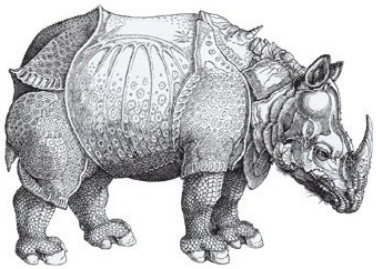

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Relations between the United States and Russia have shifted over time—sometimes in

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Over the years, the two nations have signed numerous arms control treaties in an effort to restrain and reduce the number and capabilities of their nuclear weapons, but both still deploy more than 1,550 warheads on missiles and bombers that can reach the other nation's territory. The collapse of the 1987 Intermediate-range Nuclear Forces (INF) Treaty and the possible expiration of the 2010 New Strategic Arms Reduction Treaty (New START) in 2021 may signal the end to mutual restraint and limits on such weapons.

This reality – that the last treaty restraining U.S. and Russian nuclear weapons may expire in early 2021 – has raised questions about the future of arms control. The near-term question, and the focus of much of this paper, is the debate about whether the United States and Russia can salvage any of the benefits of these two treaties, through either formal agreements or informal cooperation to maintain transparency and restraint in nuclear deployments. The longer-term question is less specific: can the United States and Russia maintain stability, exhibit restraint, and reduce the risk of war if the era of formal arms control treaties has ended?

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PROSPECTS AND SIGNIFICANCE OF NUCLEAR ARMS CONTROL

Evgeny Buzhinskiy

After U.S. withdrawal from the INF Treaty it has become obvious that nearly fifty years old history of nuclear arms control is coming to its end.

The New START treaty is set to expire on February 5, 2021 and there is little doubt that it will be the end of it. It could be extended if both countries agree (they should express their intention to extend the treaty not later than September 2, 2020). Given the current tensions between the two countries, such an extension would be a practical way forward. However even this relatively straightforward step is in doubt. President Trump condemned New START as one of the "bad deals" negotiated under his predecessor (I'm sure that in view of a certain group of US politicians and experts the Treaty is "bad" because it does not contain special limitations for Russian MIRVed and heavy ICBMs). There are also forces in the United States that believe (for different reasons) it is not in the U.S. interests to participate in the START.

There is no need to negotiate the extension as some experts think. The Treaty has been ratified and has an Article XIV according to which it may be extended to the period of no more than five years should the parties agree to such an extension. So, the Treaty's extension is only a matter of political will of the leaders of the U.S. and Russia. Technically the extension will only require the exchange of diplomatic notes.

If the system of nuclear arms control is fully dismantled the issue of viability of NPT and CTBT arises.

Besides dismantlement of the entire nuclear arms control system may lead to an uncontrolled multilateral arms race involving strategic, intermediate-range and tactical nuclear and non-nuclear offensive and defensive weapons, as well as cyber warfare systems, laser weapons and other arms innovations.

Do the parties to the Treaty have any motivation to preserve the it by means of extension? I think the answer is yes for both Russia and the United States.

Russia seeks to limit Washington's freedom to ramp up the US strategic arsenal so as not to be dragged into another unrestrained nuclear arms race. If the United States were no longer bound by the terms of START, it would be able to rapidly increase the number of its nuclear warheads installed on deployed ICBMs from the current 400 to 1200 thanks to its existing upload potential. It would also be able to increase the number of warheads on the deployed SLBMs from the current 900 to 1920 (given the terms of New START, each Minuteman III ICBM can be equipped with three warheads, although since June 2014 they

have typically only carried one, the U.S. Trident II missile typically carries four or five warheads each, although each missile can be equipped with eight or fourteen warheads depending on its type: W88 or W76). Uploading U.S. Minuteman and Trident missiles to their full capacity would more than double the total number of U.S. strategic nuclear weapons). The Russian Strategic Nuclear Forces would not be able to respond proportionally to such a massive increase in the US strategic offensive capability.

