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The New START Treaty: Central Limits and Key Provisions

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Summary

The United States and Russia signed the New START Treaty on April 8, 2010. After more than 20 hearings, the U.S. Senate gave its advice and consent to ratification on December 22, 2010, by a vote of 71-26. Both houses of the Russian parliament—the Duma and Federation Council—approved the treaty in late January 2011 and it entered into force on February 5, 2011. Both parties met the treaty's requirement to complete the reductions by February 5, 2018. The treaty is due to expire in February 2021, unless both parties agree to extend it for no more than five years.

New START provides the parties with 7 years to reduce their forces, and will remain in force for a total of 10 years. It limits each side to no more than 800 deployed and nondeployed land-based intercontinental ballistic missile (ICBM) and submarine-launched ballistic missile (SLBM) launchers and deployed and nondeployed heavy bombers equipped to carry nuclear armaments. Within that total, each side can retain no more than 700 deployed ICBMs, deployed SLBMs, and deployed heavy bombers equipped to carry nuclear armaments. The treaty also limits each side to no more than 1,550 deployed warheads; those are the actual number of warheads on deployed ICBMs and SLBMs, and one warhead for each deployed heavy bomber.

New START contains detailed definitions and counting rules that will help the parties calculate the number of warheads that count under the treaty limits. Moreover, the delivery vehicles and their warheads will count under the treaty limits until they are converted or eliminated according to the provisions described in the treaty's Protocol. These provisions are far less demanding than those in the original START Treaty and will provide the United States and Russia with far more flexibility in determining how to reduce their forces to meet the treaty limits.

The monitoring and verification regime in the New START Treaty is less costly and complex than the regime in START. Like START, though, it contains detailed definitions of items limited by the treaty; provisions governing the use of national technical means (NTM) to gather data on each side's forces and activities; an extensive database that identifies the numbers, types, and locations of items limited by the treaty; provisions requiring notifications about items limited by the treaty; and inspections allowing the parties to confirm information shared during data exchanges.

New START does not limit current or planned U.S. missile defense programs. It does ban the conversion of ICBM and SLBM launchers to launchers for missile defense interceptors, but the United States never intended to pursue such conversions when deploying missile defense interceptors. Under New START, the United States can deploy conventional warheads on its ballistic missiles, but these will count under the treaty limit on nuclear warheads. The United States may deploy a small number of these systems during the time that New START is in force.

The Obama Administration and outside analysts argued that New START strengthens strategic stability and enhances U.S. national security. Critics, however, questioned whether the treaty serves U.S. national security interests, as Russia was likely to reduce its forces with or without an arms control agreement and because the United States and Russia no longer need arms control treaties to manage their relationship. Secretary of State-designate Tillerson offered support for the treaty during his confirmation hearings, noting that he supports "the long-standing bipartisan policy of engaging with Russia and other nuclear arms states to verifiably reduce nuclear stockpiles" and that it is important for the United States "to stay engaged with Russia [and] hold them accountable to commitments made under the New START." The 2018 Nuclear Posture Review confirmed that the United States would continue to implement the treaty, at least through 2021. The Administration has not yet determined whether it will request or support an extension of the treaty through 2026.

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Introduction

The United States and Russia signed a new strategic arms reduction treaty—known as New START—on April 8, 2010.[1] This treaty replaced the 1991 Strategic Arms Reductions Treaty (START), which expired, after 15 years of implementation, on December 5, 2009.[2] The U.S. Senate provided its advice and consent to ratification of New START on December 22, 2010, by a vote of 71-26. The Russian parliament, with both the Duma and Federation Council voting, did so on January 25 and January 26, 2011. The treaty entered into force on February 5, 2011, after Secretary of State Clinton and Foreign Minister Lavrov exchanged the instruments of ratification. New START superseded the 2002 Strategic Offensive Reductions Treaty (known as the Moscow Treaty), which then lapsed in 2012.[3] New START provided the parties with 7 years to reduce their forces, and it will remain in force for a total of 10 years, unless the parties agree to extend it for up to five additional years. Both parties completed their required reductions by February 5, 2018.[4]

With the reductions now complete, questions about whether the two nations will extend the treaty have begun to dominate public discussions. The Obama Administration briefly considered pursuing an extension of New START before it left office in 2016, but did not raise the issue with Russia. Press reports indicate that the President Trump rejected a proposal from Russian President Putin to extend the treaty during their first phone call in February 2017.[5] The Presidents reportedly discussed the treaty during their summit in Helsinki in July 2018, with President Putin presenting President Trump with a document suggesting that they extend the treaty after resolving "existing problems related to the Treaty implementation," but the two reportedly did not reach an agreement on the issue.[6] The Administration's Nuclear Posture Review (NPR), completed in February 2018, confirmed that the United States would continue to implement the treaty, at least through 2021, but was silent on the prospects for extension through 2026. Trump Administration officials have indicated that they are currently reviewing the treaty and assessing whether it continues to serve U.S. national security interests before deciding whether the United States would propose or accept a five-year extension.[7]

Some U.S. officials, including General John Hyten, the commander of U.S. Strategic Command (STRATCOM), have noted that New START serves U.S. national security interests because its monitoring regime provides transparency and visibility existing into Russian nuclear forces and

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[1] The treaty is officially titled the Treaty Between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms. The text of the Treaty, its Protocol, annexes, and article-by-article analysis can be found at http://www.state.gov/t/avc/newstart/c44126.htm.

[2] For a brief summary of the original START Treaty, as well as a review of the U.S.-Russian negotiations on the new START Treaty see CRS Report R40084, *Strategic Arms Control After START: Issues and Options*, by Amy F. Woolf.

[3] The Moscow Treaty was to remain in force until December 31, 2012, unless replaced by a subsequent treaty. For details on this agreement see CRS Report RL31448, *Nuclear Arms Control: The Strategic Offensive Reductions Treaty*, by Amy F. Woolf.

[4] Heather Nauert, *New START Treaty Central Limits Take Effect*, U.S. Department of State, press statatement, Washington, DC, February 5, 2018, https://www.state.gov/r/pa/prs/ps/2018/02/277888.htm. See also "Russia Confirms Commitment to New START Treaty—Foreign Ministry," *TASS Russian News Agency*, February 5, 2018, http://tass.com/politics/988458.

[5] Jonathan Landay and David Rohde, "Exclusive: In Call with Putin, Trump Denounced Obama-Era Nuclear Arms Treaty—Sources," *Reuters*, February 9, 2017.

[6] Bryan Bender, "Leaked Document: Putin Lobbied Trump on Arms Control," *Politico*, August 7, 2018.

[7] U.S. Congress, Senate Committee on Foreign Relations, *Status* of *U.S.-Russia Arms Control Efforts*, Hearing, 115th Cong., 2nd sess., September 18, 2018. See the prepared statement of Honorable David Trachtenberg, Deputy Under Secretary of Defense for Policy, https://www.foreign.senate.gov/imo/media/doc/091818_Trachtenberg_Testimony.pdf.

because its limits provide predictability about the future size and structure of those forces. However, in testimony before the Senate Armed Services Committee in February 2019, General Hyten expressed concern about new kinds of nuclear forces that Russia may develop in the coming years. He noted that these weapons could eventually pose a threat to the United States and said he thought the United States and Russia should expand New START so they would count them under the treaty limits.[8]

As is noted below, Article V, paragraph 2 of the treaty provides a mechanism for the parties to address concerns about the emergence of new kinds of strategic offensive arms. It states that the parties should raise their concerns about such weapons in the Bilateral Consultative Commission (BCC) established by the treaty, and seek to reach a resolution there. In September 2018, Andrea Thompson, the Undersecretary of State for Arms Control and International Security, stated that the United States had not yet raised its concerns in the BCC. Moreover, Russian officials have stated that some of its new systems should not count under New START because they do not meet the treaty's definition of deployed missile launchers or heavy bombers.[9]

Nevertheless, the public debate about the possible extension of New START has begun to incorporate views about how to address these weapons. For example, some experts believe the United States and Russia should extend the treaty before 2021, then use the time during the extension to discuss how to include these new systems under the treaty limits. Some, however, have suggested the opposite, arguing that the United States should *not* agree to extend New START unless Russia agrees, before the extension takes effect, to count its new systems under the treaty limits. Others believe that the United States should agree to extend New START only if Russia agrees, before the extension takes effect, to use the time during the extension to negotiate a new treaty that not only captures the new kinds of weapons, but also imposes limits on Russia's nonstrategic nuclear forces.[10]

Russian officials have also questioned whether the United States and Russia are in a position to extend New START before it expires in 2021. At a conference in Washington in March 2019, Anatoly Antonov, Russia's ambassador to the United States, noted that Russia is not interested in expanding New START so that it would count new kinds of strategic systems and that Russia would be unwilling to discuss an extension of New START until the United States addresses Russia's concerns with U.S. implementation of the treaty's conversion and elimination procedures.[11] Moreover, he noted that, if the two sides negotiated a new treaty to capture the systems of concern to the United States, Russia would insist on addressing U.S. systems—like ballistic missile defenses and strategic conventional weapons—that are of concern to Russia.

Background

President Obama and and Russia's President Medvedev outlined their goals for the negotiations on a new START Treaty in early April 2009. In a joint statement issued after they met in London,

[8] Joe Gould, "US nuclear general worries over Russia's weapons outside New START," *Defense News*, February 26, 2019, https://www.defensenews.com/smr/nuclear-arsenal/2019/02/26/us-nuclear-general-worries-over-russias-weapons-outside-new-start/.

[9] The Ministry of Foreign Affairs of the Russian Federation, Briefing by Foreign Ministry Spokesperson Maria Zakharova, Moscow, February 28, 2019, http://www.mid.ru/en_GB/foreign_policy/news/-/asset_publisher/cKNonkJE02Bw/content/id/3549162#29.

[10] These options are discussed in more detail below.

[11] Patrick Tucker, "New New START a Nonstarter: Russian Ambassador," *Defense One*, March 12, 2019, https://www.defenseone.com/politics/2019/03/new-new-start-nonstarter-russian-ambassador/155474/.

they indicated that the subject of the new agreement "will be the reduction and limitation of strategic offensive arms."[12] This statement indicated that the new treaty would not address missile defenses, nonstrategic nuclear weapons, or nondeployed stockpiles of nuclear weapons. The Presidents also agreed 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."

The Presidents further refined their goals for New START, and gave the first indications of the range they were considering for the limits in the treaty, in a Joint Understanding signed at their summit meeting in Moscow in July 2009. They agreed that the new treaty would restrict each party to between 500 and 1,100 strategic delivery vehicles and between 1,500 and 1,675 associated warheads. They also agreed that the new treaty would contain "provisions on definitions, data exchanges, notifications, eliminations, inspections and verification procedures, as well as confidence building and transparency measures, as adapted, simplified, and made less costly, as appropriate, in comparison to the START Treaty."[13]

The New START Treaty follows many of the same conventions as the 1991 START Treaty. It contains detailed definitions and counting rules that the parties use to identify the forces limited by the treaty. It also mandates that the parties maintain an extensive database that describes the locations, numbers, and technical characteristics of weapons limited by the treaty. It allows the parties to use several types of exhibitions and on-site inspections to confirm information in the database and to monitor forces and activities limited by the treaty.

But the new treaty is not simply an extension of START. The United States and Soviet Union negotiated the original START Treaty during the 1980s, during the latter years of the Cold War, when the two nations were still adversaries and each was still wary of the capabilities and intentions of the other. Many of the provisions in the original treaty reflect the uncertainty and suspicion that were evident at that time. The New START Treaty is a product of a different era and a different relationship between the United States and Russia.[14] In some ways, its goals remain the same—the parties still sought provisions that would allow for predictability and transparency in their current forces and future intentions. But, the United States and Russia have streamlined and simplified the central limits and the monitoring and verification provisions. The new treaty does not contain layers of limits and sublimits; each side can determine its own mix of land-based intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and heavy bombers. Moreover, in the current environment, the parties were far less concerned with choking off avenues for potential evasion schemes than they were with fostering continued cooperation and openness between the two sides.

[12] 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, https://obamawhitehouse.archives.gov/the-press-office/joint-statement-president-dmitriy-medvedev-russian-federation-and-president-barack-.

[13] The White House, Office of the Press Secretary, "Joint Understanding by Obama, Medvedev on Weapon Negotiations," July 8, 2009, https://obamawhitehouse.archives.gov/the-press-office/joint-understanding-start-follow-treaty.

[14] U.S. Department of State, Bureau of Verification, Compliance and Implementation, *Comparison of START Treaty, Moscow Treaty, and New START Treaty*, fact sheet, Washington, DC, April 8, 2010, https://2009-2017.state.gov/t/avc/rls/139901.htm.

Central Limits and Key Provisions

Central Limits

Limits on Delivery Vehicles

The New START Treaty contains three central limits on U.S. and Russian strategic offensive nuclear forces; these are displayed in **Table 1**, below. First, it limits each side to no more than 800 deployed and nondeployed ICBM and SLBM launchers and deployed and nondeployed heavy bombers equipped to carry nuclear armaments. Second, within that total, it limits each side to no more than 700 deployed ICBMs, deployed SLBMs, and deployed heavy bombers equipped to carry nuclear armaments. Third, the treaty limits each side to no more than 1,550 deployed warheads. Deployed warheads include the actual number of warheads carried by deployed ICBMs and SLBMs, and one warhead for each deployed heavy bomber equipped for nuclear armaments. **Table 1** compares these limits to those in the 1991 START Treaty and the 2002 Moscow Treaty.

Table 1. Limits in START, Moscow Treaty, and New START

Treaty	START (1991)	Moscow Treaty (2002)	New START (2010)
Limits on Delivery Vehicles	1,600 strategic nuclear delivery vehicles	No limits	800 deployed and nondeployed ICBM launchers, SLBM launchers and heavy bombers equipped to carry nuclear weapons Within the 800 limit, 700 deployed ICBMs, SLBMs, and heavy bombers equipped to carry nuclear weapons
Limits on Warheads	6,000 warheads attributed to ICBMs, SLBMs, and heavy bombers 4,900 warheads attributed to ICBMs and SLBMs 1,100 warheads attributed to mobile ICBMs 1,540 warheads attributed to heavy ICBMs	1,700-2,200 deployed strategic warheads No sublimits	1,550 deployed warheads No sublimits
Limits on Throwweight	3,600 metric tons	No limit	No limit

Source: State Department fact sheets.

According to New START's Protocol[15] a deployed ICBM launcher is "an ICBM launcher that contains an ICBM and is not an ICBM test launcher, an ICBM training launcher, or an ICBM launcher located at a space launch facility." A deployed SLBM launcher is a launcher installed on

[15] New START is a three-part document. It includes the Treaty, a Protocol, and technical annexes. All three parts will be submitted to the Senate for advice and consent.

an operational submarine that contains an SLBM and is not intended for testing or training. A deployed mobile launcher of ICBMs is one that contains an ICBM and is not a mobile test launcher or a mobile launcher of ICBMs located at a space launch facility. These deployed launchers can be based only at ICBM bases. A deployed ICBM or SLBM is one that is contained in a deployed launcher. Nondeployed launchers are, therefore, those that are used for testing or training, those that are located at space launch facilities, or those that are located at deployment areas or on submarines but do not contain a deployed ICBM or SLBM.

The New START Treaty does not limit the number of nondeployed ICBMs or nondeployed SLBMs. It does, however, state that these missiles must be located at facilities that are known to be within the infrastructure that supports and maintains ICBMs and SLBMs. These include "submarine bases, ICBM or SLBM loading facilities, maintenance facilities, repair facilities for ICBMs or SLBMs, storage facilities for ICBMs or SLBMs, conversion or elimination facilities for ICBMs or SLBMs, test ranges, space launch facilities, and production facilities." Nondeployed ICBMs and SLBMs may also be in transit between these facilities, although Article IV of the treaty indicates that this time in transit should be "no more than 30 days."

The parties share information on the locations of these missiles in the database they maintain under the treaty and notify each other when they move these systems. These provisions are designed to allow each side to keep track of the numbers and locations of nondeployed missiles and to deter efforts to stockpile hidden, uncounted missiles. A party would be in violation of the treaty if one of its nondeployed missiles were spotted at a facility not included on the list, or if one were found at a location different from the one listed for that missile in the database.[16]

According to the Protocol to New START, a deployed heavy bomber is one that is equipped for nuclear armaments but is not a "test heavy bomber or a heavy bomber located at a repair facility or at a production facility." Moreover, a heavy bomber is equipped for nuclear armaments if it is "equipped for long-range nuclear ALCMs, nuclear air-to-surface missiles, or nuclear bombs." All deployed heavy bombers must be located at air bases, which are defined as facilities "at which deployed heavy bombers are based and their operation is supported." If an air base cannot support the operations of heavy bombers, then the treaty does not consider it to be available for the basing of heavy bombers, even though they may land at such bases under some circumstances. Test heavy bombers can be based only at heavy bomber flight test centers and nondeployed heavy bombers other than test heavy bombers can be located only at repair facilities or production facilities for heavy bombers. Each party may have no more than 10 test heavy bombers.

