types of missiles while Russia continues to do so.

Russia has also sought to link limits on strategic offensive nuclear forces to potential limits on ballistic missile defenses. For example, in June 2009, President Medvedev stated that "the proposed cuts [in offensive weapons] are only possible if the U.S. relieves Russian concerns [about missile defense.] In any case, the link between strategic offensive and defensive weapons must be clearly fixed in the treaty."[53]

U.S. Proposals

When U.S. and Russian talks on the future of START began in 2006, the United States expected START to expire and the parties to pursue their own priorities when modernizing and modifying their nuclear forces. However, the participants in the U.S. government were divided on the question of whether to extend START's monitoring provisions. According to some reports, U.S. officials believed the two sides should evaluate whether they even needed to continue to implement these provisions because, even without START, the amount of military cooperation and transparency between them had increased over the years.[54] They further argued that the inspections regime had become too costly and cumbersome for the United States, and could interfere with military operations, without providing certain knowledge about Russian's nuclear forces. Moreover, in the new security environment, the United States no longer needed detailed information about Russian forces; it just needed to understand the general trends and pending changes in force size and structure. Therefore, the two sides needed, at most, an informal system with less structured visits and looser inspections.

[51] Nikolai Sokov. "Review of Disarmament Issues in U.S. Russian Relations." James Martin Center for Nonproliferation Studies, Monterey Institute of International Studies. November, 2007.

[52] "Disputes Hinder START Talks, Report Says," *Global Security Newswire*, November 11, 2009.

[53] Arthur Max, "Russia Wants U.S. Assurances on Missile Defense," *Associated Press*, June 19, 2009.

[54] David Francis. "Arms Expert Calls for START Verification Extension." *Global Security Newswire*. November 8, 2005.

Others argued that the START regime provides valuable information about Russian forces that is not available elsewhere, while also helping to build confidence and cooperation between the two sides.[55] Further, reports indicate that officials in the U.S. intelligence community argued that, without START's cooperative monitoring provisions, it will not be able to assess, with confidence, Russia's compliance with the limits in the Moscow Treaty.[56]

While the United States has not identified any of the central limits in START that impinge on its current plans and programs, some officials have expressed concerns that an extension of these provisions, or their inclusion in a new Treaty, could affect future plans, such as the possible deployment of conventional warheads on ballistic missiles and the potential deployment of these conventional missiles at sites that are not listed in the Treaty.[57] This concern emerged as a major roadblock in the U.S.-Russian discussions about what type of treaty should follow START.[58] Russia has insisted that the new treaty count the warheads that could be deployed on *all* strategic delivery vehicles, as START did, in part to capture the warheads that could be carried on missiles converted to carry conventional weapons. It wanted to count these warheads to limit the U.S. ability to break out of the treaty by converting the missiles back to nuclear warheads.[59] The Bush Administration did not want the warheads that could be carried on these missiles to count under the Treaty because it did not want any limits on conventional warheads or any forced trade-offs between numbers of nuclear and conventional warheads. Reports indicate that question of how to count strategic delivery vehicles equipped with conventional warheads remains unresolved in the late stages of the negotiations, although, according to one source, Russia has agreed to exclude U.S. submarines that have already been converted to carry conventional cruise missiles in return for the U.S. agreement to count delivery vehicles that may be converted to conventional uses in the future.[60]

U.S. officials have also expressed concerns about some of START's monitoring and verification provisions. For example, the Navy has indicated that Russian requests for re-entry vehicle inspections on U.S. ballistic missile submarines can interfere with the scheduled maintenance and operations of the submarines, because the Navy must bring the submarine into port and the missile into a handling facility on the base. The treaty's limits on the number of warheads that can be removed, or downloaded, from Trident submarines might also interfere with the Navy's deployment plans for the future, particularly the United States chooses to remove more warheads from Trident missiles as it continues to reduce the overall number of strategic warheads in its arsenal. As a result, the United States has proposed that the new Treaty count only those warheads actually deployed on each missile, rather than allocating equal amounts of warheads for missiles of a given type.

[55] Carol Giacomo. "U.S. to let START nuclear treaty expire." *Reuters*. May 22, 2007. See also, Jonathan S. Landay. "Dispute Delays Arms Control Talks with Moscow." *McClatchy Washington Bureau.* June 18, 2007.

[56] Wade Boese. News Analysis: "The Bush Administration and Verification." *Arms Control Today*, April 2005.

[57] Phil Gardner, Michael George, Vera Lev, and Sandra McMahon. *Extension of the START Treaty?* An SAIC Emerging Issues Project. December, 2005.

[58] Walter Pincus. "U.S., Russia Split over Scope of Arms Treaty Follow-up But Concur on Goal, Negotiator Says." *Washington Post*. December 22, 2008. p. 19.

[59] "Russia Concerned by U.S. Position on START, Deputy Foreign Minister Says". *Interfax*, December 19, 2008.

[60] Boris Yunanov, "Eight and Decisive. Moscow and Washington Have Entered Disarmament Home Straight," *Vremya Novostey*, November 10, 2009.

Some in the U.S. government have also argued that START's provisions requiring the exchange of telemetry data during flight tests of ballistic missiles will interfere with U.S. military plans and programs.[61] In particular, the United States uses old ballistic missiles as target vehicles during tests of its missile defense capabilities. These missiles have been withdrawn from the operational force, but they are still considered to be "treaty-limited items" so the United States has to provide Russia with the telemetry generated during these flights. Yet, the data from these tests may reveal information not only about the target missiles, but also about the goals of the flight test and the characteristics of the missile defense interceptors. Others, however, argue that the new treaty must allow the parties to continue to collect telemetry during missile flight tests so that the United States can retain confidence in its understanding of Russian missiles' capabilities.

The Bush Administration eventually proposed that the two sides replace START with a short, legally binding Treaty similar to the Moscow Treaty and a longer, non-binding appendix on transparency and cooperation. This transparency regime would have been far less detailed and complex than START. It would have allowed for informal visits, without the detailed plans and notifications required by START, and probably would have relaxed the telemetry provisions, or at least exempt missile flights during missile defense tests from the requirement to broadcast and exchange telemetry.

