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Nuclear Arms Treaties: Their National Security Impact on America

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Introduction

The United States was the first and last nation to use nuclear weapons against another state. Since the detonation of the atomic bombs in Japan, there has been increased international determination to limit the potential for future uses of nuclear weapons. The United States has been in an armament treaty with Russia regarding nuclear capabilities since the 1960’s. The scope of these treaties, SALT I and II and all START agreements, were bound to strategic weaponry and delivery systems. Intermediate-range weapons and delivery mechanisms and anti-ballistic missile (ABM) defense systems were negotiated under separate treaties. Arms treaties are defensive strategies that seek to ensure a level of stability internationally, however; the United States is currently in a position to be without nearly any limitations for the first time in decades, having already withdrawn from the ABM and Intermediate-Range Nuclear Forces Treaties and the potential expiration of the New START Treaty in 2021. While this offers advantages to meet new threats such as an emerging China, it also means Russia would once again be an unchecked adversary as they would no longer be bound by a one-party treaty.

Goals of Arms Treaties

The goal of arms limitation treaties is to prevent future proliferation and costly arms races that harm respective states’ economies. Without limitations, states will continue to build arsenals in order to combat the enemy who is only logically proliferating armaments as well in order to meet the perceived threat. If one country falls substantially behind in weapons buildup, then they are at a strategic disadvantage and would be unable to match other countries in missile strike situations.

Proliferation occurs when a country increases its stockpile of weapons to meet a perceived need and promote regional stability as well as international status quo. Arms races are the result of countries competing proliferation; each country feels it must escalate its ability to fight in order to meet the threshold of mutually assured destruction (MAD) rather than allow another country to have a strategic advantage on them. Therefore, proliferation and increased weapons research and development occur so that one country has a ‘leg-up.’ Without arms treaties, proliferation and arms races could be endless so long as the country’s economy can support such measures.

Arms reduction treaties aim to reduce the already existing arms countries currently have. Reduction is achieved by participating countries’ agreements to reduce their stockpiles at rates or amounts equal to the other. This is a symbolic ‘lowering of a gun’ pointed at one another at the same rate of speed to ensure each country will not trick and shoot the other. Reduction treaties also have benefits for each country; it lowers the annual costs that are required for upkeep, maintenance, and modernization on large weapons arsenals.

Arms limitation and reduction treaties are necessary in order for nations to remain assured that the principle of mutually assured destruction prevents others from attacking once a country has lowered or eliminated its stockpile. Mutually assured destruction, commonly referred to as MAD, is a concept of deterrence. If two countries have arsenals capable of causing mass destruction on one another, they are unlikely to attack each other in the arena of warfare.
History of Relevant Arms Treaties

Arms treaties of the twentieth and twenty-first century began to focus on the newest developments in weaponry: nuclear weapons. The United States detonated two atomic bombs in Japan in 1945 to end the Second World War. It was a show of force that the world had never seen before. As the war ended, the Union of Soviet Socialist Republics (USSR) sought to match the might of the U.S. by developing their own nuclear weapon capabilities. The two countries have since been at the forefront of nuclear weapon development and intercontinental ballistic missile (ICBM) development.

The 1960’s saw the beginning of ICBM buildup between the two global powers.1 The countries hurtled toward the first potential nuclear war with the Cuban Missile Crisis under the Kennedy Administration. President Kennedy reportedly had the option to use missiles at locations of importance in Cuba, however, there was a possibility that several missiles would be missed and would be able to fire upon the U.S., President Kennedy declined this option.2 This is perhaps the closest either nation has ever been to nuclear war since WWII, yet it is also an example of deterrence due to the MAD factor. In the late 60’s, President Johnson continued the U.S. development of missile and anti-missile capabilities and unveiled an Anti-Ballistic Missile (ABM) defense system that could allow for a first strike by a nation while preventing the other nation’s retaliatory strike, as ABM’s could counter ICBMs mid-flight and prevent their reaching of intended targets.3 This was a new facet of the arms race between the USSR and U.S. and was headed to be even more costly than ICBM proliferation, as ABMs could be deployed around the border of both nations, cities, ICBM launch sites, and even to allies to protect them from strikes. The potential for an ABM arms race was just the beginning of the Soviet-American arms race.