Heavy bombers that are not equipped for long range nuclear ALCMs, nuclear air-to-surface missiles, or nuclear bombs will not count under the treaty limits. However, the treaty does specify that, "within the same type, a heavy bomber equipped for nuclear armaments shall be distinguishable from a heavy bomber equipped for non-nuclear armaments." Moreover, if a party does convert some bombers within a given type so that they are no longer equipped to carry nuclear weapons, it cannot base the nuclear and nonnuclear bombers at the same air base, unless otherwise agreed by the parties.

Hence, the United States could reduce the number of bombers that count under the treaty limits by altering some of its B-52 bombers so that they no longer carry nuclear weapons and by basing them at a separate base from those that still carry nuclear weapons. In addition, if the United States converted all of the bombers of a given type, so that none of them could carry nuclear armaments, then none of the bombers of that type would count under the New START treaty. This provision allows the United States to remove its B-1 bombers from treaty accountability. They no

[16] Each individual missile will be identified in the database by a "unique identifier," which will, in most cases, be the serial number affixed to the missile during production.

longer carry nuclear weapons, but they still counted under the old START Treaty and were never altered so that they could not carry nuclear weapons. The conversion rules that would affect the B-1 bombers are described below.

Limits on Warheads

Table 1 summarizes the warheads limits in START, the Moscow Treaty, and the New START Treaty. Two factors stand out in this comparison. First, the original START Treaty contained several sublimits on warheads attributed to different types of strategic weapons, in part because the United States wanted the treaty to impose specific limits on elements of the Soviet force that were deemed to be "destabilizing." Therefore, START sought to limit the Soviet force of heavy ICBMs by cutting in half the number of warheads deployed on these missiles, and to limit future Soviet deployments of mobile ICBMs. The Moscow Treaty and New START, in contrast, contain only a single limit on the aggregate number of deployed warheads. They provide each nation with the freedom to mix their forces as they see fit. This change reflects, in part, a lesser concern with Cold War models of strategic and crisis stability. It also derives from the U.S. desire to maintain flexibility in determining the structure of its own nuclear forces.

Table 1 also highlights how the planned numbers of warheads in the U.S. and Russian strategic forces have declined in the years since the end of the Cold War. Before START entered into force in 1991, each side had more than 10,000 warheads on its strategic offensive delivery vehicles. If the parties implement the New START Treaty, that number will have declined by more than 80%. However, although all three treaties limit warheads, each uses different definitions and counting rules to determine how many warheads each side has deployed on its strategic forces.

Under START, the United States and Russia did not actually count deployed warheads. Instead, each party counted the launchers—ICBM silos, SLBM launch tubes, and heavy bombers—deployed by the other side. Under the terms of the treaty, they then assumed that each operational launcher contained an operational missile, and each operational missile carried an "attributed" number of warheads. The number of warheads attributed to each missile or bomber was the same for all missiles and bombers of that type. It did not recognize different loadings on individual delivery vehicles. This number was listed in an agreed database that the parties maintained during the life of the treaty. The parties then multiplied these warhead numbers by the number of deployed ballistic missiles and heavy bombers to determine the number of warheads that counted under the treaty's limits.

In most cases, the number of warheads attributed to each type of ICBM and SLBM was equal to the maximum number that missile had been tested with. START did, however, permit the parties to reduce the number of warheads attributed to some of their ballistic missiles through a process known as "downloading." When downloading missiles, a nation could remove a specified number of reentry vehicles from all the ICBMs at an ICBM base or from all the SLBMs in submarines at bases adjacent to a specified ocean.[17] They could then reduce the number of warheads attributed to those missiles in the database, and therefore, the number that counted under the treaty limits.

Unlike ballistic missiles, bombers counted as far fewer than the number of warheads they could carry. Bombers that were not equipped to carry long-range nuclear-armed cruise missiles counted as one warhead, even though they could carry 16 or more bombs and short-range missiles. U.S. bombers that were equipped to carry long-range nuclear-armed cruise missiles counted as 10 warheads, even though they could carry up to 20 cruise missiles. Soviet bombers that were

[17] A reentry vehicle is a cone-shaped container that holds a warhead to protect it from heat and other stresses when it reenters the Earth's atmosphere.

equipped to carry long-range nuclear-armed cruise missiles counted as 8 warheads, even though they could carry up to 16 cruise missiles. These numbers were then multiplied by the numbers of deployed heavy bombers in each category to determine the number of warheads that would count under the treaty limits.

In contrast with START, the Moscow Treaty did not contain any definitions or counting rules to calculate the number of warheads that counted under the treaty limit. Its text indicated that it limited deployed strategic warheads, but the United States and Russia could each determine its own definition of this term. The United States counted "operationally deployed" strategic nuclear warheads and included both warheads on deployed ballistic missiles and bomber weapons stored near deployed bombers at their bases. Russia, in contrast, did not count any bomber weapons under its total, as these weapons were not actually deployed on any bombers. Moreover, because the Moscow Treaty did not contain any sublimits on warheads deployed on different categories of delivery vehicles, the two parties only had to calculate an aggregate total for their deployed warheads. In addition, while they exchanged data under START on the numbers of accountable launchers and warheads every six months, they only had to report the number of warheads they counted under the Moscow Treaty once, on December 31, 2012, at the end of the treaty's implementation period.

Like START, the New START Treaty contains definitions and counting rules that will help the parties calculate the number of warheads that count under the treaty limits. For ballistic missiles, these rules follow the precedent set in the Moscow Treaty and count only the actual number of warheads on deployed delivery vehicles. For bombers, however, these rules follow the precedent set in START and attribute a fixed number of warheads to each heavy bomber.

Article III of the New START Treaty states that "for ICBMs and SLBMs, the number of warheads shall be the number of reentry vehicles emplaced on deployed ICBMs and on deployed SLBMs." Missiles will not count as if they carried the maximum number of warheads tested on that type of missile. Each missile will have its own warhead number and that number can change during the life of the treaty. The parties will not, however, visit each missile to count and calculate the total number of warheads in the force. The New START database will list total number of warheads deployed on all deployed launchers. The parties will then have the opportunity, 10 times each year, to inspect one missile or three bombers selected at random. At the start of these inspections, before the inspecting party chooses a missile or bomber to view, the inspected party will provide a list of the number of warheads on each missile or bomber at the inspected base. The inspecting party will then choose a missile at random, and confirm that the number listed in the database is accurate. This is designed to deter the deployment of extra warheads by creating the possibility that a missile with extra warheads might be chosen for an inspection.

As was the case under START, this inspection process does not provide the parties with the means to visually inspect and count all the deployed warheads carried on deployed missiles. Under START, this number was calculated by counting launchers and multiplying by an attributed number of warheads. Under New START, as was the case in the Moscow Treaty, each side simply declares its number of total deployed warheads and includes that number in the treaty database. Unlike the Moscow Treaty, however, the parties will provide and update these numbers every six months during the life of the treaty, rather than just once at the end of the treaty.

Under the New START Treaty, each deployed heavy bomber equipped with nuclear armaments counts as one nuclear warhead. This is true whether the bomber is equipped to carry cruise missiles or gravity bombs. Neither the United States nor Russia deploys nuclear weapons on their bombers on a day-to-day basis. Because the treaty is supposed to count, and reduce, actual warheads carried by deployed delivery vehicles, the bomber weapons that are not deployed on a day-to-day basis are excluded. In addition, because the parties will use on-site inspections to

confirm the actual number of deployed warheads on deployed delivery vehicles, and the bombers will have no warheads on them during inspections, the parties needed to come up with an arbitrary number to assign to the bombers. That number is one.

Conversion and Elimination

According to New START, ICBM launchers, SLBM launchers, and heavy bombers equipped to carry nuclear armaments shall continue to count under the treaty limits until they are converted or eliminated according to the provisions described in the treaty's Protocol. These provisions are far less demanding than those in the original START Treaty and will provide the United States and Russia with far more flexibility in determining how to reduce their forces to meet the treaty limits.

ICBM Launchers

Under START, ICBM launchers were "destroyed by excavation to a depth of no less than eight meters, or by explosion to a depth of no less than six meters." If missiles were removed from silos, and the silos were not eliminated in this fashion, then the silos still counted as if they held a deployed missile and as if the deployed missile carried the attributed number of warheads.

New START lists three ways in which the parties may eliminate ICBM silo launchers. It states that silo launchers "shall be destroyed by excavating them to a depth of no less than eight meters or by explosion to a depth of no less than six meters." It also indicates that the silos can be "completely filled with debris resulting from demolition of infrastructure, and with earth or gravel." Finally, it indicates the party carrying out the elimination can develop other procedures to eliminate its silos. It may have to demonstrate this elimination alternative to the other party, but that party cannot dispute or deny the use of that method.

Hence, instead of blowing up the silos or digging them out of the ground, the parties to the treaty might choose to disable the silo using measures it identifies itself, so that it can no longer launch a missile. This could be far less costly and destructive than the procedures mandated under START, and would help both nations eliminate some silos that have stood empty for years while continuing to count under the old START Treaty. For the United States, this would include the 50 silos that held Peacekeeper missiles until 2005 and the 50 silos that held Minuteman III missiles until 2008. The United States has never destroyed these silos, so they continued to count under START. It can now disable theses silos and remove them from its tally of launchers under the New START Treaty. According to the recent reports, the Air Force Global Strike Command began preparations to eliminate these silos in March 2011, and plans to fill them with gravel. It expects to complete this process by 2017.

Mobile ICBM launchers

Under START, the elimination process for launchers for road-mobile ICBMs required that "the erector-launcher mechanism and leveling supports shall be removed from the launcher chassis" and that "the framework of the erector-launcher mechanism on which the ICBM is mounted and erected shall be cut at locations that are not assembly joints into two pieces of approximately equal size." It also required that the missile launch support equipment be removed from the launcher chassis, and that the "mountings of the erector-launcher mechanism and of the launcher leveling supports shall be cut off the launcher chassis" and cut into two pieces of approximately equal size. START also required that 0.78 meters of the launcher chassis be cut off and cut into two parts, so that the chassis would be too short to support mobile ICBMs.

Under New START, the elimination process for launchers for road mobile ICBMs is far more simple and far less destructive. As was the case under START, the elimination "shall be carried out by cutting the erector-launcher mechanism, leveling supports, and mountings of the erector-launcher mechanism from the launcher chassis and by removing the missile launch support equipment ... from the launcher chassis." But neither the framework nor the chassis itself have to be cut into pieces. If the chassis is going to be used "at a declared facility for purposes not inconsistent with the Treaty" the surfaces of the vehicle that will be visible to national technical means of verification must be painted a different color or pattern than those surfaces on a deployed mobile ICBM launcher.

SLBM Launchers

Under START, the SLBM launch tubes were considered to be eliminated when the entire missile section was removed from the submarine; or when "the missile launch tubes, and all elements of their reinforcement, including hull liners and segments of circular structural members between the missile launch tubes, as well as the entire portion of the pressure hull, the entire portion of the outer hull, and the entire portion of the superstructure through which all the missile launch tubes pass and that contain all the missile launch-tube penetrations" were removed from the submarine. The missile launch tubes then had to "be cut into two pieces of approximately equal size."

Under New START, SLBM launch tubes can be eliminated "by removing all missile launch tube hatches, their associated superstructure fairings, and, if applicable, gas generators." In other words, the missile section of the submarine and the individual launch tubes can remain in place in the submarine, and cease to count under the treaty limits, if they are altered so that they can no longer launch ballistic missiles. Moreover, according to the Ninth Agreed Statement in the New START Protocol, SLBM launch tubes that have been converted in accordance with this procedure and are "incapable of launching SLBMs may simultaneously be located on a ballistic missile submarine" with launch tubes that are still capable of launching SLBMs. After a party completes this type of conversion, it "shall conduct a one-time exhibition of a converted launcher and an SLBM launcher that has not been converted" to demonstrate, to the other party, "the distinguishing features of a converted launcher and an SLBM launcher that has not been converted." The United States plans to use this procedure to reduce the number of launch tubes on each SSBN from 24 to 20. According to recent reports, it will begin this process in 2015, so that it will have no more than 240 operational launchers for SLBMs by the treaty deadline of February 2018.[18]

Under START, the United States had to essentially destroy an entire submarine to remove its launch tubes from accountability under the treaty limits. With these provisions in New START, the United States cannot only convert ballistic missile submarines to other uses without destroying their missile tubes and missile compartments; it can also reduce the number of accountable deployed SLBM launchers on ballistic missile submarines that continue to carry nuclear-armed SLBMs. These provisions will provide the United States a great deal of flexibility when it determines the structure of its nuclear forces under New START.

During the past decade, the United States converted four of its Trident ballistic missile submarines so that they no longer carry ballistic missiles but now carry conventional cruise missiles and other types of weapons. These are now known as SSGNs. Because the United States did not remove the missile compartment from these submarines, they continued to count as if they

[18] Hans M. Kristensen and Robert S. Norris, "U.S. Nuclear Forces, 2014," *Bulletin of the Atomic Scientists*, January 2013, http://bos.sagepub.com/content/70/1/85.full.pdf+html.

carried 24 Trident missiles, with 8 warheads per missile, under the old START Treaty. These submarines will not count under the New START Treaty.

In the Second Agreed Statement in the New START Protocol, the United States has agreed that, "no later than three years after entry into force of the Treaty, the United States of America shall conduct an initial one-time exhibition of each of these four SSGNs. The purpose of such exhibitions shall be to confirm that the launchers on such submarines are incapable of launching SLBMs." Moreover, if an SSGN is located at an SSBN base when a Russian inspection team visits that base, the inspection team will have the right to inspect the SSGN again to confirm that the launchers have not been converted back to carry SLBMs. Russia can conduct six of these re-inspections during the life of the treaty, but no more than two inspections of any one of the SSGNs.

Heavy Bombers

Under START, heavy bombers were eliminated by having the tail section cut off of the fuselage at a location that obviously was not an assembly joint; having the wings separated from the fuselage at any location by any method; and having the remainder of the fuselage cut into two pieces, with the cut occurring in the area where the wings were attached to the fuselage, but at a location obviously not an assembly joint.

START also allowed the parties to remove heavy bombers from treaty accountability by converting them to heavy bombers that were not equipped to carry nuclear armaments. According to the elimination and conversion Protocol in START, this could be done by modifying all weapons bays and by removing or modifying the external attachment joints for either long-range nuclear ALCMs or other nuclear armaments that the bombers were equipped to carry.

The elimination procedure for heavy bombers has also been simplified under New START. To eliminate bombers, the parties must cut "a wing or tail section from the fuselage at locations obviously not assembly joints," *or* cut "the fuselage into two parts at a location obviously not an assembly joint." It no longer has to remove the wings from the fuselage. In addition, to convert a bomber counted under the treaty to a heavy bomber no longer equipped to carry nuclear armaments, the parties can either modify the weapons bays and external attachments for pylons so that they cannot carry nuclear armaments, or modify all internal and external launcher assemblies so that they cannot carry nuclear armaments, or develop any other procedure to carry out the conversion. As was the case with the conversion and elimination of missile launchers, the party may have to demonstrate its conversion procedure, but the other party does not have the right to object or reject the procedure.

The United States no longer equips its B-1 bombers with nuclear weapons, and has no plans to do so in the future. It has not, however, converted these bombers to nonnuclear heavy bombers using the procedures outlined in START. As a result, they continued to count as one delivery vehicle and one warhead under the counting rules in START. The United States does not, however, want to count these bombers under the New START Treaty. As a result, in the First Agreed Statement, the United States and Russia agreed, during the first year that the treaty is in force, the United States will conduct a "one-time exhibition" to demonstrate to Russia that these bombers are no longer equipped to carry nuclear weapons. The bombers that no longer carry nuclear weapons will have a "distinguishing feature" that will be recorded in the treaty database and will be evident on all B-1 bombers that are no longer equipped to carry nuclear weapons. After all the B-1 bombers have been converted in this manner, they will no longer count against the limits in the New START Treaty.

Mobile ICBMs

Mobile ICBMs in START

Mobile ICBMs became an issue in the original START negotiations in the mid-1980s, as the Soviet Union began to deploy a single-warhead road-mobile ICBM, the SS-25, and a 10-warhead rail-mobile ICBM, the SS-24.[19] The United States initially proposed that START ban mobile ICBMs because the United States would not be able to locate or target these systems during a conflict. Some also questioned whether the United States would be able to monitor Soviet mobile ICBM deployments well enough to count the missiles and verify Soviet compliance with the limits in START. Some also argued that the Soviet Union might be able to stockpile hidden missiles and launchers, and to reload mobile ICBM launchers during a conflict because the United States could not target and destroy them.

The Soviet Union refused to ban mobile ICBMs. As a result, START limited the United States and Soviet Union to 1,100 warheads on mobile ICBMs. The treaty also limited the numbers of nondeployed missiles and nondeployed launchers for mobile ICBMs. Each side could retain 250 missiles and 110 launchers for mobile ICBMs, with no more than 125 missiles and 18 launchers for rail mobile ICBMs. This did not eliminate the risk of "breakout," which refers to the rapid addition of stored missiles to the deployed force, but it did limit the magnitude of the breakout potential and the number of missiles that the Soviet Union could "reload" on deployed launchers during a conflict.