The proposal also did not include the continuing operation of the perimeter and portal monitoring system at Votkinsk. According to one participant in the process, the United States was willing abandon its effort to monitor the production of Russian missiles because the Moscow Treaty, which was to serve as the foundation for the new regime, did not count deployed delivery vehicles.[62] Further, under the Moscow Treaty, the United States also no longer sought to count or calculate deployed warheads, because the parties simply declared their aggregate numbers of warheads. Moreover, when START lapsed, the two sides would no longer impose separate limits on the number of warheads attributed to mobile ICBMs, so, the United States would no longer need to count and monitor these missiles throughout their life-cycle, as it had under START. Analysts have questioned the Bush Administration's decision to exclude Votkinsk from a future treaty as START expiration has approached. Some have argued that the United States will be unable to verify Russian compliance with the Moscow Treaty or a new START Treaty without Votkinsk, because it will be unable to count Russian mobile ICBMs. Others, however question how critical the loss will be, and note that the United States uses a number of different monitoring mechanisms and cooperative measures to keep track of Russian mobile ICBMs.[63] As a result, the loss of Votkinsk could be offset by the continuation of existing or inclusion of new monitoring mechanisms.

The Obama Administration altered many of the U.S. positions in the negotiations on a new START Treaty. As is noted below, it supports the completion of a legally binding treaty that will limit both warheads and delivery vehicles, and it supports the inclusion of a legally binding verification regime, although it expects this regime to be less rigorous and costly than the START regime. It is also willing to include provisions in the Treaty that address Russia's concerns about strategic systems armed with conventional warheads. Further, although it has agreed that the

[61] "Russia Concerned by U.S. Position on START, Deputy Foreign Minister Says." *Interfax*, December 19, 2008.

[62] Nicholas Kralev, "U.S. to Stop Counting New Missiles in Russia," *Washington Times*, December 1, 2009, p. 1.

[63] According to one observer, "Over the years, it has become increasingly possible to verify ... weapon deployments via direct observation or satellite imagery Elaine Grossman, "U.S. Treaty-Monitoring Presence at Russian Missile Plant Winding Down," *Global Security Newswire*, November 20, 2009.

Treaty would contain a statement addressing the relationship between offensive and defensive weapons, Administration officials have stated, repeatedly, that the Treaty will contain any provisions that limit or affect U.S. plans to deploy ballistic missile defenses.

The Emerging Framework

As was noted above, the statement signed by Presidents Obama and Medvedev during their meeting in London in April 2009 indicates that the new START Treaty will focus on strategic offensive weapons. The statement also indicates that this Treaty will be the first step in an ongoing process to reduce nuclear weapons, which indicates that the reductions may be modest and that limits on nonstrategic weapons and non-deployed weapons would be left to a subsequent treaty to be negotiated at a later date. The presidents also indicated that, although the two sides would continue to discuss their differences on missile defenses, these discussions would not be linked to the negotiations on a new START Treaty.

Limits on Warheads

In the Joint Understanding signed at the Moscow summit in July 2009, the presidents noted that the reductions in a new START Treaty would take their forces down to between 1,500 and 1,675 warheads. They did not indicate whether they would calculate this number using counting rules like those in START or declarations like those in the Moscow Treaty. They did, however, indicate that the new Treaty would include "provisions for calculating these limits." As is discussed in more detail below, the treaty probably will not use the START counting rules, in their entirety, to calculate the number of warheads that count under the new Treaty, as this would require significant changes in the size and shape of the U.S. nuclear arsenal. Russia, however, probably would not accept a simple declaration of the aggregate number of warheads on the total force, as is mandated by the Moscow Treaty, because this would provide too little information about the number of warheads deployed on each type of missile and would leave the United States with the ability to remove and restore warheads in a relatively short amount of time.

The treaty may, therefore, contain something of a hybrid solution, where the parties declare the number of warheads deployed on each type of missile, even if this number is less than the maximum number the missile can carry, then use on-site inspections to confirm that the missiles are not deployed with more than the declared number of warheads. This would allow both parties to reduce their warhead loadings on individual missiles, and would provide each with some confidence that the other had not exceeded the treaty limits.

Limits on Delivery Vehicles

The Joint Understanding signed at the Moscow summit indicated that the new Treaty will limit each side to between 500 and 1,100 delivery vehicles. These numbers represent each side's opening position in the negotiations, with Russia suggesting a limit of 500 delivery vehicles and the United States suggesting the higher limit of 1,100 delivery vehicles. These numbers were consistent with the number of delivery vehicles each side expected to deploy, in the absence of arms control limits, over the next few years. For example, Russia indicated in the July 2009 START data exchange that it had 809 strategic delivery vehicles. Some of these, however, probably do not contain operational missiles but continue to count under START because they

have not been eliminated according to START rules. As it continues to retire its aging missiles, Russia may reduce its force to 500 or fewer delivery vehicles in the next 5 to 10 years.[64]

The United States, in contrast, still had 1,188 delivery vehicles that count under the START Treaty. Many of these, including 100 empty ICBM silos, 96 SLBM launch tubes on Trident submarines that have been converted to carry cruise missiles, and nearly 150 bombers that are either retired or converted to conventional use, no longer carry missiles with nuclear warheads. But these "phantom delivery vehicles" and the warheads attributed to them still count under START because they have not been eliminated according to START's elimination provisions.[65] A limit of 1,100 delivery vehicles seems to continue to count these delivery vehicles. However, if it excludes these "phantom" delivery vehicles, the United States currently has closer to 800 operationally deployed delivery vehicles.

Some analysts have criticized the U.S. acceptance of a limit on delivery vehicles by noting that, as the negotiations proceed, the United States may accept the lower limit proposed by Russia and, as a result, accept the obligation to eliminate many of its existing delivery vehicles.[66] They further argue that by agreeing to reduce its deployed delivery vehicles, the United States is giving Russia "something for nothing," as Russia is going to reduce its force anyway as it retires older missiles. Others, however, note that the United States would not have to eliminate any operational, nuclear-equipped delivery vehicles to comply with a lower limit if Russia agrees to alter the counting and elimination rules. It appears, as the negotiations move toward their conclusion, that the two nations are seeking to adjust these rules. As was noted above, one Russian source indicated that Russia was now willing to exclude from the treaty's limits the delivery vehicles and warheads that could have been deployed on U.S. Trident submarines that have been converted to carry cruise missiles. The parties may also agree to simplify the elimination rules for ICBM silos so that both sides can exclude the missiles and warheads that could be deployed in empty silos, without actually destroying the silos.