SALT I

President Johnson began talks on the Strategic Arms Limitation Treaty I in 1968 and negotiations were culminated into its signing in 1972 under President Nixon. This treaty was an interim agreement, dependent on more complex talks to take place in the future. SALT I was successful in bringing the two superpowers to the table and having an agreed upon freeze of ICBMs and submarine-launched ballistic missiles (SLBMs).4

The SALT I interim agreement left several key issues outstanding upon its signing, however. SALT I did not provide for an accurate framework for counting of strategic bombers or the total number of nuclear warheads in each country’s arsenal. Bombers, such as the Soviet Backfire Bomber, were counted at standardized approximation toward the total warhead count despite strategic bombers often having more or less warheads than the standard approximation.5

3 Ibid.
5 Ibid.
Additionally, the two countries failed to agree upon a definition of Heavy ICBMs, allowing for inaccurate classification and counting.\(^6\)

**Anti-Ballistic Missile Treaty**

The *Anti-Ballistic Missile Treaty* signed in 1972 sought to limit the ABM defense systems that the U.S. and USSR had to prevent a nation-wide system from being created and expanding the arms race.\(^7\) The treaty was described as a “substantial factor in curbing the race in strategic offensive arms” as it limited both nations to two ABM systems, with the U.S. eventually eliminating its ABM defense entirely.\(^8\)

The United States formally withdrew from the treaty in 2002 following the 9/11 attacks. President Bush reasoned that the U.S. relationship with Russia had evolved from the Cold War and the treaty “hinders our government’s ability to develop ways to protect our people from future terrorist or rogue state missile attacks.”\(^9\)

**SALT II**

Signed in 1979, SALT II was created to be a more permanent and defined replacement of the original 1972 treaty. The Treaty sought to resolve the outstanding conflicts from the original agreement and establish a more comprehensive means of verification that each nation was in compliance with the agreement. SALT II effectively defined and categorized ICBMs by range, SLBMs, heavy bombers, Air-to-Surface Ballistic Missiles (ASBMs), cruise missiles, and Multiple Independently Targetable Reentry Vehicle (MIRVs).\(^10\) Verification was agreed upon by both nations through use of National Technical Means (NTMs). NTMs included use of telemetry and photo-reconnaissance satellites to verify that warheads, launchers, and bombers had been destroyed.\(^11\) SALT II was never ratified by the U.S. Senate, however; as shortly after the treaty was signed the USSR invaded Afghanistan and the U.S. saw this as a threat. Despite this, both nations still complied with the agreed upon provisions.

**Intermediate-Range Nuclear Forces Treaty**

Signed in 1987, the Intermediate-Range Nuclear Forces (INF) Treaty was drafted to limit intermediate-range nuclear warheads and launchers; an area that was not covered in prior treaties. SALT I, II, ABM Treaty, and future replacements of SALT were only drafted to limit and reduce long-range missiles, launchers and ABM systems that had a range of greater than

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\(^{6}\) Ibid.


\(^{11}\) Ibid.
5,500 kilometers and able to reach one another’s sovereign territory. The INF Treaty banned all intermediate-range land ballistic and cruise weapons for the two countries.

The treaty included some of the most stringent verification measures of any previous arms control agreement between the two countries, and banned the staging of intermediate-range missiles in Europe for both sides. The negotiations were encouraged by European allies, and Germany unilaterally dismantled its own INF missiles to encourage the U.S. and Russia to reach an agreement. The discussions, championed and led by President Reagan, helped to disarm and prevent future armament in Europe, eliminated INF missiles, and the dialogue helped pave the way to the end of the Cold War.