START also contained a number of complementary, and sometimes overlapping, monitoring mechanisms that were designed to help the parties keep track of the numbers and locations of permitted missiles.[20] Each side could monitor the final assembly facility for the missiles to count them as they entered the force.[21] The parties also agreed to record the serial numbers, referred to in the treaty as "unique identifiers," for the mobile ICBMs, and to list these numbers in the treaty's database. These numbers were used to help track and identify permitted missiles because the parties could check the serial numbers during on-site inspections to confirm that the missiles they encountered were those that they expected to see at the facility during the inspection. The parties also had to provide notifications when mobile ICBMs moved between permitted facilities and when mobile ICBMs moved out of their main operating bases for an exercise. These notifications were designed to complicate efforts to move extra, hidden missiles into the deployed force. Finally, missiles and launchers removed from the force had to be eliminated according to specific procedures outlined in the treaty. This not only helped the parties keep an accurate count of the deployed missiles, but served as a further deterrent to efforts to hide extra missiles outside the treaty regime.

[19] In 1987, the United States began to develop its own mobile ICBM, the 10-warhead MX (Peacekeeper) missile, and it continued to explore mobile basing for the new single-warhead small ICBM. Although it eventually deployed the Peacekeeper missile in fixed silos, the parties considered it to be a mobile ICBM under the terms of START.

[20] For more information on the monitoring regime in START, see CRS Report R41201, *Monitoring and Verification in Arms Control*, by Amy F. Woolf.

[21] The perimeter/portal continuous monitoring systems (PPCMS) consisted of fences surrounding the entire perimeter of the facility and one restricted portal through which all vehicles large enough to carry items limited by the treaty (such as the first stage of a mobile ICBM) had to pass. The portal contained scales and other measuring devices that the countries could use to determine whether the vehicle carried an item limited by the treaty.

Mobile ICBMs in New START

The New START Treaty contains many limits and restrictions that will affect Russia's force of mobile ICBMs, but it does not single them out with many of the additional constraints that were contained in START. Russia pressed for an easing of the restrictions on mobile ICBMs in New START, in part because these restrictions were one sided and only affected Russian forces. But Russian officials also noted, and the United States agreed, that mobile ICBMs could enhance the survivability of Russia's nuclear forces, and therefore strengthen strategic stability under the new treaty.

The United States was also willing to relax the restrictions on mobile ICBMs because it is far less concerned about Russia's ability to break out of the treaty limits than it was in the 1980s. After 15 years of START implementation, the United States has far more confidence in its knowledge of the number of deployed and nondeployed Russian mobile ICBMs, as it kept count of these missiles as they entered and left the Russian force during START. There is also far less concern about Russia stockpiling extra missiles while New START is in force. During the 1980s, the Soviet Union produced dozens of new missiles each year; Russia now adds fewer than 10 missiles to its force each year.[22] Some estimates indicate that, with this level of production, Russia will find it difficult to retain the 700 deployed missiles permitted by the treaty. In such a circumstance, it would have neither the need nor the ability to stockpile and hide extra missiles. Moreover, where the United States was once concerned about Russia's ability to reload its mobile launchers with spare missiles, after launching the first missiles during a conflict, this scenario no longer seems credible. It would mean that Russia maintained the ability to send extra missiles and the equipment needed to load them on launchers out on patrol with its deployed systems and that it could load these missiles quickly, in the field, in the midst of a nuclear war, with U.S. weapons falling all around. Yet, Russia has not practiced or exercised this capability and it is hard to imagine that it would try it, for the first time, in the midst of a nuclear war.

The New START Treaty does not contain a sublimit on mobile ICBMs or their warheads. It also does not contain any limits on the number of nondeployed mobile ICBMs or the number of nondeployed mobile ICBM launchers. These launchers and warheads will, however, count under the aggregate limits set by the treaty, including the limit of 800 deployed and nondeployed launchers. As a result, the United States will still need to count the number of mobile ICBMs in Russia's force.

New START will not permit perimeter and portal monitoring at missile assembly facilities. The parties must, however, provide notification at least 48 hours before the time when solid-fuel ICBMs and solid-fuel SLBMs leave the production facilities. Moreover, the parties will continue to list the serial numbers, or unique identifiers, for mobile ICBMs in the shared database.[23]

New START limits the locations of mobile ICBMs and their launchers, both to help the United States keep track of the missiles covered by the treaty and to deter Russian efforts to hide extra missiles away from the deployed force. Deployed mobile ICBMs and their launchers must be located only at ICBM bases. All nondeployed launchers for mobile ICBMs must be located at "production facilities, ICBM loading facilities, repair facilities, storage facilities, conversion or elimination facilities, training facilities, test ranges, and space launch facilities." The locations of nondeployed mobile ICBMs are also limited to loading facilities, maintenance facilities, repair

[22] According to one U.S. inspector, monitoring at Votkinsk "was very monotonous. We could have months go by without inspecting a missile." See Elaine M. Grossman, "U.S. Treaty-Monitoring Presence at Russian Missile Plant Winding Down," *Global Security Newswire,* November 20, 2009.

[23] In START, the parties recorded unique identifiers only for mobile ICBMs. In New START, the parties will record these numbers for all ICBMs, SLBMs, and heavy bombers covered by the limits in Treaty.

facilities, storage facilities, conversion or elimination facilities test ranges, space launch facilities, and production facilities. Some of these facilities may be at bases for operational mobile ICBMs, but, in that case, the nondeployed missiles must remain in the designated facility and cannot be located in deployment areas.

Moreover, when deployed or nondeployed missiles or launchers move from one facility to another, the parties will have to update the database so each facility contains a complete list of each item located at that facility, and of the unique identifier associated with each item. Then, according to the Protocol to the Treaty, "inspectors shall have the right to read the unique identifiers on all designated deployed ICBMs or designated deployed SLBMs, non-deployed ICBMs, non-deployed SLBMs, and designated heavy bombers that are located at the inspection site."[24] Hence, the parties will have the opportunity to confirm that items located at the facilities are supposed to be there.

This is designed not only to increase transparency and understanding while the treaty is in force, but also to discourage efforts to hide extra missiles and break out of the treaty limits. The treaty does not limit the number of nondeployed missiles, but it does provide the United States with continuous information about their locations and the opportunity, during on-site inspections, to confirm that these missiles are not mixed into the deployed force. Moreover, the number of nondeployed launchers for these missiles is limited, under the 800 limit on deployed and nondeployed launchers. So, even if Russia did accumulate a stock of nondeployed missiles, the number that it could add to its force in a relatively short amount of time would be limited.

Some have questioned whether Russia might use these stored mobile ICBMs to break out of the treaty by deploying them on mobile launchers that are not limited by the treaty. Specifically, they have questioned whether the New START Treaty would count rail-mobile ICBMs, and, if not, whether Russia could develop and deploy enough of these launchers to gain a military advantage over the United States.[25] This concern derives from the definition of mobile launcher in the paragraph 45 of the Protocol to the Treaty, which indicates that a mobile launcher is "an erector-launcher mechanism for launching ICBMs and the *self-propelled* device on which it is mounted [emphasis added]." This definition clearly captures road-mobile launchers, such as those that Russia uses for its SS-25 and SS-27 missiles, because the transporters for these missiles are self-propelled. But a rail car that carried an erector-launcher for an ICBM would not be self-propelled; it would be propelled by the train's locomotive.

Others, however, point to several provisions in the treaty that indicate that rail-mobile launchers of ICBMs would count under the treaty limits. First, they note that the treaty limits all deployed and nondeployed ICBM launchers. It defines ICBM launcher, in paragraph 28 of the Protocol to the Treaty, as "a device intended or used to contain, prepare for launch, and launch an ICBM." Any erector-launcher for ICBMs would be covered by this definition, regardless of whether it was deployed on a fixed site, on a road-mobile transporter, or on a railcar.

Moreover, the article-by-article analysis of the treaty specifically states that "all of the defined terms are used in at least one place elsewhere in the Treaty documents." Article III, paragraph 8 of the treaty lists the current types of weapons deployed by each side and notes that these all count against the limits. It does not list any missiles deployed on rail-mobile launchers, and, therefore, the Protocol does not define rail-mobile launchers, because Russia no longer deploys

[24] http://www.state.gov/documents/organization/140047.pdf.

[25] See, for example, Christopher Ford, "Does New START Fumble Reloads and Rail-Mobile ICBMs?" New Paradigms Forum, April 26, 2010, http://02e18f7.netsolhost.com/New_Paradigms_Forum/Nuclear_Weapons/Entries/2010/4/26_New_START_Fumbles_Missile_REloads_and_Rail-Mobile_ICBMs.html.

any missiles on rail-mobile launchers. It had deployed SS-24 missiles on such launchers during the 1980s and 1990s, but these were all retired in the past decade, and the last operating base for these missiles and railcars was closed in 2007.[26]

The treaty would not prohibit Russia from deploying these types of systems again in the future. Article V specifically states that "modernization and replacement of strategic offensive arms may be carried out." However, the second paragraph of this article indicates that, "when a party believes a new kind of strategic offensive arms is emerging, that party shall have the right to raise the question of such a strategic offensive arm for consideration in the Bilateral Consultative Commission." Section 6 of the Protocol to the Treaty, which describes the Bilateral Consultative Commission, states that this body should "resolve questions related to the applicability of provisions of the treaty to a new kind of strategic offensive arm." In addition, Article XV of the treaty states that "if it becomes necessary to make changes in the Protocol ... that do not affect the substantive rights or obligations under this Treaty," the parties can use the BCC to reach agreement on these changes without amending the treaty. Hence, if Russia were to deploy ICBMs on rail-mobile launchers, the parties could modify the definition to "mobile launcher" to confirm that these weapons count under the treaty limits.

New START does not define rail-mobile launchers for ICBMs because neither the United States nor Russia currently deploys these systems and the treaty does not specifically prohibit their deployment in the future. If, however, either party installs an erector-launcher for an ICBM on a rail car, that launcher would count under the treaty limits, and the new type of strategic arm, represented by the launcher on a railcar, would be covered by the limits in the treaty. The parties would then use the BCC to determine which of the monitoring provisions and elimination and conversion rules applied to that type of weapons system.

Monitoring and Verification[27]

The original START Treaty included a comprehensive and overlapping set of provisions that was designed to allow the United States and Soviet Union to collect a wide range of data on their forces and activities and to determine whether the forces and activities were consistent with the limits in the treaty. While each party would collect most of this information with its own satellites and remote sensing equipment—known as national technical means of verification (NTM)—the treaty also called for the extensive exchange of data detailing the numbers and locations of affected weapons, numerous types of on-site inspections, notifications, exhibitions, and continuous monitoring at assembly facilities for mobile ICBMs. Further, in START, the parties agreed that they would not encrypt or otherwise deny access to the telemetry generated during missile flight tests, so that the other side could record these data and use them in evaluating the capabilities of missile systems.

The New START Treaty contains a monitoring and verification regime that resembles the regime in START, in that its text contains detailed definitions of items limited by the treaty, provisions governing the use of NTM to gather data on each side's forces and activities, an extensive database that identifies the numbers, types, and locations of items limited by the treaty, provisions requiring notifications about items limited by the treaty, and inspections allowing the parties to confirm information shared during data exchanges. At the same time, the verification regime has been streamlined to make it less costly and complex than the regime in START. It also has been

[26] Pavel Podvig, *New START on Rail-Mobile ICBMs and Reloads*, April 29, 2010, http://russianforces.org/blog/2010/04/new_start_on_rail-mobile_icbms.shtml.

[27] For more information on the monitoring and verification regime in New START, see CRS Report R41201, *Monitoring and Verification in Arms Control*, by Amy F. Woolf.

adjusted to reflect the limits in New START and the current circumstances in the relationship between the United States and Russia. In particular, it focuses on maintaining transparency, cooperation, and openness, as well as on deterring and detecting potential violations.

Under New START, the United States and Russia continue to rely on their NTM to collect information about the numbers and locations of their strategic forces. They may also broadcast and exchange telemetry—the data generated during missile flight tests—up to five times each year. They do not need these data to monitor compliance with any particular limits in New START, but the telemetry exchange will provide some transparency into the capabilities of their systems.[28] The parties also exchange a vast amount of data about their forces, specifying not only their distinguishing characteristics, but also their precise locations. They will notify each other, and update the database, whenever they move forces between declared facilities. The treaty also requires the parties to display their forces, and allows each side to participate in exhibitions, to confirm information listed in the database.

New START permits the parties to conduct up to 18 short-notice on-site inspections each year. These inspections began in early April 2011, 60 days after the treaty entered into force. These inspections can occur at facilities that house both deployed and nondeployed launchers and missiles. The treaty divides these into Type One inspections and Type Two inspections. Each side can conduct up to 10 Type One inspections and up to 8 Type Two inspections. Moreover, during each Type One inspection, the parties will be able to perform two different types of inspection activities—these are essentially equivalent to the data update inspections and reentry vehicle inspections in the original START Treaty. As a result, the 18 short-notice inspections permitted under New START are essentially equivalent to the 28 short-notice inspections permitted under START.

Type One Inspections

Type One inspections are those that occur at ICBM bases, submarine bases, and air bases that house deployed or nondeployed launchers, missiles, and bombers. The parties use these inspections "to confirm the accuracy of declared data on the numbers and types of deployed and non-deployed strategic offensive arms subject to this treaty. During Type One inspections, the parties may also confirm that the number of warheads located on deployed ICBMs and deployed SLBMs and the number of nuclear armaments located on deployed heavy bombers" are consistent with the numbers declared deployed on those specific launchers.

The inspections used to confirm the number of deployed warheads in New START will be distinctly different from the inspections in START because the counting rules for ballistic missiles have changed. Under START, the treaty database listed the number of warheads *attributed* to a type of missile, and each missile of that type counted as the same number of warheads. The parties then inspected the missiles to confirm that the number of warheads on a particular missile did not exceed the number attributed to that type of missile. The database in New START will list the aggregate number of warheads deployed on all the missiles at a given base, but before beginning a Type One inspection, the team will receive a briefing on the actual number of warheads deployed *on each missile* at the base. During the inspections, the parties will have the right to designate one ICBM or one SLBM for inspection, and, when inspecting that missile, the parties will be able to count the actual number of reentry vehicles deployed on the missile to confirm that it equals the number provided for that particular missile prior to the inspection. The inspected party can cover the reentry vehicles to protect information not related to the number of

[28] U.S. State Department, Bureau of Verification, Compliance and Implementation, *Telemetry*, fact sheet, Washington, DC, April 8, 2010, https://2009-2017.state.gov/t/avc/rls/139904.htm.

warheads, but the party must use covers that allow the inspectors to identify the actual number of warheads on the missile.

Because these inspections are random, and occur on short notice, they provide the parties with a chance to detect an effort by the other party to deploy a missile with more than its listed number of warheads. As a result, the inspections may deter efforts to conceal extra warheads on the deployed force. These inspections, by allowing the parties to count the actual number of deployed warheads, provide added transparency.

Type Two Inspections

Type Two inspections occur at facilities that house nondeployed or converted launchers and missiles. These include "ICBM loading facilities; SLBM loading facilities; storage facilities for ICBMs, SLBMs, and mobile launchers of ICBMs; repair facilities for ICBMs, SLBMs, and mobile launchers of ICBMs; test ranges; and training facilities." The parties will perform these inspections "to confirm the accuracy of declared technical characteristics and declared data, specified for such facilities, on the number and types of non-deployed ICBMs and non-deployed SLBMs, first stages of ICBMs and SLBMs, and nondeployed launchers of ICBMs." In addition, they can conduct these inspections at formerly declared facilities, "to confirm that such facilities are not being used for purposes inconsistent with this Treaty." They can also use Type II inspections to confirm that solid-fueled ICBMs, solid-fueled SLBMs, or mobile launchers of ICBMs have been eliminated according to treaty procedures.

Ballistic Missile Defense

Presidents Obama and Medvedev had agreed, when they met in April 2009, that the two nations would address Russia's concerns with U.S. missile defense programs in a separate forum from the negotiations on a New START Treaty.[29] However, during their meeting in Moscow in July 2010, Presidents Obama and Medvedev agreed that the treaty would contain a "provision on the interrelationship of strategic offensive arms and strategic defensive arms."[30] This statement, which appears in the preamble to New START, states that the parties recognize "the existence of the interrelationship between strategic offensive arms and strategic defensive arms, that this interrelationship will become more important as strategic nuclear arms are reduced, and that current strategic defensive arms do not undermine the viability and effectiveness of the strategic offensive arms of the parties."

Russia and the United States each issued unilateral statements when they signed New START that clarified their positions on the relationship between New START and missile defenses. Russia stated that

> the Treaty can operate and be viable only if the United States of America refrains from developing its missile defense capabilities quantitatively or qualitatively. Consequently, the exceptional circumstances referred to in Article 14 of the Treaty include increasing the

[29] 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. https://obamawhitehouse.archives.gov/the-press-office/joint-statement-president-dmitriy-medvedev-russian-federation-and-president-barack-.

[30] The White House, Office of the Press Secretary, "Joint Understanding by Obama, Medvedev on Weapon Negotiations," July 8, 2009, https://obamawhitehouse.archives.gov/the-press-office/joint-understanding-start-follow-treaty.