Moreover, there is no reason to believe that the Treaty will include the number that was tabled as Russia's opening position. The parties are more likely to agree on a compromise that addresses both sides' concerns and meets both sides' interests. Reports indicate that the proposals that General Jones brought to Moscow in late October contained such a compromise,[67] and some press reports indicate that the Treaty may require reductions to between 700 and 800 delivery vehicles.

Counting Rules and the U.S. Force Structure

Counting only operationally deployed warheads would further reduce the number of systems limited by the new Treaty. For example, under the Moscow Treaty, the United States does not count the launchers or warheads on 2 of its 14 Trident submarines because they are in overhaul and not "deployed." It also has removed more than two warheads from some Trident missiles, without changing the front end of the missile, and does not count these absent warheads.

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[64] Pavel Podvig, Long Term Force Projections, http://russianforces.org/blog/2009/01/long-term_force_projections.shtml.

[65] Jason Sherman, "DOD Aims to Retain Current Strategic Nuclear Force, Consider Cuts in December," *Inside Defense*, August 6, 2009.

[66] Keith B. Payne, "Arms Control Amnesia," *Wall Street Journal*, July 8, 2009.

[67] Mary Beth Sheridan and Walter Pincus, "U.S. Officials Optimistic About New Nuclear Treaty with Russia," *Washington Post*, November 8, 2009.

Moreover, under the Moscow Treaty, the United States counts only the bomber weapons maintained in the active stockpile at U.S. bomber bases.

The differences between the counting rules in START and the declarations in the Moscow Treaty produce striking differences in the number of warheads that count under each Treaty. In July 2009, the United States indicated that it had 2,126 operationally deployed strategic warheads that would count against the Moscow Treaty.[68] At the same time, when it exchanged START data with Russia in July 2009, it stated that it had 5,916 warheads attributed to deployed ICBMs, deployed SLBMs, and heavy bombers.

The United States does not plan to eliminate many of these launchers using the procedures outlined in START. But many of these warheads could be eliminated with some accounting changes. For example, changes in elimination rules for missile silos could exclude 50 Peacekeeper and 50 Minuteman silos, and the 450 warheads attributed to those silos under START. Changes in definitions, possibly combined with new monitoring and inspection provisions, might exclude up to 768 warheads that could be deployed on four Trident submarines that the U.S. Navy has converted to carry non-nuclear cruise missiles; because the Navy did not remove the launch tubes for the Trident missiles, these launchers and warheads still count under START.

Eliminating these "phantoms" will not, however, reduce the number of warheads enough to bring U.S. deployed warhead totals down to between 1,500 and 1,675 warheads. To reach these levels, the United States would have to reduce further from the level of 2,168 warheads that count under the Moscow Treaty. It could do this, in part, by further reducing the number of warheads carried on its Trident missiles, or by reducing the number of Trident missiles carried in each submarine. To do this, it would need Treaty provisions that did not count the maximum number of warheads that could be deployed on each type of missile, and it will have to relax the START constraints that limit missile "downloading."

The United States could also reduce its total warheads by eliminating some of its deployed launchers (bombers, ICBMs, or SLBMs), or even removing one leg of its "strategic triad" from the nuclear force. However, the United States probably would not want to reduce the number of B-52 and B-2 bombers, as these fly conventional missions in ongoing conflicts, so it might have to remove them from the nuclear force altogether. It also might be difficult to reduce the Minuteman fleet of ICBMs below the current number of 450 without also reducing the number of bases and cutting into the number of personnel trained to operate the system. Further, as the number drops, it may be also be difficult to justify the costs associated with retaining the smaller force.

Most experts agree that the Trident submarines are going to be the mainstay of the U.S. nuclear arsenal in the future. But unless the United States cuts deeply into the other "legs" of its strategic triad, or the treaty relaxes the START downloading rules, deep reductions in total warheads may require reductions in the number of Trident submarines. If the United States were to reduce its Trident fleet to 10 or fewer submarines, it might not be able to operate out of two bases, as it does now, and retain submarines on patrol in the areas from where they would fire their missiles, in both oceans. Changes in this deployment pattern might require changes in the missions and

[68] U.S. Department of State. The Legacy of START and Related Policies. Washington, D.C. July 16, 2009. http://www.state.gov/t/vci/rls/126119.htm

targets of the submarine fleet. The President and the U.S. military would probably want to consider the implications of these basing and operational changes before deciding whether to accept arms control limits that produce such changes. As a result, deep cuts that require such decisions probably will wait until the United States and Russia negotiate the next Treaty, after they complete the new START Treaty.

Relationship Between Offensive and Defensive Weapons

During their meeting in April, Presidents Obama and Medvedev agreed that the two nations would address Russia's concerns with U.S. missile defense programs, but that these discussions would not occur in the same forum as negotiations on a new arms control treaty. However, in the Joint Understanding signed at the Moscow summit in July, the United States and Russia did agree that the new treaty would contain a "provision on the interrelationship of strategic offensive arms and strategic defensive arms." As was noted above, Russian officials, including President Medvedev, have stated that Russia would not accept further reductions on offensive forces unless the United States addressed the link between offensive and defensive weapons. Some analysts concluded that this linkage meant the United States would have to abandon its plans for a missile defense site in Europe if it wanted to conclude an agreement on offensive weapons. They further argued that, if the Obama Administration made this trade, it would be detrimental to U.S. security.[69]

Others have noted that a statement about the relationship between offensive weapons and defensive weapons would not be the same thing as a limit on U.S. missile defense programs. In a briefing for the press shortly before the Moscow summit, Michael McFaul, the special assistant to the President and senior director for Russian and Eurasian affairs on the National Security Council, stated, specifically, that "we're not going to reassure or give or trade anything with the Russians regarding ... missile defense."[70] In other words, the provision in the treaty may simply recognize a relationship between offenses and defenses, without committing the United States to accept limits on its missile defense plans. In spite of Russia's continuing concern with this issue, the Administration has continued to insist that the new START treaty will not contain any limits on U.S. missile defense programs.