The U.S. formally withdrew in 2019 citing previous repeated violations of the treaty by Russia in 2008, 2014, and 2017 through development and testing of weapons that had ranges of 500 and 2,000 kilometers. The U.S. had full support from NATO on withdrawing from the treaty and Russia subsequently withdrew.

START I

The Strategic Arms Reduction Treaty I replaced the previous SALT treaties and pivoted the focus from limitation of weapons to the reduction of current levels in both the U.S. and USSR. The treaty was signed in 1991 by President George H.W. Bush and General Secretary Gorbachev, however; its implementation was delayed. Despite the break-up of the Soviet Union and delay in implementation Russia, Belarus, Ukraine, and Kazakhstan were all bound by the agreement. START I began to tackle issues that the previous SALT agreements had been unable to, such as the counting rules for heavy bombers and more verification measures.

New measures of verification were data exchanges on strategic weaponry every six months, planned and short notice on-site facility inspections, and bans on encryption of telemetry signals during exchanges and test launches. The new verification measures allowed the U.S. and Russia to continue the reduction of arms without great fear of the other country violating the treaty in order to gain the upper hand. While the treaty limited each nation to 6,000 warheads and 1,600 launchers, it still failed to accurately count the warheads on bombers and simply created an

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14 Ibid.
19 Ibid.
approximation range for the Russians to use whereas the United States used accurate counts of warheads on bombers.20

START II and III, and Strategic Offensive Reduction Treaty

The START II Treaty was signed by President Clinton and President Yelstin of Russia 1993, however; it was never ratified by either country’s legislatures.21 The treaty aimed at bringing the number of warheads in each country to between 3,000 to 3,500 yet its provisions were never put into place.22 The Russian legislature identified several points of contention in that the U.S. had been reducing and removing warheads, yet they were not destroyed and could be reconstructed, the costs of reducing land-ICBMs were too great, and they wished for amendments to give more reason for the potential withdrawal of the treaty.23 However, the U.S. withdrew from the ABM Treaty in 2002, prompting the Russian government to withdraw from START II followed by the U.S.

START III negotiations began in 1997 as to be an increased reduction of warheads from the first and second treaty measures. START III provisions were never put into practice as Russia made negotiations for the treaty dependent on U.S. continued support for the ABM Treaty.24

Also called the Moscow Treaty, the Strategic Offensive Reductions Treaty (SORT) was signed in 2002 and pledged to reduce deployed warheads to a range of 1,700-2,200 warheads.25 This treaty did not adopt any of the specific proposed revisions in START II or III, but kept many policies from START I in place including verification measures.

New START

Signed in 2010, New START, or Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms, replaced START I. Further reductions of deployed warheads were agreed upon, bringing the numbers to 1,500 and continued to keep the verification measures in place to include inspections, photo reconnaissance, and database sharing.26 This treaty did not, however, solve the issue of counting bomber warheads. Under New START, Russia pushed for heavy bombers to be counted as one warhead against each country’s grand total no matter the warheads the bomber could actually carry.27 This issue allows for Russian bombers that carry between eight and sixteen warheads to be counted as one and

20 Ibid.
22 Ibid.
23 Ibid.
24 Ibid.
27 Ibid.
U.S. heavy bombers that carry ten warheads to be counted as one. Therefore, Russia could have six more warheads per heavy bomber than the U.S., potentially leading to an imbalance in the actual number of warheads versus the warheads counted under the treaty.