> capabilities of the United States of America's missile defense system in such a way that threatens the potential of the strategic nuclear forces of the Russian Federation.[31]

In its statement, the United States stated that its

> missile defense systems are not intended to affect the strategic balance with Russia. The United States missile defense systems would be employed to defend the United States against limited missile launches, and to defend its deployed forces, allies and partners against regional threats. The United States intends to continue improving and deploying its missile defense systems in order to defend itself against limited attack and as part of our collaborative approach to strengthening stability in key regions.[32]

These statements do not impose any obligations on either the United States or Russia. As Senator Lugar indicated before New START was signed, these statements are, "in essence editorial opinions." Under Secretary of State Ellen Tauscher also stated that "Russia's unilateral statement on missile defenses is not an integral part of the New START Treaty. It's not legally-binding. It won't constrain U.S. missile defense programs."[33] These statements also do not provide Russia with "veto power" over U.S. missile defense systems. Although Russia has said it may withdraw from the treaty if the U.S. missile defenses threaten "the potential of the strategic nuclear forces of the Russian Federation," the United States has no obligation to consult with Russia to confirm that its planned defenses do not cross this threshold. It may develop and deploy whatever defenses it chooses; Russia can then determine, for itself, whether those defenses affect its strategic nuclear forces and whether it thinks the threat to those forces justifies withdrawal from the treaty.

Article V, paragraph 3 of New START also mentions ballistic missile defense interceptors. It states that the parties cannot convert ICBM launchers and SLBM launchers to launchers for missile defense interceptors and that they cannot convert launchers of missile defense interceptors to launchers for ICBMs and SLBMs. At the same time, the treaty makes it clear that the five ICBM silos at Vandenberg Air Force Base that have already been converted to carry missile defense interceptors are not affected by this prohibition. It states that "this provision shall not apply to ICBM launchers that were converted prior to signature of this Treaty for placement of missile defense interceptors therein."

This provision is designed to address Russian concerns about the U.S. ability to "break out" of the treaty by placing ICBMs in silos that had held missile defense interceptors or by converting ICBM silos to missile interceptor silos then quickly reversing that conversion to add offensive missiles to its forces with little warning. Russia began to express this concern after the United States converted the five ICBM silos at Vandenberg for missile defense interceptors. It initially sought to reverse this conversion, or at least to count the silos under the New START limits. The United States refused, but, in exchange for Russia accepting that the five converted silos would not count under New START, the United States agreed that it would not convert additional silos.

The provision will also protect U.S. missile defense interceptors from the START inspection regime. If the parties were permitted to convert missile defense silos to ICBM silos, they would also have been able to visit and inspect those silos to confirm that they did not hold missiles

[31] Article 14, following the form of most previous arms control treaties, indicates that each party shall have the right to withdraw from the treaty if it decides that extraordinary events related to the subject of the treaty have jeopardized its supreme national interests. For the Russian statement, see http://eng.kremlin.ru/text/docs/2010/04/225214.shtml.

[32] https://2009-2017.state.gov/documents/organization/140406.pdf.

[33] Under Secretary of State Ellen Tauscher, *The Case for New START Ratification*, Atlantic Council Panel Discussion, April 21, 2010, https://2009-2017.state.gov/t/us/140633.htm.

limited by the treaty. The ban on such conversions means that this type of inspection is not only unnecessary, but also not permitted.

The Obama Administration has stated on many occasions that the New START Treaty does not contain any provisions that limit the numbers or capabilities of current or planned U.S. ballistic missile defense systems.[34] The ban on launcher conversion does not alter this conclusion because the United States has no plans to use any additional ICBM launchers or any SLBM launchers to hold missile defense interceptors. It is constructing new launchers for its missile defense systems. Some have questioned, however, whether the ban on silo conversion may limit missile defenses in the future, particularly if the United States wanted to respond to an emerging missile threat by quickly expanding its numbers of missile defense interceptors.[35]

General Jim Jones, President Obama's National Security Adviser during the negotiations, stated that this provision is a "limit in theory, but not in reality."[36] It is not just that the United States has no plans to convert ICBM silos to missile defense interceptor silos, it is that it would be quicker and less expensive for the United States to build new silos for missile defense interceptors than to remove the ICBMs and all their equipment, reconfigure the silo, and install all the equipment for the missile defense interceptors. Moreover, given that the missile defense interceptor launched from the central United States, where U.S. ICBM silos are located, would drop debris on U.S. territory, the United States might prefer to locate its missile defense interceptors in new launchers near the U.S. coast.

General Patrick O'Reilly, then the Director of the Missile Defense Agency, also stated that his agency "never had a plan to convert additional ICBM silos at Vandenberg and intends to hedge against increased BMDS [ballistic missile defense system] requirements by completing construction of Missile Field 2 at Fort Greely. Moreover, we determined that if more interceptors were to be added at Vandenberg AFB, it would be less expensive to build a new GBI [ground-based interceptor] missile field (which is not prohibited by the treaty)."[37] He went on to note that "some time ago we examined the concept of launching missile defense interceptors from submarines and found it an unattractive and extremely expensive option." Putting missile defense interceptors in SLBM launchers would undermine the primary mission of the submarine, which is designed to patrol deeply and quietly to remain invulnerable to attack, by requiring it to remain in one place near the surface while it sought to track and engage attacking missiles.

Conventional Long-Range Strike

During their summit meeting in July 2009, 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 statement, which is in the preamble to the treaty, simply states that the parties are "mindful of the impact of conventionally armed ICBMs and SLBMs on strategic stability."

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[34] The White House, Office of the Press Secretary, *Key Facts About the New START Treaty*, Washington, DC, March 26, 2010, https://obamawhitehouse.archives.gov/the-press-office/key-facts-about-new-start-treaty. See also the remarks of Under Secretary of State Ellen Tauscher at Atlantic Council Panel Discussion on April 21, 2010, https://2009-2017.state.gov/t/us/140633.htm.

[35] "Stopping Missile Defense?," *Wall Street Journal*, April 17, 2010, p. A12.

[36] James L. Jones, "New START Treaty Won't Limit Missile Defenses," *Wall Street Journal*, April 20, 2010.

[37] U.S. Congress, House Armed Services, Strategic Forces, *President Obama's Fiscal 2011 Budget Request for the Missile Defense and Ballistic Missile Review Programs*, Hearing, 111th Cong., 2nd sess., April 14, 2010.

During the negotiations on New START, Russia voiced concerns about U.S. plans to deploy conventional warheads on ballistic missiles that now carry nuclear warheads.[38] Russian officials have argued that these weapons could upset stability for several reasons. First, even if Russia were not the target of an attack with these missiles, it might not know whether the missile carried a nuclear warhead or a conventional warhead, or whether it was headed toward a target in Russia. Moreover, ballistic missiles armed with conventional warheads could destroy significant targets in Russia and, therefore, they might provide the United States with the ability to attack such targets, with little warning, without resorting to nuclear weapons. Finally, some argued that the United States might replace the conventional warheads with nuclear warheads to exceed the limits in a treaty.

Russia initially sought to include a provision in New START that would ban the deployment of conventional warheads on strategic ballistic missiles. The United States rejected this proposal. It was considering this capability as a way to attack targets around the world promptly, and did not envision using these weapons against Russia. As a result, as the White House noted in its Fact Sheet on New START, "the Treaty does not contain any constraints on ... current or planned United States long-range conventional strike capabilities."[39] However, if the United States deployed conventional warheads on missiles that are covered by the limits in START, the warheads on these missiles would count under the treaty limit on deployed warheads. Because the United States expected to deploy very small numbers of these systems, this trade-off would not have a significant effect on U.S. nuclear capabilities.[40]

Moreover, if the United States deployed conventional warheads on new types of long-range strike systems, these systems would not necessarily count under or be affected by the limits in New START. The United States would likely consider these to be a "new type of strategic offensive arms." Under Article V, paragraph 2, Russia would have the right to raise its concerns about these weapons within the Bilateral Consultative Commission (BCC), but the United States would not have to accept Russia's interpretation or accede to any requests to count the systems under the treaty.[41] The same procedures would apply if Russia were to develop new types of strategic offensive arms—with either nuclear or conventional warheads. The United States could raise its concerns with these weapons in the BCC, but Russia would not have to accept a U.S. request to count these weapons under the treaty.

[38] For information about the issues associated with the potential deployment of conventional warheads on ballistic missiles see CRS Report R41464, *Conventional Prompt Global Strike and Long-Range Ballistic Missiles: Background and Issues*, by Amy F. Woolf. See also David E. Sanger and Thom Shanker, "U.S. Faces Choice of New Weapons for Fast Strikes," *New York Times*, April 23, 2010.

[39] The White House, Office of the Press Secretary, "Key Facts About the New START Treaty," Washington, DC, March 26, 2010, https://obamawhitehouse.archives.gov/the-press-office/key-facts-about-new-start-treaty.

[40] U.S. State Department, Bureau of Verification, Compliance, and Implementation, *Conventional Prompt Global Strike*, fact sheet, Washington, DC, April 8, 2010, https://2009-2017.state.gov/t/avc/rls/139913.htm.

[41] Article V, paragraph 2 of the treaty states that "when a party believes a new kind of strategic offensive arms is emerging, that party shall have the right to raise the question of such a strategic offensive arm for consideration in the Bilateral Consultative Commission."

U.S. and Russian Forces Under New START

U.S. Forces

According to the 2010 Nuclear Posture Review (NPR), which was released by DOD on April 6, 2010,[42] the United States planned to maintain a triad of ICBMs, SLBMs, and heavy bombers under New START.[43] The 2010 NPR did not specify how many ICBMs would remain in the force, but indicated that each would be deployed with only one warhead. It also indicated that the United States would, initially at least, retain 14 Trident submarines. It might, however, reduce its fleet to 12 submarines after 2015. The NPR did not indicate whether the Trident submarines would continue to be deployed with 24 missiles on each submarine, or if the Navy would eliminate some of the launchers on operational submarines in accordance with the treaty's Ninth Agreed Statement. Finally, the NPR indicated that the United States would convert some of its 76 dual-capable B-52 bombers to a conventional-only role.

The Obama Administration clarified its plans for U.S. forces under New START in the 1251 plan that it submitted to the Senate with the treaty documents on May 13, 2010.[44] This plan indicated that the United States would eliminate at least 30 deployed ICBMs, retaining a force of up to 420 deployed launchers under the treaty limits. It would also retain 14 Trident submarines, but each submarine would contain only 20 launchers, and two of the submarines would be in overhaul at any time, so only 240 launchers would count under the limit on deployed launchers. In addition, the report indicated that the United States would retain up to 60 deployed bombers equipped for nuclear weapons, including all 18 B-2 bombers in the current force.

This force would have included up to 720 deployed ICBMs, SLBMs, and heavy bombers, a number that exceeds the 700 deployed missiles and bombers permitted by the treaty. In a hearing before the Senate Armed Services Committee on June 17, 2010, Secretary of Defense Gates and Admiral Mullen, then Chairman of the Joint Chiefs of Staff, acknowledged that the United States would have to make a small number of further reductions, or convert a small number of additional systems to nondeployed status, to meet the treaty limits. However, they noted that because the United States would have seven years to reduce its forces to these limits, they saw no reason to identify a final force structure at that point. Secretary Gates noted that DOD was considering a number of options for the final force structure, and would make a decision on this force structure after considering the international security environment and Russia's force structure in the treaty's later years.

The Obama Pentagon released its plans for the New START force structure in April 8, 2014. As was indicated in May 2010, this force will include 14 submarines with 20 launchers on each submarine. Because two submarines will be in overhaul at any time, these submarines will count as carrying 240 deployed launchers within a total of 280 deployed and nondeployed launchers. The force also calls for a reduction in the number of deployed ICBMs from 450 to 400, with the retention of all 50 empty launchers, for a total force of 450 deployed and nondeployed ICBM launchers. The Air Force will also count 4 ICBM test launchers as nondeployed launchers within

[42] U.S. Department of Defense, *Nuclear Posture Review*, Washington, DC, April 6, 2010, pp. 19-25.

[43] The 2018 Nuclear Posture Review reaffirms this commitment to retaining the triad. U.S. Department of Defense, *Nuclear Posture Review*, report, Washington, DC, February 2, 2018, https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF.

[44] Congress mandated that the President submit a report on this plan in Section 1251 of the FY2010 Defense Authorization Act, P.L. 111-84.

the total. Finally, New START force will include 60 deployed bombers and 6 nondeployed bombers.

Even before it determined the final force structure, the Pentagon had requested funding to pursue activities that would enable these reductions, regardless of the specific force structure decisions. For example, in the FY2014 budget, the Pentagon requested funding for an environmental assessment (EA) that would be needed before it could eliminate ICBM silos. Several Members of Congress objected to this study, arguing that it would allow the Administration to eliminate an ICBM squadron regardless of whether this turned out to be the preferred option for force reductions. Several Members strongly supported the retention of all 450 ICBM silos, even if a portion of them were nondeployed, with the missiles removed to meet the New START limit of 700 deployed launchers.[45]

The Pentagon responded to this criticism by noting that the EA would not predetermine the outcome of the force structure decision. However, if it were not initiated by the end of 2013, it would not be completed in time to support reductions by 2018, if the Pentagon chose to pursue those reductions. In other words, even if the study were completed, the ICBM silos could remain in the force, but if the study was not begun in time, the ICBM silos could not be eliminated, even if that proved to be the preferred force structure option. In response to these concerns, Congress included a provision in the National Defense Authorization Act for 2014 (H.R. 3304, §1056) that limited the Pentagon's ability to reduce U.S. forces under New START. Specifically, the legislation states that "the Secretary of Defense may only use funds authorized to be appropriated by this Act or otherwise made available for fiscal year 2014 to carry out activities to prepare for such reductions." Further, the legislation states that only 50% of the funds authorized for the EA can be obligated or expended until the Secretary of Defense submits the required plan that describes preferred force structure option under New START. The Pentagon has now submitted the plan, but it is unclear whether the EA will proceed.

Table 2, below, contains an estimated force structure of the United States prior to New START's entry into force; the force structure as of February 5, 2018 (when the reductions were required to meet the treaty limits); and the New START force outlined by the Administration in April 2014. As these data demonstrate, the United States reached the reduced force level required by the treaty. Within these limits, the United States retains a triad of ICBMs, SLBMs, and heavy bombers. It has reduced the number of deployed nuclear-armed B-52 bombers by converting many to conventional missions. It has reduced the number of launchers on its Trident submarines and retains 400 Minuteman III missiles. An additional 54 Minuteman III launchers do not hold ICBMs and therefore do not count under the 700 limit for deployed launchers. As noted below, when two additional Trident submarines return to the fleet, the United States will have the treaty-permitted 700 deployed launchers and it will adjust the number of warheads on deployed SLBMs to meet the treaty limit of 1,550 warheads.

The United States did not have to destroy many ICBM or SLBM launchers to reach the limits in New START. The treaty includes provisions that allowed the United States to exempt many of its existing nondeployed launchers, including 94 B-1 bombers, and 4 ballistic missile submarines that have been converted to carry cruise missiles, from treaty limits. Moreover, as it reduced its deployed forces, the United States did not have to destroy either ICBM or SLBM launchers; it could deactivate them so that they could no longer launch ballistic missiles. Instead of eliminating missiles and launchers, the United States reached the limits in New START by deploying its missiles with far fewer than the maximum number of warheads that each could be equipped to

[45] Jeremy Herb, "Senators Tell Hagel Not to Study ICBM Cuts," *The Hill*, September 27, 2013, http://thehill.com/blogs/defcon-hill/policy-and-strategy/325137-senators-tell-hagel-not-to-study-icbm-cuts.

carry. The Air Force has completed the deactivation of 50 Minuteman III missiles that will be removed from the force under New START, and the Navy has completed the elimination of four launch tubes on all 14 of its Trident submarines.

Table 2. U.S. Strategic Nuclear Forces Under New START

(Estimated current forces and potential New START forces)

	Estimated U.S. Forces, 2010		U.S. Forces, February 5, 2018[a]			Permitted Forces Under New START[b]		
	Deployed Launchers	Warheads	Total Launchers	Deployed Launchers	Warheads	Total Launchers	Deployed Launchers	Warheads
Minuteman III	450	500	454	400		454	400	400
Peacekeeper	0	0	0	0		0	0	0
Trident	336	1,152	280	203		280	240	1,090
B-52	76	300	46	36		47	41	41
B-2	18	200	20	13		19	19	19
Total	**880**	**2,152**	**800**	**652**	**1,350**	**800**	**700**	**1,550**

Source: CRS estimates, Air Force estimates.

a. U.S. Department of State, Bureau of State, Bureau of Arms Control, Verification, and Compliance, *New START Treaty Aggregate Numbers of Strategic Offensive Forces*, Fact Sheet, Washington, DC, July 6, 2018, https://www.state.gov/documents/organization/284376.pdf. The fact sheet does not display warhead subtotals for each delivery system; it includes only an aggregate across the force.

b. This force assumes that the United States retains 14 Trident submarines, with two submarines in overhaul, but that each has only 20 deployed launchers. It also assumes that the Air Force maintains all 450 Minuteman III silos, but places 50 in "warm" status. This appears to be the Air Force preferred option at this time, although the final force structure decision is still pending.