As for the United States, the benefits of preserving START would also be significant. Keeping START alive would enable the United States to have much clearer idea of Russia's plans in terms of strategic nuclear weapons, which is extremely important to Washington because in 2021 Russia is expected to launch mass production and deliveries to the armed forces of such new strategic offensive weapons as *Avangard* and *Sarmat* ICBM, the new *Borei-A* class nuclear-powered missile submarines and deeply upgraded Tu-160M2 heavy bombers armed with new weapons. These strategic nuclear systems fall under the scope of START and are therefore subject to on-site verification measures by US inspection groups. Additionally, the United States has no plans of deploying any new strategic nuclear systems up to 2026 (when the extension would run out), which makes such an extension an even more attractive proposition for the Pentagon.

Finally, keeping START alive would enable Russia and the United States to demonstrate to international community their commitment to nuclear disarmament in the framework of Article VI of the NPT. This is an important consideration in view of the Tenth Review Conference scheduled for April-May 2020. Neither would a five-year extension pose any risks for Russian or US national security because under Article XIV of START, each party has the right to withdraw at any time should it decides that that extraordinary events related to the subject matter of the Treaty have jeopardized its supreme interests. [1]

Moreover, for decades, strategic nuclear arms agreements between Moscow and Washington like the latest START have bolstered strategic stability. These agreements have made it possible for the two countries to maintain a stable balance of nuclear forces affordably and receive exhaustive information about the current conditions and future prospects of the modernization of strategic offensive arms. These accomplishments have been made possible by dozens of annual local inspections and exchanges of information and notifications regarding the condition and transporting of nuclear arsenals, the addition or removal of strategic systems, and exchanges of telemetric data from missile launches.

Past experience suggests that a lack of this information inevitably and logically leads countries to overestimate their opponents' capabilities and, consequently, increase the quality and quantity of their own arsenals at considerable cost. This dynamic can easily lead to a nuclear arms race. If START were allowed to expire in 2021, strategic stability would be in danger.

Granted, if the information exchanges conducted under the treaty ceased, Russia and the U.S. could still obtain some data through other technical means, but satellite-based intelligence platforms would be a totally insufficient source of information by comparison. For instance, it would then become difficult to determine the number of warheads deployed on ICBMs and SLBMs. Moreover, some US politicians and experts believe that security and stability could be achieved by means of non-legally binding transparency and verification procedures. The Russian position od such ideas is clear – Moscow does not need transparency for the sake of transparency and verification for the sake of verification. They should be closely tied to commitments as regards limitations.

What are the main obstacles to an extension of the START treaty?

The ongoing discussions about the Treaty in the Trump administration are fairly negative. There are two prevailing views. One is that current START should be replaced by the new treaty, which is to be signed between United States, Russia and China, and covering all their nuclear systems. The other view is that START in its current form should be abandoned and the new agreement with Russian Federation should be negotiated with Russia to include all new Russian nuclear weapons systems (not just the *Avangard* hypersonic glider and *Sarmat* ICBM but also the *Burevestnik* nuclear-powered cruise missile and even the *Kinzhal* airlaunched missile and undersea autonomous vehicle Poseidon, which are not even categorized as a strategic weapon's systems).

Of course, it would be wonderful if other nuclear states adopted the restrictions and subsequently reductions on nuclear weapons after thirty years of such steps being taken overwhelmingly by Russia and the United States. For instance, it's frequently suggested that the three other signatories of the NPT – the U.K., France and China – be included in the process first, followed by the four nonsignatories; Israel, India, Pakistan and probably North Korea. This would have a positive political impact on the nuclear non-proliferation regime, especially given the fact that the five NPT members are bound by direct obligations on the issue as per Article VI of the Treaty.

But practically limitations, reductions and the dismantlement of such complex, costly weapons of such critical importance for national security never
come about as the result of general good intentions alone. As demonstrated by the fifty years of negotiations and a dozen of serious and politically binding

agreements in this sphere between the Soviet Union/Russia and the United States, such steps are only taken on quite pragmatic, material terms.

First, a state adopts these measures if it is guaranteed tangible security improvements, i.e. limitations and reductions of weapons by the other side.

Second, such steps are possible if the states' nuclear forces are approximately equal: not because such parity is required for deterrence, but because it makes the parties equally interested reaching an agreement and provides the starting point for it. In this case both parties will have to adhere to the same numerical ceilings.