**Current Negotiations**

The New START treaty is set to expire in February of 2021 unless a new agreement is negotiated or the provision in the treaty allowing for a five-year extension is enacted. President Putin has been quoted as saying he was willing to extend the treaty with the U.S. another five years. Despite President Trump labeling the New START treaty as a bad deal of the Obama era, the two countries engaged in arms control talks in Vienna in late June, 2020. Both the American and Russian delegations have expressed their desire for China to join the talks; however, Russia believes that other nuclear powers such as England and France should participate in the future, possibly creating a point of contention for future discussions. The U.S. negotiator, Ambassador Billingslea, stated that the goal of the negotiations was to reassess the previous START treaty in light of the current strategic environment, to avoid a three-way arms race, and to subject China to the same restrictions as the U.S. and Russia. Additionally, the talks must result in including “all” nuclear weapons in the treaty rather than limiting it to strategic nuclear weapons.

**Areas to Consider**

**Verification and Violation**

Perhaps the most important component to any arms treaty, verification is necessary to ensure that both sides of an agreement are being met. The measures in place to verify each country’s compliance with the agreement have evolved from the original SALT agreements where only photo reconnaissance and telemetry gathering were allowed. To verify that heavy bombers had been reduced, the planes were left for ninety days in an open area in Arizona so the USSR could verify their destruction per the agreement’s terms. While photo reconnaissance is still used, the data sharing and on-site inspections provide even more accurate verification. Data sharing occurring twice a year includes specific information regarding the amount and location

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31 Ibid.

32 Ibid.

33 Ibid.

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These verification measures have allowed the U.S. State Department to determine that Russia is in compliance with the New START provisions as of 2020, however; Russia was in violation of the INF Treaty prior to U.S. and Russian withdrawal.\footnote{“Executive Summary of the 2020 Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments (Compliance Report),” State Department, 2020, https://www.state.gov/2020-adherence-to-and-compliance-with-arms-control-nonproliferation-and-disarmament-agreements-and-commitments-compliance-report/.
} The Department of Defense determined that even if Russia had violated the terms of the New START deal, that it would not offer any large disadvantage to U.S. standing; claiming that the likelihood of a Russian first-strike is low, and the U.S. strategic second-strike abilities would not be affected.\footnote{Kristensen, Hans M, “DOD: Strategic Stability Not Threatened Even by Greater Russian Nuclear Forces,” Last modified October 10, 2012, https://fas.org/blogs/security/2012/10/strategicstability/.
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Strategic versus Tactical Nuclear Weapons

Tactical nuclear weapons (TNWs) and delivery mechanisms have not been covered by a treaty between the U.S. and Russia outside of informal pledges in 1991 not to deploy TNWs, however there are no means of verification.\footnote{Sokov, Nikolai, “Tactical Nuclear Weapons (TNW),” Last modified May 1, 2002, https://www.nti.org/analysis/articles/tactical-nuclear-weapons/.
} Tactical weapons, or non-strategic nuclear weapons, are defined by their range of being less than 500km for land-based weaponry, in theory being used on a battlefront in close proximity.\footnote{Ibid.
} They are generally smaller and considered more usable as their nuclear yields are much lower than strategic nuclear weapons. This introduces a new risk factor as if these weapons are considered tactically usable on a military battlefront and therefore this encourages proliferation and lowers the threshold for acceptable usage of nuclear weapons for all states.

New Technologies

New technologies have been built since the signing of New START in 2010 that are not yet covered under current arms agreements. In 2018, Russia announced its creation of a hypersonic glide vehicle (HGV), the Kinzhal air-launched ballistic missile (ALBM), an undersea autonomous nuclear delivery vehicle, and the Burevetnik nuclear powered cruise missile.\footnote{Vaddi, Pranay, “Bringing Russia’s New Nuclear Weapons Into New START,” Law Fare, Last modified August 13, 2019, https://www.lawfareblog.com/bringing-russias-new-nuclear-weapons-new-start.
} While not currently ready for use or deployment, these new weaponry technologies will not necessarily be bound by the New START agreement. The agreement included provisions that if new strategic weaponry is developed and produced then it can be covered by the treaty regulations and verification measures as long as negotiations are agreed upon.
Other Nations