Russian Forces

On February 5, 2018, when the treaty reductions were complete, Russia announced that it had reduced its forces to 1,444 warheads on 527 deployed ICBMs, SLBMs, and heavy bombers, within a total of 779 deployed and nondeployed launchers.[46]

During the implementation of New START, the number of warheads deployed on Russian missiles and bombers climbed above the New START limits, leading some to express concerns about Russia's intention to comply with the treaty. Others noted that this was a reflection of Russia's modernization program, as it deployed new multiple-warhead ballistic missiles in place of older single-warhead missiles, and waited until late in the implementation process to eliminate older multiple-warhead land-based missile. Russia also retired many of its older ballistic missile submarines, replacing them with several new Borey-class submarines; three of these have entered the force, and three more are under construction. This submarine is deployed with the new Bulava missile. The missile failed many of its early flight tests, and continues to experience some failed tests, although it has had more several successful tests since late 2010.

Table 3, below, presents estimates of Russia's force structure in 2010, before New START entered into force, and potential forces that it might deploy under the New START Treaty. It does

[46] "Russia Confirms Commitment to New START Treaty—Foreign Ministry," *TASS Russian News Agency*, February 5, 2018, http://tass.com/politics/988458.

not contain an estimate of the current force structure, as the New START data only include aggregate totals across the force and provides no information about the current structure of this force. This table assumes that, under New START, Russia's new RS-24 missile would carry four warheads. However, according to accounts in the Russian press this missile will carry "no fewer than 4" warheads. If each of these missiles were to carry 6-7 warheads, Russia could retain the 1,550 warheads permitted by the treaty. Russia has announced plans to deploy a new heavy, liquid-fueled multiple-warhead missile to replace the SS-18, although this missile is not likely to enter the force until at least 2020.

Table 3. Russian Strategic Nuclear Forces Under New START

(Estimated current forces and potential New START forces)

	Estimated Forces 2010		Potential Forces under New START		
	Launchers	Warheads	Total Launchers	Deployed Launchers	Deployed Warheads
SS-18 ICBM	68	680	68	20	200
SS-19 ICBM	72	432	0	0	0
SS-25 (mobile)	180	180	0	0	0
SS-27 (mobile)	13	13	27	27	27
SS-27 (silo)	50	50	60	60	60
RS-24 (mobile)	0	0	85	85	340
SS-N-18 (Delta III SSBN)	64 (4 SSBNs)	192	0	0	0
SS-N-23 (Delta IV SSBN)	96 (6 SSBNs)	384	64 (4 SSBNs)	64	256
Bulava (Borey SSBN)	0	0	64 (4 SSBNs)	64	384
Blackjack Bomber	14	168	13	13	13
Bear Bomber	63	688	63	63	63
Total	**620**	**2,787**	**444**	**396**	**1,335**

Source: United States Department of State, Fact Sheet, START Aggregate Numbers of Strategic Offensive Arms, November 30, 2012; Nuclear Notebook: Russian Nuclear Forces, 2010," *Bulletin of the Atomic Scientists*, January/February 2010; Russian Nuclear Forces http://russianforces.org/.

Table 3 indicates that Russia may deploy fewer than the permitted number of deployed and nondeployed launchers under New START. This is evident in the data provided by the Russian Ministry of Foreign Affairs on February 5, 2018. Because it still had significant numbers of warheads on older missiles that it eliminated late in the implementation process, it was able to reach the New START limits. But, as is discussed below, observers disagree about whether Russia can remain at the New START limits through 2021.

Ratification

U.S. Ratification Process

The Obama Administration submitted the New START Treaty to the Senate on May 13, 2010. The treaty package included the treaty text, the Protocol, the Annexes, the Article-by-Article analysis prepared by the Administration, and the 1251 report on future plans and budgets for U.S. nuclear weapons required by Congress. It also included the text of the unilateral statements made by the United States and Russia when they signed the treaty. The Senate offered its advice and

consent to the ratification of the treaty by voting on a Resolution of Ratification. The treaty's approval requires a vote of two-thirds of the Senate, or 67 Senators.

The Senate Foreign Relations Committee held 12 hearings on the treaty. These began in April 2009, with testimony from former Secretaries of Defense William Perry and James Schlesinger. In total, the committee received testimony from more than 20 witnesses from both inside and outside the Obama Administration. It received testimony from current senior officials from the State Department, the Defense Department, and the Department of Energy, and from several former officials from past Administrations. The committee completed its hearing process in mid-July, after receiving a National Intelligence Estimate on the future of Russian forces and a report on the verifiability of the treaty.

The Senate Armed Services Committee held a total of eight hearings and briefings on the treaty. The Armed Services Committee heard testimony from Secretary of State Clinton, Secretary of Defense Gates, Secretary of Energy Chu, and Admiral Mullen on June 17, 2010. It also received testimony and briefings from other Administration officials and from experts from outside the government. The Intelligence Committee also held a closed hearing to discuss U.S. monitoring capabilities and the verifiability of the treaty.

The Senate Foreign Relations Committee held a business meeting to mark up the Resolution of Ratification for New START on September 16, 2010.[47] The committee began its consideration with a draft proposed by Senator Lugar, then addressed a number of amendments proposed by members of the committee. Both the Lugar draft and many of the proposed amendments addressed the members' concerns with U.S. missile defense programs, U.S. conventional prompt global strike capabilities, monitoring and verification, and Russian nonstrategic nuclear weapons. Most of these amendments were defeated, although the committee did modify and incorporate some into the resolution.[48]

The Senate Foreign Relations Committee approved the Resolution of Ratification by a vote of 14-4, and sent the resolution to the full Senate. The Senate did not address the treaty before the November elections. The Administration pressed the Senate to debate the treaty during the lame-duck session of Congress in December 2010. Many Senators supported this goal. Some, however, suggested that the Senate would not have time to debate the treaty during the lame-duck session, and indicated that they preferred the Senate wait until 2011 to debate the treaty.

The Senate began the debate on New START on December 16, 2010. During the debate, some Senators proposed amendments to the treaty, both to strike language related to ballistic missile defenses and to add language related to nonstrategic nuclear weapons. The treaty's supporters argued that these amendments would "kill" the treaty because they would require Russian approval and could lead to the reopening of negotiations on a wide range of issues addressed in the treaty. The Senate rejected these amendments, but it did accept amendments to the Resolution of Ratification that underlined the U.S. commitment to modernizing its nuclear weapons infrastructure and its commitment to deploying ballistic missile defenses. In addition, President Obama sent a letter to the Senators confirming his view that the New START Treaty places "no

[47] U.S. Congress, Senate Committee on Foreign Relations, *Treaty with Russia on Measures for Further Reduction and Limitation of Strategic Offensive Arms (The New START Treaty)*, Executive Report, 111th Cong., 2nd sess., October 1, 2010, Exec. Rept 111-6 (Washington: GPO, 2010).

[48] Josh Rogin, "Kerry and DeMint Spar over Missile Defense," *Foreign Policy, The Cable*, September 16, 2010, http://thecable.foreignpolicy.com/posts/2010/09/16/kerry_and_demint_spar_over_missile_defense. See also John Isaacs, Analysis of the Senate Foreign Relations Committee Passage of the new START Treaty, *The Chain Reaction*, September, 16, 2010, http://blog.livableworld.org/story/2010/9/16/16585/7341.

limitations on the development or deployment of our missile defense programs," highlighting his commitment to proceed with the deployment of all four phases of the missile defense system planned for Europe, and noting that the continued development and deployment of U.S. missile defenses would not threaten the strategic balance with Russia and would not "constitute the basis for questioning the effectiveness and viability of the New START Treaty."[49]

The Senate gave its advice and consent to ratification of New START on December 22, 2010, approving the Resolution of Ratification by a vote of 71-26. President Obama signed the instruments of ratification in early February 2011.

Russian Ratification Process

Russia's President Medvedev submitted the New START Treaty to the Russian Parliament on May 28, 2010. Both houses of the Russian Parliament, the Duma and the Federation Council, will vote on the treaty, with a majority vote required to approve the law on ratification. Russia's president said he hoped that the two sides could "synchronize" their ratification, voting on the treaty at about the same time. This would avoid the circumstances that existed on the second START Treaty in the late 1990s, when the U.S. Senate gave its consent to ratification of START II in January 1996, but by the time the Russian Parliament voted in 2000, the parties had negotiated a Protocol to the Treaty that also required ratification. The Senate never voted on the new version of the treaty, and START II never entered into force. Most experts agreed that President Medvedev should be able to win approval for the treaty in the Russian Parliament with little difficulty.

The Foreign Affairs Committee of the Russian Duma had initially supported the treaty. However, in early November 2010, Konstantin Kosachev, the head of the committee, indicated that the committee would reconsider the treaty. He indicated that this was in response to both the delay in the U.S. Senate's consideration of the treaty and the conditions and understandings that the Senate Foreign Relations Committee included in the U.S. Resolution of Ratification. Nevertheless, after the Senate voted on the treaty on December 22, members of the Duma called for the prompt ratification of New START. Reports indicated they received the documents from the Senate on December 23, and they held their first vote on the Draft Law on Ratification by Friday, December 24. The Duma then crafted amendments and declarations to the Federal Law on Ratification, and, after two more votes, approved the treaty by a vote of 350-96 (with one abstention) on January 25, 2011.

The upper chamber of Russia's parliament, the Federation Council, also voted on the ratification of the treaty. Sergei Mironov, the Speaker of the Federation Council, indicated that the vote would take place after the vote in the Duma.[50] This occurred on January 26, 2011, when the Federation Council unanimously approved the ratification of the treaty.[51] President Medvedev signed the instruments of ratification on January 28, 2011. Russia's Federal Law on Ratification contains a number of declarations and understandings that highlight the Duma and Federation Council's concerns with the New START Treaty. These do not alter the text of the treaty and, therefore, did not require U.S. consent or agreement. Many of the provisions in the law call on Russia's leadership to pursue funding for the modernization and sustainment of Russia's strategic nuclear forces. They also reiterate Russia's view that the preamble to the treaty, and its reference to the relationship between offensive and defense forces, is an integral part of the treaty. The law

[49] https://obamawhitehouse.archives.gov/the-press-office/joint-understanding-start-follow-treaty.

[50] "Federation Council Ready to Ratify New START on Same Day as Duma—Mironov," *Interfax*, December 23, 2010.

[51] "Russian Parliament Approves START Nuclear Arms Treaty," *BBC News*, January 26, 2011.

does not indicate that this language imposes any restrictions on the United States. It does, however, reiterate that Russia has a right to withdraw from the treaty, and could do so if the United States deploys defenses that undermine Russia's strategic deterrent. In addition, the law indicates that new kinds of strategic offensive weapons, such as the potential U.S. conventional prompt global strike weapons, should count under the treaty limits. The law indicates that the parties should meet in the BCC and agree on how to count these systems before either party deploys the system. This differs from the U.S. interpretation because the United States has indicated that it could deploy such systems before completing the discussions in the BCC. These differing interpretations did not delay the entry into force of the treaty, but could raise questions in the future, if the United States deploys a PGS system that it does not consider to count under the treaty limits.

Entry into Force and Implementation

Secretary Clinton and Foreign Minister Lavrov exchanged the instruments of ratification for the New START Treaty on February 5, 2011. This act brought the treaty into force and started the clock on early activities outlined in the treaty. For example, the United States and Russia conducted their initial data exchange, 45 days after the treaty entered into force, on March 22, 2011, within 45 days of entry into force. They also had the right to begin on-site inspection activities in early April, 60 days after the treaty entered into force. Reports indicate that this process began in the United States with the display of a B-1 bomber and in Russia with the display of Russia's new RS-24 missile.

Consultations

The United States and Russia also met in Geneva, from March 28 through April 8, 2011, in the first meeting of the treaty's Bilateral Consultative Commission. The representatives issued two joint statements at the conclusion of the meeting that addressed procedures that would be used during the on-site inspection process. The parties met for the second session of the BCC from October 19 to November 2, 2011.

The third meeting of the BCC occurred in late January 2012. During that meeting, the parties signed several statements on the sharing telemetry on missile test launches. They agreed that they would exchange telemetric data on one ICBM or SLBM launch that had occurred between February 5, 2011, when the treaty entered into force, and the end of 2011. They also agreed on when they would begin and end the sharing of telemetric data during the flight test of an ICBM or SLBM. They also agreed on the procedures they would use when demonstrating the recording media and playback equipment used when providing telemetric information.[52]

The BCC met for a fourth time in September 2012. During this meeting, the two sides agreed on the use of tamper detection equipment during on-site inspections. The BCC met again in February 2013. At this meeting, the two sides signed an agreement indicating that they would exchange telemetry on the launch of ICBM or one SLBM during the time between January 1 and December 31, 2012.[53] The BCC met again in January 2014, with the two sides, again, agreeing that they

[52] For the text of these three statements, see, U.S. Department of State, Bureau of Arms Control, Verification, and Compliance, https://2009-2017.state.gov/t/avc/rls/183540.htm, https://2009-2017.state.gov/t/avc/rls/183541.htm, https://2009-2017.state.gov/t/avc/rls/183539.htm.

[53] United States Department of State, Bureau of Arms Control, *Verification and Compliance, Bilateral Consultative Commission: Decision on the Number of Launches of ICBMs and SLBMs Conducted in 2012, on Which an Exchange of Telemetric Information Will Be Carried Out in 2013*, Geneva, Switzerland, February 19, 2013, https://2009-2017.state.gov/t/avc/rls/204959.htm.

would exchange telemetric information on the launch of one ICBM or SLBM from 2013. They also agreed to use an additional measuring device during reentry vehicle inspections at SSBN bases. In October 2016, the parties met in the 12th session of the BCC; the State Department did not provide any public details about the substance of the meeting. The 13th session of the BCC met from late March to mid-April 2017; the State Department, again, did not offer any details about the substance of the meeting.

According to a State Department Fact Sheet released at the conclusion of the reduction period, on February 5, 2018, the two sides conducted a total of "14 meetings of the Treaty's Bilateral Consultative Commission (twice each Treaty year) to discuss issues related to implementation, with no interruption to the Parties' work during global crises causing friction elsewhere in the bilateral relationship."[54] Two sessions also occurred in 2018.

Reductions

In a data exchange released in February 2011, with numbers drawn from the treaty's initial data exchange, the U.S. State Department noted that the United States had 1,800 warheads on 882 deployed ICBMs, deployed SLBMs, and deployed heavy bombers.[55] These deployed forces were within a total of 1,124 deployed and nondeployed launchers of ICBMs and SLBMs, and deployed in nondeployed heavy bombers. By September 2011, the United States had reduced these numbers to 1,790 warheads on 882 deployed ICBMs, deployed SLBMs, and deployed heavy bombers.[56] The total number of deployed and nondeployed launchers had declined to 1,043. The reduction in 81 nondeployed launchers likely reflects the conversion or elimination of some of the "phantom" launchers that remained in the U.S. force but no longer carried nuclear warheads. In the most recent exchange, with data current as of April 1, 2014, the United States indicated that it had 778 deployed ICBMs, deployed SLBMs, and deployed heavy bombers, within a total of 952 deployed and nondeployed launchers. It also indicated that these deployed forces carry a total of 1,585 warheads.

In data released on January 1, 2015, from the exchange that occurred on September 1, 2014, the United States had 794 deployed ICBMs, deployed SLBMs, and deployed heavy bombers, within a total of 912 deployed and nondeployed launchers. It also indicated that these deployed forces carry a total of 1,642 warheads. The increase in deployed forces reported in this exchange likely reflected the return to service of one SSBN, after it completed its overhaul process. The numbers declined again, by the time of the October 2015 exchange, both because another SSBN has begun its overhaul and because the U.S. Air Force has completed the "de-MIRVing" of the ICBM force. Each Minuteman III missile now carries a single warhead.

In addition, in September 2015, the Air Force announced that it had begun to convert a portion of the B-52H bomber force from nuclear to conventional-only capability, thus removing 30 operational bombers from accountability under New START.[57] While the Air Force has not provided any public statements about the changes made to the B-52 bombers, these changes are

[54] U.S. State Department, *Key Facts About New START Treaty Implementation*, fact sheet, Washington, DC, February 5, 2018, https://www.state.gov/r/pa/prs/ps/2018/02/277889.htm.

[55] https://2009-2017.state.gov/t/avc/rls/164722.htm.

[56] https://2009-2017.state.gov/t/avc/rls/175945.htm.

[57] U.S. Department of Defense, Air Force Global Strike Command, *AFGSC Completes First New START Bomber Conversion*, September 17, 2015.

likely consistent with the objective of rendering the bombers unable to carry or launch nuclear-armed cruise missiles.

According to the State Department, as of September 1, 2016,[58] the United States had a force of 1,367 warheads on 681 deployed ICBMs, deployed SLBMs, and deployed heavy bombers, within a total of 848 deployed and nondeployed launchers. This included 416 deployed ICBM launchers, with a total of 454 deployed and nondeployed ICBM launchers; 209 deployed SLBM launchers within a total of 320 deployed and nondeployed launchers; 10 deployed B-2 bombers, within a total of 20 deployed and nondeployed B-2 bombers; and 46 deployed B-52 bombers, within a total of 54 deployed and nondeployed B-52 bombers. These data show that the United States has continued to convert B-52 bombers from nuclear to conventional-only capability; to remove ICBMs from operational launchers, on the path to 400 deployed ICBM launchers; and to reduce the number of launchers from 24 to 20 on each ballistic missile submarine. The data released in April 2017, from the March 1, 2017, data exchange, show that the United States counted 1,411 warheads on 673 deployed launchers, within a total of 820 deployed and nondeployed launchers. The increase in warheads possibly reflects the return to service of ballistic missile submarines, following the elimination of the four excess launchers.