In mid-September 2009, the Obama Administration did announce a change in U.S. plans for missile defense in Europe. Instead of deploying 10 land-based interceptors in Poland and a fixed radar in the Czech Republic, the United States now plans to deploy greater numbers of sea-based interceptors and radars in the region. And, instead of seeking to intercept possible future long-range missiles from Iran, this system would address the existing threat from shorter- and medium-range missiles, and would evolve as Iran developed and deployed longer-range missiles. According to a fact sheet provided by the White House, this change is "based on an assessment of the Iranian missile threat, and a commitment to deploy technology that is proven, cost-effective, and adaptable to an evolving security environment."[71] Administration officials insisted that this

[69] John Kyl and Richard Perle, "Our Decaying Nuclear Deterrent," *Wall Street Journal*, June 30, 2009.

[70] The White House, Office of the Press Secretary, *Press Briefing on the President's Trip to Russia, Italy, and Africa*, July 1, 2009. http://www.whitehouse.gov/the_press_office/Press-Briefing-on-the-Presidents-upcoming-trip-to-Russia-Italy-and-Africa/

[71] The White House, *Fact Sheet on U.S. Missile Defense Policy - A "Phased, Adaptive Approach" for Missile Defense in Europe*, Washington, DC, September 17, 2009, http://www.whitehouse.gov/the_press_office/FACT-SHEET-US-Missile-Defense-Policy-A-Phased-Adaptive-Approach-for-Missile-Defense-in-Europe/.

change in plans was not designed to address Russia's concerns about U.S. missile defenses. According to Ellen Tauscher, the Undersecretary of State for Arms Control and International Security, "there was no attempt to curry favor with the Russian government or to secure some kind of tradeoff in our negotiations for a START follow-on treaty,"[72]

Nevertheless, missile defense, and its relationship to offensive force reductions, remains an issue in the negotiations on a new START Treaty. In December 2009, Russia's Prime Minister, Vladimir Putin, stated that the U.S. plan to build a missile defense system threatened the Cold War-era balance of power. He stated that, if the United States had missile defenses and Russia did not, then "the balance will be disrupted and then they will do whatever they want and aggressiveness will immediately arise both in real politics and economics." He noted that, to restore the balance, Russia would have to deploy greater numbers of offensive weapons, so that it would have the means to overwhelm a U.S. missile defense system.[73] Analysts have differed on the reasons and implications of Putin's comments. Some have argued that he was trying to slow or stop the new START negotiations by continuing to link reductions in offensive weapons with limits on missile defenses. Others have countered that he was simply repeating his long-held concerns with U.S. missile defense programs and that his views would not impinge on the arms control negotiations. The United States, in a statement released by the State Department, repeated that reductions in offensive weapons and missile defenses are two separate issues and that discussions on the two would continue separately.

Press reports indicate that missile defense remained an issue in the negotiations during February 2010. Specifically, Russia continues to insist that U.S. missile defense interceptors located near Russian territory could undermine its strategic nuclear deterrent, even though the interceptors would not have the capability to intercept long-range missiles. Recent reports indicate that Russia may issue a unilateral statement when it signs the new treaty, indicating that it reserves the right to withdraw from the treaty if it concludes that U.S. missile defenses programs upset strategic stability. Such a statement would have no effect on the provisions in the treaty and would not limit U.S. missile defense plans or programs. The Treaty will almost certainly contain a withdrawal clause, as all arms control treaties do, allowing either side to withdraw from the treaty if its supreme national interests were threatened.[74] The letter would simply define a circumstance that Russia might view as meeting this standard, and would highlight the fact that Russia continues to believe that the link between offensive and defensive weapons remains critical to its national security interests.

Some have argued that this statement, even if it did not directly limit U.S. missile defense deployments, could inhibit U.S. plans for missile defenses because the United States would not want to deploy a system if it might undermine Russian support for the treaty.[75] Others, however, question this logic. They note that the Soviet Union issued a similar unilateral statement when it signed START. In that statement, it indicated that START would be "effective and viable only under conditions of compliance with the Treaty between the U.S. and the USSR on the Limitation of Anti-Ballistic Missile Systems, as signed on May 26, 1972." It further stated that "the

[72] Josh Rogan, "State Official: Missile Defense Move Not About Russia," *Foreign Policy*, October 7, 2009, http://thecable.foreignpolicy.com/posts/2009/10/07/state_official_missile_defense_move_not_about_russia.

[73] Ellen Barry, "Putin Sounds Warning on Arms Talks," *New York Times*, December 30, 2009.

[74] The United States invoked the withdrawal clause in the ABM Treaty when it announced its withdrawal from this agreement in 2002.

[75] http://www.foreignpolicy.com/files/fp_uploaded_images/20100217_letter_to_jones_start_fo_missile_defense.pdf.

extraordinary events referred to in Article XV1 of this Treaty also include events related to withdrawal by one of the Parties from the Treaty on the Limitation of Anti-Ballistic Missile Systems, or related to its material breach."[76] Yet, when the United States withdrew from the Anti-Ballistic Missile Treaty in 2002, a step that Russia viewed as a threat to its strategic deterrent, Russia not only *did not* withdraw from the START Treaty, it continued to participate in negotiations on the 2002 Moscow Treaty.

Strategic Systems Armed with Conventional Warheads

In the Joint Statement signed at the July summit, Presidents Obama and Medvedev agreed that the new START Treaty would contain "a provision on the impact of intercontinental ballistic missiles and submarine-launched ballistic missiles in a non-nuclear configuration on strategic stability." This provision addresses Russia's concerns with the possible deployment by the United States of conventional warheads on ballistic missiles that now carry nuclear warheads.[77] The United States Air Force and Navy have considered the deployment of such missiles as a way to deliver conventional warheads to targets around the world on short notice. Many analysts, however, have noted that Russia or other nations might misinterpret such launches, particularly if they could not identify the source or target of the launch and could not determine whether the missile carried a nuclear or conventional warhead. Russian officials have identified other concerns, including the possibility that the United States could use these missiles to destroy strategic targets in Russia, without launching a nuclear attack, and that the United States, in a crisis, might replace the conventional warheads with nuclear warheads to exceed the limits in a treaty.