A common objection to the extension and existence of the New START Treaty, the previous INF Treaty, and the ABM Treaty was that only Russia and the U.S. were bound by its provisions. President Bush claimed in 2002 that the U.S. was harming its national security against nations that were not bound by the ABM treaty and terrorist organizations that sought to exploit a vulnerability. The INF Treaty bound the U.S. and Russia to reduce all intermediate-range weapons, yet if China’s nuclear arsenal was party to the treaty, then ninety percent of their weapons would fall outside the treaty provisions. In total, China is estimated to have 290 nuclear warheads, the U.S. is estimated to have 6,150 warheads, and Russia is estimated to have 6,500 warheads. Russia and the U.S. have over 6,000 warheads because previous SALT and START treaties only regulated strategic delivery mechanisms (ICMBs, SLBMs, and heavy bombers), deployed and nondeployed launchers and bombers, warheads on deployed strategic delivery systems, but not the undeployed warheads. Undeployed warheads are mainly what each country’s nuclear arsenal consist of.

Other nations that possess nuclear weapons include the UK, France, China, India, Pakistan, Iran, Israel, and North Korea. Details regarding Iran, Israel, and North Korea’s nuclear weapons programs are unknown, yet it is suspected they have or are developing the capability to have nuclear arms that would fall under the scope of the New START agreement. Of these countries India, Israel, North Korea, and Pakistan are non-signatories to the Treaty on the Non-Proliferation of Nuclear Weapons, which states that any country that is without nuclear weapons will not seek to gain them and only use peaceful nuclear technology, and any country with nuclear weapons will pursue nuclear disarmament.

Projections and Implications

Due to the time remaining before the expiration of the New START Treaty, the two most likely options are that the treaty is extended with several sub-point actions to include emerging technologies and other relevant states, or the treaty expires. If the treaty expires implications could include: a twenty-first century arms race, an increased ability to compete with China, and potential loss of intelligence on Russian capabilities. However, before exploring the implications of expiration, it is important to address the implications of what is likely to happen if the treaty was extended and not allowed to expire.

44 Ibid.
New START Extension

If an extension is selected, it will likely be contingent upon the agreement to create new negotiations and treaties for other and future issues relating to the following three areas discussed below: renegotiation to include new and emerging technologies, the ability of the U.S. to compete with China, and finally the potential inclusion of other states.

Renegotiation to Include Emerging Technologies

The U.S. is likely to seek limits on the production and deployment of the four new Russian strategic capabilities. While the hypersonic glide vehicle (HGV), the Kinzhal air-launched ballistic missile (ALBM), an undersea autonomous nuclear delivery vehicle, and the Burevetnik nuclear powered cruise missile are not active and ready for deployment they will be unchecked without negotiation. Limitations on these four provisions to include future emergent technologies will allow the U.S. to remain on equal footing with Russia.

Ability to Compete with China

If the treaty is extended, there could be a greater flexibility for the U.S. to compete with Chinese nuclear capabilities as there would be less need for intense competition for Russia due to limitations. This flexibility to compete would open the opportunity for the U.S. to attempt to rival the Chinese in intermediate-range nuclear weapons, as the majority of the Chinese arsenal is within this range.

Perhaps more likely, the U.S. will attempt to enter into a negotiation with the Chinese on limiting their numbers of intermediate and short-range weapons. There is a possibility that the U.S. would be forced to forgo a treaty or make large concessions for an agreement to be reached since the U.S. strategic arsenal far outweighs the Chinese. While exact numbers are unknown, the U.S. Intelligence Community estimated in 2019 that at most the Chinese nuclear warhead arsenal reaches the low hundreds, likely being slightly less than France’s arsenal of around 300.\(^{46, 47}\) In contrast, the U.S. has around 6,000 warheads.\(^{48}\) The Defense Intelligence Agency Director, Lieutenant General Ashley stated that China is likely to double its amount of nuclear weapons within a decade, citing China’s creation of new ICBMs and operation of testing sites.\(^{49}\) In terms of intermediate and short-range weaponry, the International Institute of Informatics and Systemics estimates that China has anywhere from 500-1,000 short-range missiles and 70-140 intermediate-range missiles.\(^{50}\)