The data exchange from September 2017, which shows the U.S. aggregate numbers of warheads and launchers, indicates that United States has met the New START limits. It now has 1,393 warheads on 660 deployed launchers, within a total of 800 deployed and nondeployed launchers.

Some analysts questioned whether the U.S. reductions through September 2016, which placed the United States below the New START limits of 1,550 warheads on 700 deployed launchers, indicated that the Obama Administration had decided to reduce U.S. nuclear forces, unilaterally, to levels below the New START limits.[59] However, these reductions were temporary, and the number of deployed launchers and warheads has now risen and should reach the levels permitted by the treaty when implementation is complete in 2018. For example, while the United States was reducing the number of launch tubes on deployed submarines, it removed them from deployment and removed the missiles from the launchers. These launchers and warheads did not count in the deployed force. Because each submarine now counts as 20 launchers, the September 2017 total of 660 deployed launchers can be read to indicate that two submarines, with 40 launchers, were still in nondeployed status at the time.

The data exchanges from 2018 and 2019 show that the United States continues to have fewer than the permitted number of deployed missiles and warheads, as it continues to remove systems from deployment for short periods of time. In September 2018, it reported that it had 1,398 warheads deployed on 659 deployed ICBMs, deployed SLBMs, and deployed heavy bombers, within a total of 800 deployed and nondeployed launchers for missiles and bombers. On March 1, 2019, it reported that it had 1,365 warheads deployed on 656 deployed ICBMs, deployed SLBMs, and deployed heavy bombers, within a total of 800 deployed and nondeployed launchers for missiles and bombers.

The State Department fact sheets also include the summary of Russia's force data. In February 2011, Russia reported that it had 1,537 warheads on 521 deployed ICBMs, deployed SLBMs, and deployed heavy bombers. Russia also reported a total of 865 deployed and nondeployed delivery

[58] https://2009-2017.state.gov/t/avc/rls/2016/262624.htm.

[59] Bill Gertz, "Russia Adds Hundreds of Warheads Under Nuclear Treaty," *Washington Free Beacon*, October 5, 2016. In a speech in Berlin, in June 2013, President Obama announced that the Pentagon had concluded that the United States could maintain a robust deterrent with one-third fewer warheads than the 1,550 permitted by New START. He did, however, indicate that the United States would only reduce to that level in cooperation with Russia. See https://www.whitehouse.gov/the-press-office/2013/06/19/remarks-president-obama-brandenburg-gate-berlin-germany.

vehicles. At the time of this report, analysts expressed surprise that Russian forces were already below the treaty limits in New START when the treaty entered into force. Some argued that this indicated the United States did not have to sign the treaty to bring about reductions in Russian forces, and that the treaty represented unilateral concessions by the United States. Others noted that the number of deployed warheads possibly reflected the ongoing retirement of older Russian missiles and could change in the future as Russia deployed new, multiple-warhead land-based missiles. In September 2011, in the second treaty data exchange, Russia reported that it had 1,566 deployed warheads on 516 deployed ICBMs, deployed SLBMs, and deployed heavy bombers. Hence, although the number of deployed delivery vehicles declined, the number of warheads increased by a small amount, and then exceeded the treaty limit of 1,550 warheads. Because the data provide no details of the force composition, this increase could have either been due to the deployment of the new MIRVed RS-24 missiles, which carry more warheads than the single-warhead SS-25 missile they replace, or due to variations in the numbers of warheads carried on deployed SLBMs. The number of deployed and nondeployed delivery vehicles had increased slightly, to 871. This could reflect the retirement of some of Russia's older missiles, which would move their delivery vehicles from the deployed to nondeployed column in the data.

In the data exchange from April 1, 2014, Russia reported that it had 498 deployed ICBMs, deployed SLBMs, and deployed heavy bombers, within a total of 906 deployed and nondeployed launchers. It also indicated that these deployed forces carry a total of 1,512 warheads. In the data exchanged in September 2014, and released in January 2015, Russia reported a force of 528 deployed ICBMs, deployed SLBMs, and deployed heavy bombers, within a total of 911 deployed and nondeployed launchers. It also indicated that these deployed forces carried a total of 1,643 warheads. Within these totals, Russia continued to deploy some new ICBMs and SLBMs while retiring older systems. However, as all categories had increased since the last data exchange, new deployments seemed to be outpacing retirements. This continued over the past year, as, in March 2016—when Russia reported that it had 1,735 warheads on 521 deployed ICBMs, deployed SLBMs, and deployed heavy bombers, within a total of 856 deployed and nondeployed launchers. The pattern shifted a little in September 2016—when Russia reported that it had 1,796 warheads on 508 deployed ICBMs, deployed SLBMs, and deployed heavy bombers, within a total of 847 deployed and nondeployed launchers—as the number of warheads continues to rise while the number of deployed and nondeployed launchers has declined.

The data exchanged in March 2017 show that Russia had begun to reduce the number of deployed warheads while increasing the number of deployed launchers—at that point it counted 1,765 warheads on 523 deployed launchers, within a total of 816 deployed and nondeployed launchers. The September 2017 data reinforce this trend. Russia reported a force 1,561 warheads, only 11 over the limit of 1,550 deployed warheads, on 503 deployed launchers. Hence, Russia appeared to be reducing older systems with larger numbers of warheads, while still deploying new missiles with fewer warheads, as it headed toward the New START limits by February 2018. On February 5, 2018, Russia reported that it had met the New START limits, with 1,444 warheads on 527 deployed ICBMs, SLBMs, and heavy bombers, within a total of 779 deployed and nondeployed launchers.[60]

The data exchanges from 2018 and 2019 show that the Russia continues to comply with the New START limits. In September 2018, it reported that it had 1,420 warheads deployed on 517 deployed ICBMs, deployed SLBMs, and deployed heavy bombers, within a total of 775 deployed and nondeployed launchers for missiles and bombers. On March 1, 2019, it reported that it had

[60] "Russia Confirms Commitment to New START Treaty—Foreign Ministry," *TASS Russian News Agency*, February 5, 2018. http://tass.com/politics/988458.

1,461 warheads deployed on 524 deployed ICBMs, deployed SLBMs, and deployed heavy bombers, within a total of 760 deployed and nondeployed launchers for missiles and bombers.

Some analysts questioned whether the increase in Russian warheads reported in March 2016 and September 2016 indicated that Russia would eventually withdraw from New START without reducing to its limit of 1,550 deployed warheads.[61] Others, however, noted that Russia did not need to meet the limits until February 2018, so the warhead levels in 2016 should not be of concern. They also noted that Russia continues to deploy new systems, like a third new submarine and new multiple-warhead land-based missiles, at a faster pace than it has retired older systems. [62] Hence, as Russia retired older multiple-warhead missiles before the deadline, it succeeded in reducing its forces below the limit of 1,550 warheads.

Some have also suggested that Russia's continuing deployment of new missiles systems, and its plans for modernization through the next 5-10 years, indicate that Russia may be prepared to exceed the limits under New START, either before or shortly after the treaty's 2021 expiration.[63] They have suggested that the United States respond to Russia's plans with its own plans to modernize and expand its nuclear forces. Others, however, while agreeing with assessments of Russia's ability to expand its nuclear forces, argue that the United States should respond by pressing Russia to extend New START through 2026 so that limits on Russian forces remain in place.

Monitoring, Verification, and Compliance

The United States has not raised any questions, in public, about Russia's compliance with the New START Treaty. In the January 2016 version of the Annual Report on Implementation of the New START Treaty, the State Department reported that "the United States certifies the Russian Federation to be in compliance with the terms of the New START Treaty." The report indicated that the United States "has raised implementation-related questions with the Russian Federation through diplomatic channels and in the context of the Bilateral Consultative Commission (BCC)."[64]

Russia has also raised questions about U.S. implementation during BCC sessions. In its statement released on February 5, 2018, the Russian Ministry of Foreign Affairs indicated that it had concerns with the conversion procedures the United States had used to eliminate some missile launchers and B-52 bombers from its force structure. It noted that Russia could not verify that the conversions had been done in a way that permanently "rules out the use of Trident II submarine-launched ballistic submarines and nuclear weapons of heavy bombers."[65] The Protocol to New START states the parties must demonstrate their elimination procedures if there is a question about whether the method meets the treaty terms, but it does not allow for the other party to object and require changes in the procedures. As a result, although the United States has insisted

[61] Bill Gertz, "Russia Deployed over 150 New Warheads in Past Year," *Washington Free Beacon*, April 6, 2016. http://freebeacon.com/national-security/russia-deployed-150-new-warheads-past-year/. See, also, Bill Gertz, "Russia Adds Hundreds of Warheads Under Nuclear Treaty, *Washington Free Beacon*, October 5, 2016.

[62] Greg Thielmann, "Russia Relies on 'Satan' to Keep New START Data Exchange Numbers Up," *Arms Control Today*, April 5, 2016, http://www.armscontrol.org/blog/ArmsControlNow/2016-04-06/Russia-Relies-on-Satan-to-Keep-New-START-Data-Exchange-Numbers-Up.

[63] Mark Schneider, "The Nuclear Posture Review, New START, and the Russian Nuclear Buildup," *Real Clear Defense*, June 5, 2017.

[64] U.S. Department of State, *Annual Report on Implementation of the New Start Treaty*, Washington, DC, January 2016, http://www.state.gov/t/avc/rls/rpt/2016/255558.htm.

[65] "Russia Confirms Commitment to New START Treaty—Foreign Ministry," TASS Russian News Agency, February 5, 2018, http://tass.com/politics/988458.

that its procedures are sufficient, Russia continues to question this conclusion. Russian officials have indicated that the United States should address Russia's concerns with these procedures before the two parties agree to extend New START before it expires in 2021.

In a joint briefing provided by the United States and Russia in October 2011, the parties that, in the first six months of treaty implementation, they had exchanged almost 1,500 notifications and had conducted demonstrations of telemetric information playback equipment. By the end of the first year of implementation, on February 5, 2012, the parties had exchanged over 1,800 notifications. They had also conducted three required exhibitions, with Russia exhibiting the RS-24 missile and its launcher, and the United States exhibiting the B-1 and B-2 bombers. During the year, both parties had also conducted all 18 of the permitted inspections at facilities in the other nation. These inspections occurred at ICBM, SLBM, and heavy bomber bases; storage facilities; conversion and elimination facilities; and test ranges.[66] In late November 2012, the State Department reported that the United States and Russia had each, as of November 26, conducted 15 of the 18 permitted inspections under the treaty. Both nations also completed their full complement of 18 inspections before the end of the second year of implementation, in February 2013.

According to the State Department, the United States and Russia have both completed all 18 of their permitted Type 1 and Type 2 inspections during each of the eight full years of treaty implementation. They continued to conduct these inspections in spite of growing tensions after Russia's annexation of Crimea and aggression against Ukraine in early 2014. According to the State Department, the two sides also exchanged 17,516 notifications by early April 2019. These notifications report on the location, movement, and disposition of strategic offensive arms. They have also "completed 14 exhibitions to demonstrate distinguishing features and technical characteristics of new types of strategic offensive arms or demonstrate the results of a conversion of a strategic offensive arm subject to New START."[67] These monitoring activities will continue through 2021, or 2026 if New START is extended.

Issues for Congress

New START and Strategic Stability

When the Obama Administration released the 2010 Nuclear Posture Review, it indicated that the United States would retain a triad of ICBMs, SLBMs, and heavy bombers under the New START Treaty. The NPR indicates that this force structure supports strategic stability because it allows the United States to maintain an "assured second-strike capability" with warheads on survivable ballistic missile submarines and allows the United States to retain "sufficient force structure in each leg to ... hedge effectively ... if necessary due to unexpected technological problems or operational vulnerabilities."[68] The Trump Administration, in the 2018 NPR, also reaffirmed the support for the nuclear triad. Although it offered a more detailed rationale for the maintenance of

[66] U.S. Department of State, Bureau of Arms Control, Verification, and Compliance, *New START Treaty Implementation Update*, Washington, DC, May 17, 2012, https://2009-2017.state.gov/t/avc/rls/183335.htm.

[67] U.S. Department of State, *Key Facts About New START Treaty Implementation*, fact sheet, Washington, DC, February 5, 2018, https://www.state.gov/r/pa/prs/ps/2018/02/277889.htm.

[68] U.S. Department of Defense, *Nuclear Posture Review*, Washington, DC, April 6, 2010, p. 20, https://www.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf.

a triad, the underlying themes of strengthening deterrence and supporting stability were part of the discussion.

Obama Administration officials also indicated that New START promoted strategic stability by "discounting" the weapons on heavy bombers. As President Reagan argued during his commencement address at Eureka College in 1982, ballistic missiles are the "most destabilizing nuclear systems."[69] As a result, in his START proposals, President Reagan sought deep reductions in ballistic missile warheads, but lesser reductions in the weapons on heavy bombers. The counting rules in New START reflect this logic. Because bomber weapons would take hours or days to reach their targets, and because they could be recalled after they were launched, they pose less of a threat to strategic stability than do ballistic missiles. As a result, some argue that, even if the United States and Russia retain hundreds of bomber weapons that do not count against the treaty limits, the reductions required in ballistic missile warheads will enhance strategic stability.

Some have also noted that New START may strengthen strategic stability from the Russian perspective by removing the specific limits and restrictions on mobile ICBMs. Russia does not deploy many submarines at sea, and, therefore, lacks an assured second-strike capability on that leg of its triad. Instead, it has sought to improve the survivability of its forces by deploying ICBMs on mobile launchers. Under START, the United States sought to restrict these systems because it feared it would not be able to count them in peacetime and target them in wartime. In the current environment, concerns about wartime targeting played less of a role in the negotiations. Consequently, instead of limiting their numbers and restricting their operations, New START seeks to provide transparency and openness, so the United States can be confident in its ability to count these weapons in peacetime even though it might not be able to attack them during a conflict.

Critics of the New START Treaty have questioned whether it serves U.S. security interests even if it did promote strategic stability. Some argued, during the negotiations, that the United States did not need to negotiate a new treaty to maintain its own triad, as this was possible with or without arms control. They also argued that the United States did not need to reduce its forces to bring about reductions in Russia's forces, as Russia would reduce its forces over the next decade as it retired aging systems, even in the absence of a new arms control agreement.[70] Moreover, they questioned whether arms control should even be a part of the U.S.-Russian relationship, as arms control is a symbol of a Cold War, antagonistic relationship between the two nations. They believe that the United States and Russia should not measure their relationship with each other using Cold War-era measures like strategic stability and survivable warheads.

This last argument has faded as the U.S.-Russian relationship has changed over the past decade. Few now argue that arms control is irrelevant in the absence of an antagonistic relationship. Instead, they dispute the value of arms control precisely because the major-power rivalry has returned and the United States and Russia now have a more antagonistic relationship. They note that this change has occurred in spite of the presence of New START, and, therefore, is evidence of the failure of arms control to either support or strengthen strategic stability. Moreover, they note that New START did not include any limits on Russian shorter-range nonstrategic nuclear weapons, and, therefore, failed to capture the full scope of threats that Russia presents to the United States and its allies.

[69] Ronald Reagan, Commencement Address at Eureka College, May 9, 1982, http://www.presidency.ucsb.edu/ws/index.php?pid=42501.

[70] Keith B. Payne, "Evaluating the U.S.-Russia Nuclear Deal," *Wall Street Journal*, April 8, 2010, p. A21.

Monitoring and Verification in New START

Monitoring and verification were among the central concerns addressed in the Senate committees during their review of the New START Treaty. The cooperative monitoring measures in the treaty received special scrutiny, as many observers of the arms control process specifically measured the value of the monitoring and verification regime in the original START Treaty by its widespread use of notifications, on-site inspections, and other cooperative measures.

Some critics of New START questioned whether the monitoring provisions in the new treaty were sufficient to provide the United States with enough information to either confirm Russian compliance with the treaty or to detect efforts to violate its terms. They pointed to differences between the verification regime in the original START Treaty and those in New START to argue that the new verification regime is less robust than the old regime. They noted that the United States would no longer maintain a monitoring presence outside the Votkinsk facility where Russia assembles its mobile ICBMs, which, they argued, could weaken the U.S. ability to count these missiles as they entered Russia's forces. They also noted that the United States and Russia would no longer exchange telemetry data on all their ballistic missile flight tests, which, over time, could lessen the U.S. ability to understand and evaluate the capabilities of Russian ballistic missiles.

The Obama Administration and others who supported the new treaty argued that the verification regime in New START would be more than sufficient to provide the United States with confidence in Russia's compliance with the treaty. They acknowledged that the regime is different from the regime in the original START Treaty, but noted that this was, in part, due to improvements in the relationship between Russia and the United States and differences between the limits and restrictions in the two treaties. They argued that the monitoring regime in New START was streamlined, both to reduce its costs and to ease the disruptions caused by monitoring for U.S. and Russian military forces. They also noted that it relied on as much or more cooperation between the two parties, which would continue to build confidence and reduce suspicions.

Moreover, many in the Obama Administration noted that the United States had not had any opportunity to monitor Russian forces on Russian territory since the original treaty expired in December 2009. They argued that continuing delays in Senate consideration of New START could further reduce U.S. and Russian confidence in their knowledge of each other's forces, leading to worst-case assessments and possible instabilities. They further reminded those who contend that the verification regime in New START is less robust than the regime in old START that the absence of a treaty would have meant the absence of any monitoring and verification regime. The United States did not have the option of returning the regime of the original START Treaty; nor should it have wanted to do so since the new treaty has different limits and restrictions than the old treaty. Many U.S. officials, including Admiral Mullen and General Chilton, included their concerns about the absence of monitoring in their appeals for the prompt ratification of the New START Treaty.