Some Russian officials have argued that these missiles could upset strategic stability, and, therefore, should be restricted by a new START Treaty. Some analysts in the United States have responded that because these weapons could help the United States to reduce its reliance on nuclear weapons, they should actually be viewed as a positive development. Some also fear that, by including a provision on these weapons in the Joint Understanding, the United States might set the precedent of incorporating limits on its conventional capabilities in a nuclear arms control agreement. Yet, it is not clear that the provision anticipated by the Joint Statement would lead to specific limits on U.S. conventional capabilities. The United States might agree to count delivery vehicles equipped with conventional warheads, in the future, against the treaty's limit on delivery vehicles, in part because it would be difficult to confirm whether the missiles carry conventional or nuclear warheads. Such a counting rule might require trade-offs between conventional and nuclear weapons, but would not limit conventional weapons specifically. Moreover, some analysts, including Ambassador Linton Brooks, have asserted that such a trade-off would not be onerous because the United States currently plans to deploy only a small number of ballistic missiles with conventional warheads.

[76] Statement ... Concerning the Interrelationships Between Reductions in Strategic Offensive Arms and Compliance With the Treaty ... on the Limitation of Anti-Ballistic Missile Systems. http://www.dod.mil/acq/acic/treaties/start1/other/other_statements.htm#18

[77] For information about the issues associated with the potential deployment of conventional warheads on ballistic missiles see CRS Report RL33067, *Conventional Warheads for Long-Range Ballistic Missiles: Background and Issues for Congress*, by Amy F. Woolf.

Possible Goals for the START Process

Although the United States and Russia are currently pursuing negotiations on a new START Treaty, that did not complete this task before START expired on December 5, 2009. The negotiations were slow in getting started, in part because both sides had to build teams of experts and negotiators after several years when arms control was a lower priority in both governments. Initially, the presidents had hoped that the Treaty could be negotiated *and* ratified before START expired; now, the goal seems to be completing the negotiations soon after START expires and pursuing ratification during the first few months of 2010.

Although the schedule is tight, many analysts support the process of seeking a new START Treaty not only because it will "reset" U.S.-Russian relations, but also because the limits and verification provisions in the Treaty will strengthen the U.S. national security. Others, however, have questioned whether the two nations should place a high priority on negotiating a new Treaty and on "rushing" to complete it before, or soon after, START expires.[78] They argue that, in the rush to complete a new Treaty, the United States may make concessions and agree to provisions that will not necessarily serve U.S. national security interests. Moreover, they note that the two sides could have maintained the verification regime in START by extending the existing Treaty.

The following discussion highlights some of the issues addressed in the discussion of whether, and when the United States and Russia should pursue a new START Treaty.

Improving the U.S.-Russian Relationship

Many of the public discussions about the future of the U.S.-Russian arms control process focus on whether arms control can help the United States and Russia manage and improve their broader political relationship. As was noted at the beginning of this report, many observers, including some who served in the Bush Administration believe that the U.S.-Russian relationship has evolved to the point where the parties no longer need arms control as a symbol of their cooperation on resolving common security issues. Others, however, including some Members of Congress, believe that START and the arms control process still represent "the foundation of the U.S.-Russian strategic relationship" and a "key basis for trust between the two sides."[79]

Supporting Nuclear Nonproliferation Goals

During the past few years, the public debate over arms control and nuclear weapons has increasingly focused on the role that the U.S.-Russian arms control process can play in furthering broader international nuclear nonproliferation goals. For example, many analysts have argued that a U.S.-Russian agreement to either extend or replace START can demonstrate their commitment to their arms reduction obligations under the Nuclear Nonproliferation Treaty,[80] and can, therefore help strengthen the nonproliferation regime, in general, and help ensure a successful outcome at the 2010 review conference of the NPT. Others, however, argue that the nations who are currently seeking nuclear weapons would not be swayed in their decisions by any steps taken by the United

[78] For details on the case against rushing to complete a new START Treaty see U.S. Senate Republican Policy Committee, *START Follow-on Dos and Don'ts: Do time Extension Instead of a Bad Treaty*, September 30, 2009.

[79] Senator Richard Lugar. " Trust Still Needs Verification." *Washington Times*. July 18, 2008. p. 24.

[80] Jenifer Mackby ad Edward Ifft. "The End of START." *Special to the Washington Post*, April 20, 2007.

States or Russia, as their nuclear programs derive from their own political and security concerns. Moreover, they note that the United States and Russia have already reduced their Cold-War era nuclear arsenals sharply, without reaping any benefits in their efforts to stem nuclear proliferation.

Restraining Weapons

Many analysts in the United States and officials in the Bush Administration have argued that, in the current security environment, the United States and Russia no longer need to worry about all the details related to the size or structure of the other side's nuclear forces, they just need to understand the general trends.[81] Both have reduced their forces in recent years and neither needs to fear that the other would attack it with its remaining forces. Therefore, they no longer need to negotiate formal treaties to establish and maintain balance between their two force structures. Moreover, these treaties undermine the flexibility that each nation may need to adjusts its forces in response to future threats from emerging adversaries. Some have also argued that, even if Russian forces pose a threat to the United States, the U.S. does not need to offer concessions in a Treaty to reduce that threat because the number of missiles and launchers in the Russia force will decline in over the next few years as Russia retires aging systems.

Many analysts in the United States believe that the stability and predictability offered by arms control agreements are valuable enough to offset any limits the treaties may create for U.S. flexibility. Some argue that the process of implementing an arms control treaty, with its communication and cooperation, by itself, is important, so that the parties can avoid misunderstandings while they work together to reduce nuclear forces and nuclear dangers. Others, however, emphasize that the actual limits and restrictions in the treaty, as much as the cooperation to implement them, determine the amount of stability and predictability offered by the treaty. They note that the United States and Soviet Union included many of the detailed provisions in START because both wanted to restrain and reduce the nuclear forces of the other side to reduce the threat from those forces, and both agreed to include detailed monitoring and verification provisions so that they could be more confident about achieving the goal of reducing the threat.