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\(^{50}\) Barrie, Douglas, Michael Elleman, and Meia Nouwans, “THE END OF THE INTERMEDIATE-RANGE NUCLEAR FORCES TREATY: IMPLICATIONS FOR ASIA,” IIIS, International Institute of Informatics Systemics
The Chinese motivation to enter into an agreement is far less than the United States’ as the U.S. is currently unable to compete with China in an intermediate-range nuclear weapons level. This is important for U.S. national security as intermediate or short-range nuclear weapons can be staged on acquired islands or submarines in the South China Sea as a deterrence measure by the Chinese against regional and international states interference.

Potential Inclusion of Other States

If the New START treaty is extended, the U.S. is likely to seek a treaty to ensure other nuclear states are being limited in their nuclear weapons proliferation. States such as India, Israel, Pakistan and North Korea being non-signatories to the NPT leaves their nuclear goals unchecked. For the U.S. to be secure, agreements between non-signatories are likely to be needed.

Both an added benefit and drawback, more signatories to a treaty with verification measures similar to New START open up the countries to increased espionage during on-site inspections of nuclear weapons and sites. This is beneficial to the U.S. to learn more about weapons and facilities that pose a threat to national security and allow for more opportunity for collection. It does, however, open U.S. sites that are inspected by other nations to potential for increased espionage.

New START Expires and the Implications for U.S. National Security

Twenty First Century Arms Race

With the removal of limitations by the New START agreement, the U.S. and Russia would have the least constraints on nuclear armaments since the 1960’s. There is a possibility for a renewed arms race between U.S. and Russia as the expiration of the New START agreement and the 2019 withdrawal from the INF Treaty to end all verification and monitoring systems between the two states. Without monitoring and data sharing, confidence in the other state’s current levels of warheads and projected production remain uncertain. While an arms race in ABMs has not occurred since both countries withdrew from the ABM Treaty in 2002, there remains a possibility that an arms race could occur again. A race in the twenty first century could extend into space if escalated enough despite previous agreements to prevent weaponization and nuclear armament of the domain. Additionally, an arms race now would potentially put the U.S. at a disadvantage to Russia as Russia has finished updates on its nuclear weapons whereas the U.S. is currently updating.


Ability to Compete with China

If the treaty expires without new negotiations, then the U.S. will not be disadvantaged in competing with China in strategic arms capabilities. Most of China’s nuclear capabilities are intermediate-range or tactical in range and the U.S. being bound by the treaty or not, will not affect the current levels in either arena. In the future, if China were to substantially increase its strategic nuclear weapons and devices to levels that compete with the U.S., then the U.S. would be able to increase its arsenal in turn without the limitations of the New START Treaty.

A drawback, however, is that the U.S. would also have to monitor and match the Russian levels of strategic weaponry as they would no longer be restricted either. Additionally, the U.S. would not have the ability to monitor the Russian arsenal as closely as before because verification measures would be suspended.

Loss of Intelligence

Currently, the verification measures agreed upon in the New START agreement allow the U.S. to gather intelligence on Russian capabilities that would be lost if the treaty expired. In order to monitor the levels and capabilities post-expiration, increased satellite and photo reconnaissance measures would be needed, as well as overall increased Intelligence Community resources.

Conclusion

While the U.S. debates the merits of extending or allowing the New START agreement to expire, it remains clear that the U.S. faces national security implications no matter the decision. As it currently stands, the treaty will only cover strategic nuclear armaments to which Russia is the only current rival to the U.S. However, the flexibility of being unconstrained could allow the U.S. to challenge China in the South China Sea despite the U.S. being unable to match them in intermediate-range nuclear weapons.
Bibliography