Questions about the monitoring and verification regime in New START go beyond concerns about the specific monitoring mechanisms and the U.S. ability to confirm Russian compliance with individual limits in the treaty. Most experts agree that neither party can be absolutely certain that the other is in perfect compliance with all the limits and restrictions in the treaty. This is due, in some cases, to ambiguities in the treaty language and varying interpretations of the treaty requirements. It is also due to the fact that both sides may have gaps in their knowledge about the details of the other side's forces and activities. These uncertainties do not, by themselves, indicate that the parties should not ratify and implement the treaty. The broader question often asked by experts on treaty monitoring and verification is whether the parties, in general, and the United

States, in particular, will have high confidence in Russia's compliance with the treaty, and, in those cases when compliance concerns may come up, whether the United States will be able to detect evidence of potential violations that might undermine U.S. security with enough warning to respond and adjust U.S. forces to offset those security concerns.

The Obama Administration indicated, in documents submitted to the Senate in July 2010, that the New START Treaty met this standard. The Administration concluded that the benefits to Russia of cheating would be minimal, as the United States, by maintaining a triad of ICBMs, SLBMs, and bombers, would be able to respond to any attempt to shift the strategic balance by adding significant numbers of warheads to its own forces. Moreover, if Russia were to cheat to any significant degree, it would undermine its relationship with the United States and interfere with any possible future arms control agreements. Therefore, in a letter sent to the Senate Foreign Relations Committee in September 2010, Secretary of Defense Gates concluded that Russia would not be able to achieve "militarily significant cheating" under the New START Treaty.[71]

A review of the verification regime in New START, and summary of some of the differences between the verification regime in the original START Treaty and the regime in New START can be found in CRS Report R41201, *Monitoring and Verification in Arms Control*.

New START and Ballistic Missile Defenses

As was noted above, during the debate over New START the Obama Administration testified repeatedly that the New START Treaty imposes no limits on current or planned ballistic missile defense programs in the United States. Some critics have claimed, however, that the United States might impose those limits itself, to ensure that Russia does not withdraw from New START, as it said it might do in the unilateral statement it released when it signed the treaty.

Officials from the Obama Administration argued that this concern was unfounded. They noted that the Soviet Union issued a similar statement when it signed the original START Treaty, threatening to withdraw if the United States withdrew from the 1972 Anti-ballistic Missile (ABM Treaty). Yet, when the United States withdrew from the ABM Treaty in 2002, Russia not only did not withdraw from START, it continued to participate in negotiations on the 2002 Strategic Offensive Reductions Treaty. Moreover, in the 1990s, when the United States might have altered its missile defense plans in response to the Soviet letter, the United States actually expanded its missile defense activities and increased spending on missile defense programs. As a result, there is little reason, based on historical data, to expect the United States to restrain its missile defense programs. Moreover, officials from the Obama Administration have highlighted that the Ballistic Missile Defense Review, the Nuclear Posture Review, and the 2011 budget all offer strong support for continuing U.S. missile defense programs.[72]

Some critics have also claimed that Russia might seek, and the United States might agree to, new limits on U.S. missile defense capabilities in the Bilateral Consultative Commission established by the treaty. According to the Protocol to New START, this commission is designed "to promote the implementation of the provisions of the Treaty." The Protocol indicates that the United States and Russia will meet in the commission to "resolve questions relating to compliance with the obligations assumed by the Parties," agree on "additional measures as may be necessary to improve the viability and effectiveness of the Treaty," and "discuss other issues raised by either

[71] Robert Burns, "Gates: Any Russian Arms Cheating Would Backfire," *Associated Press*, September 9, 2010.

[72] U.S. State Department, Bureau of Verification, Compliance, and Implementation, *Ballistic Missile Defense and the New START Treaty*, fact sheet, Washington, DC, April 21, 2010, https://2009-2017.state.gov/t/avc/rls/140624.htm.

Party." Some have claimed that because this agenda is somewhat open-ended, Russia may raise its concerns about U.S. missile defenses in the commission and propose limits on those systems.

The Obama Administration insisted that the parties could not, and would not use the BCC to negotiate new limits on ballistic missile defenses or any other elements of the U.S. strategic arsenal. In a fact sheet that accompanies the treaty, the State Department has indicated that the parties would use the BCC "to reach agreement on changes in the Protocol to the Treaty, including its Annexes, that do not affect substantive rights or obligations. The BCC may in no way make changes that would affect the substantive rights and obligations contained in the New START Treaty."[73] The parties may use the BCC to "agree upon such additional measures as may be necessary to improve the viability and effectiveness of the Treaty" but these measures would address concerns that came up while implementing the existing limits and restrictions in the treaty. They would not be able to impose new limits or restrictions without amending the treaty, and any amendment to the treaty would be subject to the same ratification process as the treaty itself. The Senate would have to offer its advice and consent.

Although the Obama Administration pursued discussions with Russia on missile defense issues for several years, it never accepted any limitations on U.S. missile defense programs and insisted, repeatedly, that U.S. missile defense programs were not designed or capable of undermining Russia's ballistic missile defenses. Russia, however, continued to question U.S. intentions and press for limits on ballistic missile defenses. It has insisted that any negotiations on further reductions in nuclear weapons include discussions about limits on ballistic missile defenses.

Congress remains concerned about the possibility that the United States might accept limits on missile defenses in exchange for limits on offensive nuclear forces. Senator Barrasso raised this issue in a hearing before the Senate Foreign Relations Committee on September 18, 2018. He asked officials from the State Department and Defense Department to assure him that "in any arms control discussions with Russia for which you're responsible that the United States will not agree to limiting our own missile defense programs." Both Under Secretary of State Andrea Thompson and Under Secretary of Defense David Trachtenberg provided those assurances.[74]

Modernization

The New START Treaty does not limit or restrict the ability of the United States or Russia to modernize strategic offensive nuclear forces. It specifically states, in Article V, paragraph 1, that, "Subject to the provisions of this Treaty, modernization and replacement of strategic offensive arms may be carried out." Both nations are currently modernizing their forces and replacing aging missiles, submarines, and bombers.

Moreover, while some Members of the Senate insisted that the Obama Administration commit to modernizing the U.S. nuclear arsenal before voting in support of the treaty, many have also indicated that their continuing support for the modernization programs is linked to ongoing implementation of New START. Several Senators emphasized this linkage during a hearing in the Senate Foreign Relations Committee in September 2018. Senator Menendez noted that "bipartisan support for nuclear modernization is tied to maintaining an arms-control process that controls and seeks to reduce Russian nuclear forces." Senator Corker pointed out that, when the Senate gave its consent to the ratification of New START, "there was no doubt" about the "tie

[73] https://2009-2017.state.gov/t/avc/rls/145830.htm.

[74] U.S. Congress, Senate Committee on Foreign Relations, *Status of U.S.-Russia Arms Control Efforts*, hearing, 115th Cong., 2nd sess., September 18, 2018.

between the two." He stated that "the essence of this is that the modernization piece, and the reduction in warheads piece go hand in hand."[75]

U.S. Modernization

The United States is currently recapitalizing all three legs of its nuclear triad, with replacements planned for its bombers, air-delivered cruise missiles, land-based ballistic missiles, and ballistic missile submarines over the next 20 years.[76] It is also pursuing life extension programs for many of the warheads in the U.S. stockpile, to ensure that the weapons remain safe, secure, and effective. The Obama Administration outlined much of this modernization program in a report, known as the 1251 Report, mandated by Congress in the FY2010 Defense Authorization Act (P.L. 111-84, §1251). This provision required the Administration to submit a report to Congress when it submitted the New START Treaty to the Senate that described how it planned to "enhance the safety, security, and reliability of the nuclear weapons stockpile of the United States; modernize the nuclear weapons complex; and maintain the delivery platforms for nuclear weapons." In this 1251 report, the Administration stated that the United States planned to spend $180 billion over the next 10 years to meet these objectives, with $80 billion allocated to the U.S. nuclear weapons complex and nuclear warheads and $100 billion allocated to the Navy and Air Force for the maintenance and modernization of their delivery systems. The program has expanded over the years, and, although cost estimates vary, the Congressional Budget Office has estimated that the United States is likely to spend around $350 billion over 10 years and $1.2 trillion over 30 years to modernize its nuclear arsenal. In the 2018 Nuclear Posture Review, the Trump Administration reaffirmed its support for the continuing modernization of the U.S. nuclear triad, advocating for the completion of all the programs initiated under the Obama Administration, while adding two new systems to the plan.[77]

During the debate over New START's ratification, some Members of Congress and analysts outside government questioned whether the Obama Administration was sufficiently committed to modernizing and maintaining its strategic nuclear forces, nuclear weapons complex, and nuclear warheads. Some also questioned whether the funding in the program would be sufficient to maintain and sustain the U.S. nuclear arsenal. Some argued that the totals did not add enough above the previously planned program to go far in expanding the U.S. capability to maintain and modernize its forces. Others questioned whether the Administration would sustain its commitment for more than a year or two, particularly in an era of tight defense budgets. These concerns grew as the fiscal constraints imposed through the Budget Control Act in 2011 reduced the resources available for modernization in the nuclear enterprise and have led to delays in some programs.

Others, however, argued that the Administration's budget for the nuclear weapons complex in FY2011 and the added funding outlined in the 1251 report demonstrated a strong commitment to recapitalizing the U.S. nuclear weapons complex, maintaining nuclear warheads, and maintaining and modernizing the delivery vehicles. The Administration added nearly 10%, or over $700 million, to the DOE budget for nuclear weapons in FY2011. Ambassador Linton Brooks, who had

[75] U.S. Congress, Senate Committee on Foreign Relations, *Status of U.S.-Russia Arms Control Efforts*, hearing, 115th Cong., 2nd sess., September 18, 2018.

[76] For details see CRS Report RL33640, *U.S. Strategic Nuclear Forces: Background, Developments, and Issues*, by Amy F. Woolf.

[77] U.S. Department of Defense, Nuclear Posture Review, Report, Washington, DC, February 2, 2018, https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF.

served as the Director of the National Nuclear Security Administration during the Bush Administration, indicated that he would have "killed" for a budget of that magnitude when he was managing the nuclear weapons complex for DOE.[78] While the 2011 Budget Control Act required some delays in planned spending on nuclear weapons modernization, the Obama and Trump Administrations' budget proposals have continued to show increases above the levels expected before the ratification of New START.

Russian Modernization

Russia is also deploying new missiles, submarines, and bombers to replace aging systems within the limits of New START. At the same time, it may be developing new types of strategic offensive arms that might not be captured by the limits in the treaty. In his annual address on March 1, 2018, Russian President Putin announced that Russia was developing several new nuclear delivery vehicles that could evade or penetrate U.S. ballistic missile defenses.[79] One of the new weapons mentioned in the speech, the large, multiple-warhead ICBM known as the Sarmat, would by most estimates clearly count under the New START Treaty.

However, other systems—including a long-range nuclear-powered cruise missile, a long-range nuclear-armed underwater drone, and an air-delivered hypersonic cruise missile—may not be covered by the treaty's definitions of existing types of strategic offensive systems. As was noted above, the treaty addresses the possible emergence of new types of strategic offensive arms in paragraph 2 of Article V, where it states that the parties should raise their concerns about such weapons in the BCC. It does not, however, indicate how the parties will resolve such questions or whether they must agree before a weapon is included or excluded from the treaty limits. According to Under Secretary of State Thompson, in September 2018, the United States had not yet questioned Russia about these systems. However, these weapons would only raise concerns under New START if they were deployed before the treaty expired. Many analysts doubt that this will happen since most of the weapons mentioned in the speech seem to be in the early stages of development.[80]

Nonstrategic Nuclear Weapons

Presidents Obama and Medvedev agreed, in April 2009, when they initiated the negotiations on the New START Treaty, that this agreement would address only strategic nuclear forces, the long-range weapons that each side could use to reach the territory of the other side. It would not seek to limit or restrict the shorter-range nonstrategic nuclear weapons in either side's arsenal. This agreement derived not only from the fact that the existing START Treaty, and nearly all past bilateral arms control treaties, had addressed only strategic nuclear weapons, but also from the fact that many of the issues that would need to be addressed in a treaty that limited nonstrategic nuclear weapons would likely prove too complex to resolve in the near term, when both sides sought to replace the existing START Treaty.

There was widespread agreement in Congress, in the Obama Administration, and within the arms control community, that the United States and Russia should seek to negotiate a treaty that

[78] http://csis.org/blog/ambassador-linton-brooks-new-start-and-next-treaty.

[79] Anton Troianovski, "Putin Claims Russia Is Developing Nuclear Arms Capable of Avoiding Missile Defenses," *Washington Post*, March 1, 2018, https://www.washingtonpost.com/world/europe/putin-claims-russia-has-nuclear-arsenal-capable-of-avoiding-missile-defenses/2018/03/01/d2dcf522-1d3b-11e8-b2d9-08e748f892c0_story.html.

[80] James Cameron, "Putin Just Bragged About Russia's Nuclear Weapons. Here's the Real Story." *Washington Post*, March 5, 2018, https://www.washingtonpost.com/news/monkey-cage/wp/2018/03/05/putin-claims-russia-has-invincible-nuclear-weapons-heres-the-story-behind-this/.

increases transparency and possibly imposes limits on nonstrategic strategic nuclear weapons. However, there is also widespread agreement that negotiating such a treaty would prove extremely difficult, as Russia maintains a far larger stock of these weapons than the United States, in part to compensate for perceived weaknesses in its conventional forces, and because U.S. nonstrategic nuclear weapons are a part of the U.S. commitment to NATO, and the United States believes that any changes in their deployment should be addressed by the alliance before they are addressed in an arms control negotiation.

Some analysts and Senators questioned whether the United States should agree to further reductions in its strategic nuclear weapons in the absence of any limits on Russian nonstrategic nuclear weapons. They noted that Russia retains more than 2,000 operational nonstrategic nuclear weapons while the United States has around 200 in Europe, and that the value of these weapons could grow as the numbers of U.S. and Russian strategic nuclear weapons decline. They also noted that these weapons could seem particularly threatening to some of the new NATO states that are located near the periphery of Russia. Others however, argued that Russian nonstrategic nuclear weapons do not pose a threat to the United States or NATO, as Russia has indicated that these weapons would only be used in response to an attack on Russian territory. So, these analysts noted, as long as NATO does not initiate such an attack, NATO members would not be threatened by these weapons. Moreover, as Senator Lugar noted in his response to former Massachusetts Governor Mitt Romney's critique of New START, most of Russia's nonstrategic nuclear weapons do not pose a missile threat to Europe. Senator Lugar stated that "most of Russia's tactical nuclear weapons either have very short ranges, are used for homeland air defense, are devoted to the Chinese border, or are in storage."[81]

Many of the experts who testified in support of the New START Treaty agreed that the United States and Russia should pursue negotiations on a treaty on nonstrategic nuclear weapons. However, most agreed that Russia would be unwilling to participate in such discussions, and the United States and Russia would be unlikely to find common ground on such an agreement, unless both sides ratified and implemented the New START Treaty first. For example, in testimony before the Senate Foreign Relations Committee on April 29, 2010, former Secretaries of Defense James Schlesinger and William Perry both indicated that nonstrategic nuclear weapons should be an issue for the next treaty, and that the United States should ratify New START as a step on the path to get to reduction in nonstrategic nuclear weapons.[82]

The Trump Administration, in the Nuclear Posture Review released on February 2, 2018, also expressed concerns about Russia's stockpile of nonstrategic nuclear weapons. While it did not advocate for the negotiation of a treaty specifically limiting these weapons, it did indicate that Russia would have to address these concerns before the United States would be willing to negotiate further reductions in strategic nuclear weapons.

New START and the U.S. Nuclear Nonproliferation Agenda

The Obama Administration argued that U.S.-Russian cooperation on arms control, in general, and the New START Treaty, specifically, could help move forward the U.S. and international nuclear nonproliferation agenda. No one has argued that the treaty will convince nations who are seeking their own nuclear weapon that they should follow the U.S. and Russian lead and reduce those

[81] Press Release of Senator Richard Lugar. "Lugar: Romney Misinformed on New START Treaty." July 8, 2010, https://www.foreign.senate.gov/press/ranking/release/lugar-romney-misinformed-on-new-start-treaty.

[82] U.S. Congress, Senate Committee on Foreign Relations, *Senate Foreign Relations Committee Holds Hearing on U.S.-Russia Arms Control Cooperation*, Hearing, 111th Cong., 2nd sess., April 29, 2010.

weapons or roll back those programs. However, some have argued that U.S.-Russian cooperation on arms control could strengthen the U.S.-Russian cooperation on a broader array of issues and that, "cooperation is a prerequisite for moving forward with tough, internationally binding sanctions on Iran."[83]

Moreover, some have noted that U.S.-Russian cooperation on arms control would also demonstrate that these nations are living up to their obligations under the Nuclear Nonproliferation Treaty (NPT).[84] Most nations that are parties to the NPT believe that reductions in the number of deployed nuclear weapons are a clear indicator of U.S. and Russian compliance with their obligations under Article VI of the NPT.[85] During the preparatory committee meetings (PrepComs) leading up to the 2010 Review Conference of the NPT, many of the participants called on the United States and Russia to complete negotiations on a New START Treaty. While the completion of this treaty may not assure the United States of widespread agreement on U.S. goals and priorities at the NPT review conference, many argue that the absence of an agreement would have certainly complicated U.S. efforts and reduced the chances for a successful conference.