Although Russia recognizes that the relationship between the two nations is not as tense as it was during the Cold War, it still sees threats to its security from U.S. policies and programs. Therefore Russia continues to value arms control measures that restrain U.S. forces because these measures provide both stability between the two sides forces and predictability for Russia when it considers how U.S. forces may evolve.[82]

Promoting Transparency and Cooperation

Many have argued that the United States and Russia should have sought simply to replace START with a regime that would ensure transparency and build confidence, even if it did not mandate

[81] Jonathan S Landay. "Dispute Delays Arms Control Talks with Moscow." *McClatchy Washington Bureau*. June 18, 2007.

[82] In an interview with the Arms Control Association, Russia's Ambassador to the United States, Sergey Kislyak, who, as Deputy Foreign Minister participated in talks on the future of START, stated that "the mutual constraints provided for in START should not be lost because they do provide stability and are one of the important things that also should be preserved and should not be discarded." See, Arms Control Association, *Interview with Sergey Kislyak, Russian Ambassador to the United States*. December, 2008. http://www.armscontrol.org/act/2008_12/KislyakInterview.

deeper reductions in nuclear weapons.[83] This type of agreement would have ensured that some form of monitoring and verification provisions remains in place after START expired and while the Moscow Treaty remains in force. A confidence-building regime can foster cooperation between the two sides even if the data it provides is not needed to verify compliance with an arms control Treaty. As one observer has noted, START "forces the United States and Russia to communicate," and to interact in ways that can build trust between them.[84] Therefore, an agreement that allowed the parties to continue with data exchanges, notifications, and some inspections, even without further reductions, could prove valuable.

Some argue that the United States and Russia can promote transparency and continue their cooperation without signing a formal arms control agreement. They note that the two sides will continue to cooperate on reducing nuclear dangers through the nonproliferation and threat reduction programs that the United States funds to improve security and eliminate weapons in Russia. These efforts can be bolstered by informal visits to weapons deployment areas and storage facilities. Moreover, some have argued that the formal monitoring and verification provisions in START can create tensions and undermine cooperation with their rigid requirements and stringent rules, which do not allow the parties to adapt their activities when conditions change.[85]

Scope of a New Treaty

Reductions vs. Transparency

Some analysts hoped that START would provide the United States and Russia with a framework they could use to move quickly to negotiate a comprehensive agreement that would both reduce forces below the Moscow Treaty limits and outline a wide-ranging monitoring and verification regime.[86] This approach would not only satisfy Russia's preference for pursuing deeper reductions in a follow-on to START in the near-term, but would also allow the United States and Russia to demonstrate bold leadership to the international community in the months before the 2010 NPT Review Conference. The two sides did not have time to complete an agreement with deep reductions in it before START expired, but an interim agreement, with lesser reductions, could still advance the arms control agenda by highlighting their commitment to pursue further reductions in the future. This is the approach outlined by Presidents Obama and Medvedev during their meeting in April 2009, where they pledged to achieve new and verifiable reductions "in a step-by-step process."

Some have argued that a shorter, less detailed document, like the Moscow Treaty, might have been easier to complete before START expired and sufficient to foster communication and cooperation. Even without specific definitions and restrictions, such a document could still demonstrate the parties' intent to reduce nuclear arms. Further, with fewer detailed restrictions, both sides would be able to maintain the flexibility they might need to alter their forces to meet unanticipated changes in the international security environment. Moreover, the negotiations could

[83] Edward Ifft. "The Future of START." June 11, 2007.

[84] Pavel Podvig. " Why START is Important." *Bulletin of the Atomic Scientists*. July 3, 2007.

[85] Phil Gardner, Michael George, Vera Lev, and Sandra McMahon. *Extension of the START Treaty?* An SAIC Emerging Issues Project. December, 2005.

[86] Daryl G. Kimball. "START Over." *Arms Control Today*. June 2007.

probably proceed more quickly than those that sought to produce a lengthy, detailed treaty. The United States and Soviet Union took seven years to negotiate START, but the United States and Russia completed the Moscow Treaty in less than a year.

Linkages

The START Treaty limits only strategic offensive delivery vehicles and the warheads carried by those forces. But the history of U.S.-Soviet arms control negotiations is full of examples where one or the other side has tried to include limits or restrictions on other types of weapons. Over the years, both countries have sought to include some types of limits on their shorter-range non-strategic nuclear weapons in arms control agreements; analysts continue to suggest that these limits are both necessary and inevitable in a future agreement.[87] The two sides have also often linked progress in discussions on missile defense programs with progress on limits on strategic offensive nuclear weapons. This linkage was explicit in the 1970s, when the first Strategic Arms Limitation Talks (SALT I) produced both the Anti-Ballistic Missile Treaty and the Interim Agreement on Offensive Arms. This linkage between offenses and defense remains important to Russia, as is evident in its concerns about the U.S. plans to deploy a missile defense site in Poland and the Czech Republic.

Several analysts have also suggested that future treaties should limit not only deployed warheads, but also the numbers of warheads that each side retains in its stockpile of reserve warheads.[88] While no arms control treaty has ever sought to reduce either nation's stockpile of reserve warheads, as the number of deployed warheads declines further, the number of warheads in storage could create an imbalance if either side could return them to deployment quickly. Moreover, reductions in the numbers of stored warheads, and their consolidation in fewer storage facilities, might ease concerns about the possibility that some might be stolen from insecure storage facilities.

Participants

Although the United States and Soviet Union signed START as a bilateral agreement, it evolved into a multilateral treaty when Belarus, Ukraine, Russia, and Kazakhstan succeeded the Soviet Union as parties to the Treaty. Each of the four former Soviet states is subject to the limits, restrictions, and monitoring provisions in START, even though Russia is the only one with nuclear weapons left on its territory. Each also has a voice and a vote in the deliberations in the Joint Compliance and Inspection Commission established by the Treaty. If the parties were to extend START, Ukraine, Belarus, and Kazakhstan would remain as parties to the Treaty unless they agreed to amend it to include only the United States and Russia. These other three states will not, however, be included in a new treaty.[89]

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[87] Oliver Thranert. *U.S. Nuclear Forces in Europe to Zero? Yes, But Not Yet*. Carnegie Endowment for International Peace. December 10, 2008.