In contrast, some have argued that the New START Treaty will do little to advance U.S. nonproliferation goals. They noted that the parties at the NPT review conference may express their approval of the New START, but their positions on substantive issues would reflect their own national security interests and goals. Moreover, some critics argue that New START might undermine U.S. nonproliferation goals by calling into question U.S. security commitments and the continuing salience of U.S. nuclear weapons.

The State Department, in its press releasing announcing that the United States had met its obligation to reduce to the New START limits, noted that "the United States continues to demonstrate its commitment to fulfilling its arms control obligations, including under the Treaty on the Non-Proliferation of Nuclear Weapons" through its adherence to the New START limits.[86]

Arms Control after New START

Prospects for Further Reductions

In 2010, when it signed the New START Treaty, the Obama Administration indicated that it hoped this would be the first step in a renewed arms control process with Russia. In his statement on April 8, 2010, President Obama indicated that "this treaty will set the stage for further cuts. And going forward, we hope to pursue discussions with Russia on reducing both our strategic and tactical weapons, including nondeployed weapons."[87] In his State of the Union Address on February 12, 2013, the President stated that, as a part of the "effort to prevent the spread of the

[83] Under Secretary of State Ellen Tauscher, *The Case for New START Ratification*, Atlantic Council Panel Discussion, April 21, 2010, https://2009-2017.state.gov/t/us/140633.htm.

[84] Ibid.

[85] Article VI states that the parties to the treaty will "pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control." http://www.state.gov/t/isn/trty/16281.htm.

[86] Heather Nauert, *New START Treaty Central Limits Take Effect*, U.S. Department of State, Press Statement, Washington, DC, February 5, 2018, https://www.state.gov/r/pa/prs/ps/2018/02/277888.htm.

[87] "Remarks by President Obama and President Medvedev of Russia at New START Signing Ceremony and Press Conference," April 8, 2010, available at https://obamawhitehouse.archives.gov/the-press-office/remarks-president-obama-and-president-medvedev-russia-new-start-treaty-signing-cere.

world's most dangerous weapons," the United States would "engage Russia to seek further reductions in our nuclear arsenals."[88] Then, on June 19, 2013, in a speech in Berlin, President Obama stated that, after a comprehensive review, he had "determined that we can ensure the security of America and our allies, and maintain a strong and credible strategic deterrent, while reducing our deployed strategic nuclear weapons by up to one-third." He stated that he intended "to seek negotiated cuts with Russia to move beyond Cold War nuclear postures."[89]

Many analysts outside government supported the idea of further reductions beyond New START. They had hoped New START would cut more deeply into U.S. and Russian forces, reducing them to perhaps 1,000 warheads on each side. Others focused their concern on the absence of limits on nonstrategic nuclear weapons and nondeployed nuclear warheads. They expected a second treaty to address some of these concerns. Some have suggested that the two sides pursue a single, comprehensive treaty that would limit strategic, nonstrategic, and nondeployed warheads. This is similar to the approach that the Obama Administration appeared willing to pursue in 2013. Others suggested that the United States and Russia accelerate their reductions under New START, amend the treaty to reduce the numbers of permitted weapons, or agree informally to reduce their forces below New START levels. They argued that these steps, if the nations took them together, could enhance stability and reduce nuclear dangers, without waiting for the completion a new, lengthy treaty negotiation process.[90] Some have also suggested that the United States and Russia work to increase transparency on their nonstrategic nuclear weapons, even if they are not yet ready to agree to limits or reductions in these systems.

Others, however, disputed the notion that New START should be the first step in an ongoing process of further reductions in nuclear weapons. While some were willing to support the modest reductions of New START, they would not have supported a treaty that imposed deeper reductions on deployed nuclear weapons or limits on nondeployed nuclear weapons. They also objected to the broader arms control agenda that President Obama had outlined in his speech in Prague on April 5, 2009, including his call for the ratification of the Comprehensive Test Ban Treaty and his vision of a world free of nuclear weapons. Hence, some who concluded that the New START Treaty would not harm U.S. security by itself objected to its ratification because they believed its defeat would close the door on the rest of the President's arms control agenda.

The prospects of additional reductions below the New START levels were further dimmed by the fact that Russia has been uninterested in negotiating another treaty. Shortly after New START entered into force, Russian Foreign Minister Sergei Lavrov stated that Russia would not want to pursue further negotiations until New START had been implemented. Russian officials have stated, repeatedly, that a treaty mandating further reductions would not only have to include limits on U.S. ballistic missile defenses and non-nuclear strategic strike systems, but would also have to limit the forces of the other major nuclear powers.

Most experts agree that a new treaty that addressed each of these issues raised by both parties would likely be extremely difficult to complete. Russia has been unwilling to negotiate reductions in its nonstrategic nuclear weapons, and neither side may be willing to adopt the amount of transparency necessary to negotiate verifiable limits on nondeployed warheads in storage. The

[88] The White House, Office of the Press Secretary, "Remarks by the President in the State of the Union Address," February 12, 2013. http://www.whitehouse.gov/the-press-office/2013/02/12/remarks-president-state-union-address.

[89] The White House, Office of the Press Secretary, "Remarks by President Obama at the Brandenburg Gate—Berlin, Germany," June 19, 2013, http://www.whitehouse.gov/the-press-office/2013/06/19/remarks-president-obama-brandenburg-gate-berlin-germany.

[90] See, for example, U.S. Department of State, International Security Advisory Board, *Options for Implementing Additional Nuclear Force Reductions*, Washington, DC, November 27, 2012, http://www.state.gov/documents/organization/201403.pdf.

United States has firmly rejected Russia's proposals for limits on ballistic missile defense and is unwilling to include conventional-armed cruise missiles or other long-range missiles in nuclear arms control negotiations. Moreover, Britain, France, and China—the other declared nuclear weapons states under the NPT—have not shown any willingness to participate in the U.S.-Russian arms control process.

Prospects for the negotiation of a follow-on treaty dimmed further in 2014, following Russia's annexation of Crimea and incursion into Ukraine. In addition, in July 2014, the Obama Administration—in its Annual Report on Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments—stated that the United States "has determined that the Russian Federation is in violation of its obligations under the [1987] Intermediate Range Nuclear Forces (INF) Treaty not to possess, produce, or flight-test a ground-launched cruise missile (GLCM) with a range capability of 500 km to 5,500 km, or to possess or produce launchers of such missiles."[91] While Russia appeared to be complying with New START, most agreed that further negotiations would be unwise; some also suggested that the United States suspend its implementation of New START until Russia returned to compliance with the INF Treaty. Others, however, have argued that the United States should continue to implement New START, as the limits on the size of Russia's strategic forces and the transparency provided by its verification regime continue to serve U.S. national security interests.

Prospects for New START Extension

Absent an agreement between the United States and Russia to extend New START for a period of no more than five years, the treaty will lapse in 2021. As was noted above, President Trump and President Putin reportedly discussed the treaty during their summit in Helsinki in July 2018, with President Putin presenting President Trump with a document suggesting that they extend the treaty after resolving "existing problems related to the Treaty implementation," but the two did not reach an agreement on the issue.[92] In the 2018 Nuclear Posture Review, the Trump Administration noted that the United States had met the treaty's central limits, and that it would "continue to implement the New START Treaty and verify Russian compliance." It did not, however, indicate whether it might seek an extension of the treaty and made it clear that it was unlikely to negotiate a new treaty before New START's expiration in 2021. It noted that the United States is committed to "arms control efforts that advance U.S., allied, and partner security; are verifiable and enforceable; and include partners that comply responsibly with their obligations." But it also noted that Russian actions, including its noncompliance with the INF Treaty and other arms control agreements, and its actions in Crimea and Ukraine made further progress difficult.[93]

Reports indicate that the Trump Administration is currently conducting a review of New START to determine whether it continues to serve U.S. national security interests, and that this review will inform the U.S. approach to the treaty's extension.[94] Among the issues that might be under

[91] U.S. Department of State, *Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*, Washington, DC, July 2014, p. 8, http://www.state.gov/t/avc/rls/rpt/2014/230047.htm.

[92] Bryan Bender, "Leaked Document: Putin Lobbied Trump on Arms Control," *Politico*, August 7, 2018.

[93] U.S. Department of Defense, *Nuclear Posture Review*, Report, Washington, DC, February 2, 2018, https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF.

[94] U.S. Congress, Senate Committee on Foreign Relations, *Status of U.S.-Russia Arms Control Efforts*, hearing, 115th Cong., 2nd sess., September 18, 2018. See the prepared statement of Honorable David Trachtenberg, Deputy Under Secretary of Defense for Policy, https://www.foreign.senate.gov/imo/media/doc/091818_Trachtenberg_Testimony.pdf.

consideration are whether the United States should be willing to extend New START following Russia's violation of the INF Treaty, whether the limits in the treaty continue to serve U.S. national security interests, whether the insights and data that the monitoring regime provides about Russian nuclear forces remain of value for U.S. national security, and whether an extension of the treaty should be linked to Russia's development of new kinds of strategic offensive arms.

Administration officials addressed this review during testimony before the Senate Foreign Relations Committee on September 18, 2018.[95] Both Under Secretary of State Andrea Thompson and Deputy Under Secretary of Defense David Trachtenberg emphasized how Russia's violation of the INF Treaty and its more general approach to arms control undermined U.S. confidence in the arms control process. Under Secretary Thomson noted that "the value of any arms control agreement is derived from our treaty partners maintaining compliance with their obligations and avoiding actions that result in mistrust and the potential for miscalculation." She also said that Russia's noncompliance "has created a trust deficit that leads the United States to question Russia's commitment to arms control as a way to manage and stabilize our strategic relationship and promote greater transparency and predictability." Deputy Under Secretary Trachtenberg also emphasized that "arms control with Russia is troubled because the Russian Federation apparently believes it need only abide by the agreements that suit it. As a result, the credibility of all international agreements with Russia is at risk." He went on to state that "It is that overall kind of behavior that I think from a national security perspective we at least need to consider."

Several Senators questioned whether the Administration's review would include a broader assessment of whether the provisions in New START contributed to U.S. national security. They focused on both the benefits of the limits on U.S. and Russian nuclear forces and the value of the transparency provided by the monitoring and verification regime. Deputy Under Secretary Trachtenberg acknowledged that "the verification and monitoring and on-site inspection provisions provide a level of openness and transparency that is useful and beneficial not just to the United States but to our allies as well." But he reiterated that "any decision on extending the treaty will, and should be, based on a realistic assessment of whether the New START treaty remains in our national security interests in light of overall Russian arms control behavior."

Analysts outside government have offered several reasons why the United States should support the extension of New START. They note that extension would not only maintain limits on the number of deployed strategic nuclear weapons in Russia, but would also retain the predictability offered by the treaty's limits, maintain the monitoring and verification regime that provides the United States with insights into Russian nuclear forces and nuclear modernization programs, and avoid misperceptions that could upset strategic stability, exacerbate a crisis, or lead to a costly arms race. They also note that such an extension would provide the United States and Russia with an additional five years to resume negotiations and possibly reach new agreements on further reductions or transparency measures.[96]

Others, however, believe the United States and Russia should allow the New START Treaty to lapse, both to relieve the United States of its obligations and because they believe that Russia's interest in retaining limits on U.S. forces would provide the United States with leverage when

[95] U.S. Congress, Senate Committee on Foreign Relations, "Status of U.S.-Russia Arms Control Efforts," hearing, 115th Cong., 2nd sess., September 18, 2018.

[96] Stephen Pifer, *Want to Improve Relations with Russia? Here's a START*, Brookings, Washington, DC, September 6, 2018, https://www.brookings.edu/blog/order-from-chaos/2018/09/06/want-to-improve-relations-with-russia-heres-a-start/. See also Thomas M. Countryman, *Can Trump and Putin Head Off a New Nuclear Arms Race?* Arms Control Association, Washington, DC, August 8, 2018, https://www.armscontrol.org/issue-briefs/2018-08/trump-putin-head-new-nuclear-arms-race.

negotiating a treaty to replace New START.[97] Some also argue that the treaty better serves Russian than U.S. interests because, as was noted above, Russia is pursuing the development of weapons that may not be captured by the treaty limits.[98]

Some have questioned whether the treaty's extension will eventually constrain the ongoing U.S. nuclear modernization program.[99] While the United States plans to recapitalize all three legs of its nuclear triad, each program is sized to fit within the limits of New START. But, with growing concerns about the challenges the United States might face from Russia and China, along with growing concerns about the scope of their nuclear modernization programs, the United States might eventually seek to expand its forces beyond the limits in New START. The 2018 Nuclear Posture Review hints at this possibility by noting that the plan for rebuilding the sea-based leg of the nuclear triad will include *at least* 12 Columbia-class submarines, thus leaving open the possibility of a larger program.

Nevertheless, based on the pace of modernization, New START may not interfere with the U.S. modernization program, even if the treaty were extended for five years. Most of the new U.S. systems are not scheduled to enter the force until the late 2020s, after New START's 2026 expiration. Moreover, the new systems are to replace existing, older systems, which would keep the U.S. force within the New START limits for many years. Any expansion beyond those limits would not occur until later in the 2030s. On the other hand, if New START were to expire in 2021, the United States might feel compelled to both accelerate and expand its modernization programs if Russia were to expand its nuclear programs when released from the constraints of the treaty.

President Trump's National Security Advisor, Ambassador John Bolton, addressed the question of New START extension in a press conference following his meeting with President Putin's National Security Advisor, Nikolai Patrushev, in August 2018. He noted that, instead of simply extending New START, the United States and Russia could either renegotiate the treaty or replace it with something more like the 2002 Moscow Treaty signed during the George W. Bush Administration.[100]

Those who favor renegotiating New START believe it would provide the United States with the opportunity to press Russia to include limits on its new types of long-range nuclear delivery systems and to accept limits on shorter-range, nonstrategic delivery vehicles. But this approach envisions a more complicated treaty and could take years to complete the negotiations. A return to the Moscow Treaty envisions a more simple approach. The Moscow Treaty did not contain any detailed definitions or restrictions on deployed forces, and, instead, included a simple pledge by each side to reduce the number of deployed warheads within a 10-year period. Bolton both supported this approach and participated in the negotiations when he served as an Under Secretary of State in the Bush Administration.

These options, however, may not provide a capable or timely response to the impending expiration of New START. As noted above, Russia has been unwilling to accept limits on its nonstrategic nuclear delivery vehicles in the past, and any attempt to convince them to do so in

[97] Michaela Dodge, *A Nuclear Guide to the Helsinki Summit*, Heritage Foundation, Washington, DC, July 18, 2018, https://www.heritage.org/global-politics/commentary/nuclear-guide-the-helsinki-summit.

[98] Matthew Costlow, "Don't Give Russia the Gift of Extending New START," *Defense One*, July 10, 2018, https://www.defenseone.com/ideas/2018/07/dont-give-russia-gift-extending-new-start/149605/.

[99] For details, see CRS Report RL33640, *U.S. Strategic Nuclear Forces: Background, Developments, and Issues*, by Amy F. Woolf.

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

the future may require the United States to agree to the elimination of its nuclear weapons deployed in Europe. Moreover, while limits on nonstrategic nuclear weapons have long been a U.S. priority for the next arms control agreement, Russia has stated that the next agreement should include limits on U.S. ballistic missile defense programs, limits on non-nuclear strategic-range delivery systems (specifically, U.S. sea-launched cruise missiles), and limits on other nations' (specifically British and French) nuclear forces. Because neither side is likely to accept the demands of the other, an effort to renegotiate or replace New START would almost certainly fail to produce a new treaty before its 2021 expiration or a replacement treaty after its expiration.

A return to the 2002 Moscow Treaty raises different issues. Ambassador Bolton and others who support this approach to arms control note that this treaty provided the United States with the maximum amount of flexibility in sizing and structuring its nuclear forces. The limits in the treaty were consistent with the force levels the United States had already decided to pursue, and did not require that the United States match its force levels to those acceptable to Russia. It also was set to expire, on December 31, 2012, at the same time as both sides were required to reach the limits in the treaty, thereby imposing no real restrictions on U.S. force levels over the course of its implementation. Moreover, the treaty contained no specific definitions of forces covered by the limits, so each side could count and declare its force levels according to its own interpretation of the limits.

But the absence of agreed definitions and counting rules, along with the absence of any specific provisions that would allow each side to monitor the other's forces, meant that neither side could verify that the other was complying with the limits in the treaty. While this issue was mitigated because the 1994 START Treaty, with its complex verification regime, remained in force through December 2009 and was soon after replaced by New START, such a solution would not be possible if a treaty of this type were to replace New START after its expiration. The monitoring regime under New START would also expire, leaving the United States and Russia with no data exchanges, declarations, or inspections that provide transparency into each other's forces and operations.

Author Information

Amy F. Woolf
Specialist in Nuclear Weapons Policy

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