[88] President Obama has indicated that he would seek to include limits on weapons in the stockpile in a future arms control treaty. See "Arms Control Today 2008 Presidential Q&A: Democratic Candidate Barack Obama." *Arms Control Association.* September 24, 2008.

[89] According to an official with the U.S. State Department, Russia "prefers working bilaterally with the United States on nuclear weapons issues and wants to 'exclude' Belarus, Kazakhstan, and Ukraine from future arrangements." See Wade Boese. "START Decision Put Off to 2009." *Arm Control Today*. December, 2008.

Analysts have long suggested that, as the United States and Russia reduce their forces to ever lower levels, they may eventually open up the arms control process to other nuclear weapons states. This was rarely an issue during the Cold War, because the United States and Soviet Union each deployed thousands of warheads on their strategic offensive nuclear weapons. France, Great Britain, and China have deployed just a few hundred warheads each.[90] Most analysts agree that these other nations should not join the process until the United States and Russia reduce to 1,000 or fewer warheads. Hence, as the United States and Russia decide how, or whether, to advance their bilateral arms control agenda, they may also begin to think about when, or whether, to expand the process to include other nuclear nations.

Options for the Future

The United States and Russia did not complete a new START Treaty before the end of 2009. Moreover, both sides must present the treaty to their legislatures for advice and consent, a process that could take months and further delay the treaty's entry into force. As a result, a new START Treaty may not enter into force until the middle of 2010, at the earliest, and could be delayed further.

Although both nations remain optimistic, the United States and Russia could choose from a number of other options for the future of their arms control relationship if they fail to complete a new treaty in the weeks or months after START expires. They could pursue less formal arrangements to manage their nuclear forces. Moreover, they could alter their goals and seek a new Treaty that established a transparency regime that called for continued cooperation in monitoring without further reductions in deployed weapons.

Extend START

Neither the United States nor Russia wanted to extend START in its present form, particularly for the full five years allowed under the terms of the Article XVII. Moreover, even if the United States and Russia agree to extend START, they would have to win the approval of Ukraine, Belarus, and Kazakhstan before they could do so. If the parties wanted to retain some of the START monitoring and verification provisions in the near term, without extending the Treaty for five years, they could possibly agree to extend START for a shorter period of time, perhaps two years, while they negotiate a new Treaty. But this option is not mentioned in the current Treaty, so it would need to be treated as an amendment to the Treaty, requiring the approval of the other three parties to START and the advice and consent of all five nations' legislatures. The U.S. Senate might not object to a short-term extension of START, particularly since several Members have already called on the parties to extend the Treaty's monitoring and verification regime, but Russia's parliament may not be as accepting. Tensions in the U.S.-Russian relationship could lead some in Russia to question whether any extension of START, with its limits on Russia's ability to modernize its forces and deploy multiple warhead ballistic missiles, serves Russia's interests.

[90] For summaries of the nuclear forces of these nations, see, Robert S. Norris and Hans Kristensen. "Chinese Nuclear Forces, 2008." *Bulletin of the Atomic Scientists*. July/August 2008; Robert S. Norris and Hans Kristensen and Robert S. Norris and Hans Kristensen. "British Nuclear Forces, 2005." *Bulletin of the Atomic Scientists*. November/December, 2005.

Allow START to Lapse

The United States and Russia could accept that START has lapsed and pursue a relationship without a new formal treaty in the near term. The Bush Administration initially preferred this option because it did not want to continue the formal U.S.-Russian arms control process at all, but also believed that START could lapse without signaling the end of U.S.-Russian nuclear cooperation or even the end of formal arms control. As the Bush Administration eventually suggested, the two sides could agree, without signing a formal Treaty, to continue to implement some of the monitoring provisions in START so that they could both gather information needed to verify compliance with the Moscow Treaty and retain the cooperative relationship that had developed during START's verification process. This path could, however, conflict with Russia's domestic law, as it would need to be a party to a legally binding Treaty before it could allow foreigners to have access to sensitive military and nuclear sites.[91] To rectify this problem, the parties might seek to negotiate a separate executive agreement or memorandum of understanding to allow the visits. Alternatively they could, as the Bush Administration suggested, attach the monitoring provisions to a simple treaty document that essentially restated the provisions of the Moscow Treaty.

The United States and Russia could still pursue negotiations on a treaty that would eventually, in the longer term replace both START and the Moscow Treaty. Concerns about the absence of any arms control limits might inspire them to press forward on this task and seek compromises in a short amount of time. Conversely, if the absence of arms control limits did not appear to upset stability or the level of cooperation between the parties, then the pressure to reach a new agreement might diminish. Hence, this path may be attractive to those who believe that the United States and Russia no longer need formal treaties to manage their relationship, but it may appear too risky to those who believe that the arms control process remains an important part of the relationship.

Pursue a Treaty with Further Reductions Without START Rules

Even those in the Bush Administration who believed that the U.S.-Russian arms control process should continue argued that the two sides should pursue a Treaty that did not contain the level of detail in START. For example, during a speech before the Carnegie Endowment for International Peace in October 2008, Secretary of Defense Robert Gates said, "I am not sure that agreements that are the size of a telephone book and take years to negotiate are in the interest of either party." He went on to say, "I believe we should go for another agreement with Russia. I believe it could involve further cuts in the number of warheads. I believe we do need the verification provisions. But I think it ought to be an agreement that is shorter, simpler, and easier to adjust to real-world conditions than most of the arms control agreements I've seen over the last 40 years."[92]

A shorter, less detailed Treaty might not, however, provide the level of transparency or predictability sought by many analysts. Under the Moscow Treaty, which is short and contains few details, neither the United States nor Russia has to offer any transparency into the structure of its nuclear forces. Each simply has to declare how many warheads it has deployed on its

[91] Alexei Arbatov and Rose Gottemoeller. "New Presidents, New Agreements? Advancing U.S.-Russian Strategic Arms Control." *Arms Control Today*. July/August 2008.

[92] Secretary of Defense Robert Gates. *Nuclear Weapons and Deterrence in the 21st Century*. Carnegie Endowment for International Peace. October 28, 2008. http://www.carnegieendowment.org/files/1028_transcrip_gates_checked.pdf.

operational forces. Further, because the Treaty includes no time lines for the reduction process and no definitions of the items limited by the Treaty, neither side can predict with confidence the process or outcome of the other side's reductions. As a result, some argue that, while the shorter negotiations may seem preferable, a shorter Treaty with an absence of details would not necessarily serve the goals of an arms control process that sought to strengthen the relationship between the United States and Russia or to reduce the perceived threats from their nuclear weapons.

Pursue Transparency and Confidence Building Measures

Some Members of Congress and analysts outside government have called on the United States and Russia to extend the monitoring regime in START, even if in the absence of an agreement on further reductions in nuclear forces. In a "Dear Colleague" letter circulated in July 2007, Representative Ellen Tauscher, Chair of the House Armed Services Committee, Subcommittee on Strategic Forces, noted the "transparency required by the START verification regime has bred confidence in both Russia and the U.S. enabling cooperation on a range of nuclear arms issues."[93] As was noted above, Secretary of State Clinton and Vice President Biden both referred to the possibility of extending the monitoring and verification provisions in START. Moreover, in early November 2009, Senator Lugar introduced legislation that would extend the "privileges and immunities" granted to inspectors under START through June 2010.[94] While this legislation would be necessary to lay the legal basis for an extension of the START verification regime, it would not extend the many detailed rules and requirements that are currently enunciated in START's inspection protocol and annexes.

Officials in the Obama Administration indicated that, as of October 2009, the United States had not yet decided what it would do if the negotiations on a new Treaty were not completed before START expired. One option would be to use an executive agreement to extend the monitoring and verification provisions in START, pending the completion of a new Treaty. If the new Treaty were signed, but had not yet been approved by the Senate and the Russian parliament, they might also seek to "provisionally apply" the verification provisions in the new Treaty, pending its ratification.[95] By mid-November, officials in both the United States and Russia acknowledged that the two sides were crafting a "bridging agreement" to address a short-term lapse in monitoring after START expired.[96] It is unclear, at this time, whether the bridging agreement would extend START provisions or provisionally apply provisions in the new Treaty.

As an alternative, the two sides could seek to conclude a formal agreement that established a transparency regime without imposing any further reductions on nuclear weapons. This might allow the United States and Russia to sustain their confidence in their knowledge of each other's nuclear weapons deployments. The START regime's extensive exchanges of data about the characteristics of each party's weapons systems provide each party with significant amounts of

[93] Representative Ellen Tauscher. *Call on the President to Extend the Most Significant Remaining Arms Control Agreement of Our Time*. July 2007.

[94] Martin Matishak, "Lugar Introduces Legislation to Extend START Verification Regime," *Global Security Newswire*, November 6, 2009.

[95] Elaine M. Grossman, "No Plan Yet for Extending START Verification Measures," *Global Security Newswire*, October 8, 2009.

[96] "U.S.-Russian Negotiators LIkely to Miss December 5 Deadline for New Nuclear Treaty," *Associated Press*, November 15, 2009.

information that would not have been available, or would have been difficult to acquire, otherwise. The parties can be confident in the accuracy of this data because they have the opportunity to visit the sites and view the weapons themselves. Moreover, START required each party to notify the other when they changed the numbers or locations of strategic systems. Even if the parties have not agreed to limit or reduce their nuclear weapons, they could continue to house their weapons at agreed sites, provide data about their characteristics and capabilities, and provide notifications when they moved them.

Some have also argued that, by continuing to cooperate in monitoring the locations and characteristics of deployed nuclear weapons, the United States and Russia would be better positioned to monitor compliance with the Moscow Treaty. The notifications and data exchanges would continue to inform them about the numbers and locations of missiles and bombers, while on-site visits would give them an opportunity to count the warheads deployed on some missile. These inspections would not, however, provide the parties with an opportunity to calculate all the warheads that would count under the Moscow Treaty. Because START inspections were designed to confirm that the number of warheads deployed on a particular missile did not exceed the number declared in the data base, they do not provide a way to count the total number warheads deployed on the entire force. However, by confirming that the deployed warhead number did not exceed the number in the data base, the inspections could provide the parties with some confidence in the number of warheads they might then use in their calculations of deployed warheads across the force.

The Path Forward

As the United States and Russia have worked to negotiate a new START treaty, they have had to address many areas of disagreement. They have had to decide which of START's counting rules and definitions will continue to apply, whether the new Treaty would ease or tighten the rules governing the downloading of missiles and the deployment of new types of missiles, and which of the Treaty's monitoring and verification provisions they would continue to implement.[97] Because each side would like some of START to continue and some of it to end, they have had to develop a combined text that addresses competing priorities. If they can balance and offset their differing preferences and priorities, they may be able to craft a compromise that provides them with more transparency and predictability than the Moscow Treaty, but fewer complex and costly details than the START Treaty.

In the meantime, as the Presidents noted in the joint statement released when START expired, the two nations have pledged to "continue to work together in the spirit of the START Treaty." Although the Presidents did not elaborate in their statement, some analysts have interpreted this to mean that the two nations will continue to implement at least some of the START's verification provisions while they work to negotiate and ratify the new Treaty.[98] It is not clear, however, at this time, that the two sides have developed a formal agreement or statement on how many and what types of monitoring provisions they will continue to implement. The details of such a "bridging agreement" may still be under negotiation.

This report will be updated as the process moves forward.

[97] For a detailed proposal that addresses these issues, see Alexei Arbatov and Rose Gottemoeller. "New Presidents, New Agreements? Advancing U.S.-Russian Strategic Arms Control." *Arms Control Today*. July/August, 2008.

[98] Desmond Butler, "Kremlin Agrees with U.S. to Maintain Expiring Pact," *Associated Press*, November 4, 2009.

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