Third, no one will just trust their opponent's word on such issues, which calls for an adequate verification system, whose capacities in many ways determine the limits of possible agreements. [2]

As for an inclusion in a new treaty on limitation of strategic nuclear weapons of any other systems not covered by the present START Treaty, for some of them it is quite possible, for some – difficult but still possible, for some – not possible. Moreover, United States is not the only side which may wish to cover additional weapons systems by the provisions of the treaty, Russia also has its own concerns.

Before starting to consider such a possibility it should be mentioned that normally only comparable types of weapons systems are subject to agreements: if an agreement covers a particular type of weapon by one side, it must include the same system of the other. However, if the parties' nuclear forces are asymmetric, agreements often provide for a trade-off in which some weapons systems are limited on one side in exchange for different systems on the other.

So, the subject of mutual concerns are hypersonic gliders, long-range air, ground and sea-launched cruise missiles (ALCM, GLCM, SLCM), undersea autonomous vehicles, space-based strike systems, anti-satellite weapons, ballistic anti-missile defense and non-strategic nuclear weapons and cyber weapons.

Some of them like *Avangard* hypersonic glider can be easily counted against the ceilings of a new treaty since it is supposed to serve as a warhead for Sarmat ICBM. It is also not difficult to limit long-range ALCMs by returning to the old counting rules and airfield inspections. In the past ALCMs were counted under warheads ceilings (START I, II). GLCMs, including Russia's *Burevestnik* intercontinental nuclear missile, are even easier to numerically limit in a future agreement through the verification measures provided by the 1987 INF Treaty. SLCMs present a much more serious challenge due to the mobility of their delivery vehicles and universality of their

launchers. But technically these difficulties are solvable if there is a political will.

The subject of space-based strike weapons and anti-satellite weapons is more complicated since they have never been subject for any restrictive measures or limitations. But again, if there is a political will, at least as a first step some confidence-building mechanism could be worked out.

Russian *Poseidon* undersea autonomous systems can not be limited unilaterally and should be subject for a trade-off with the United States.

The issue of agreeing and verifying prohibitions on cyber warfare systems seem irresolvable at this time. First of all one of the main difficulties is impossibility to determine the source of a possible cyber attack – state agency or non-state actor. As for the state – the most that can be hoped for just now is a purposeful dialogue between United States and Russia on a mutual commitment not to launch cyberattacks on each other's strategic information and command and control systems.

Anyhow, I'm sure that both United States and Russia should explore the possibility of a new bilateral, legally-binding and comprehensive arms control agreement that would succeed START, whether it ends in 2021 or 2026. By its own terms or in conjunction with separate, less formal arrangements, such an agreement would need to address concerns of one side or the other about missile defenses, conventional strike systems, non-strategic nuclear weapons, offensive cyber and space capabilities, and any innovative weapons systems.

Meanwhile, today maintaining stability and predictability is the first order of business for arms control. And to achieve this goal we need to do everything possible to extend START, resume regular talks on strategic stability, abandon launch-onwarning nuclear strategies – this important step would help lower the risk of catastrophic errors. Lengthening the time required for leaders to decide whether to launch a retaliatory strike would not undermine deterrence, since such a second strike would still be guaranteed to inflict unacceptable losses on an attacker and therefore dissuade the other party to strike first.

[1] Victor Esin "Critical factors for the New START extension", presented at the meeting of the US-Russian Dialogue on Nuclear issues, Moscow, November 7, 2019.

[2] Alexey Arbatov "A New Era of Arms Control: Myths, Realities and Options", Carnegie Moscow Center, October 24, 2019.

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THE FUTURE OF NUCLEAR ARMS CONTROL

Amy F. Woolf

Introduction

Relations between the United States and Russia have shifted over time—sometimes in reassuring and sometimes in concerning ways—yet most experts agree that each nation is the only one that poses, through its arsenal of nuclear weapons, an existential threat to other. Over the years, the two nations have signed numerous arms control treaties in an effort to restrain and reduce the number and capabilities of their nuclear weapons, but both still deploy more than 1,550 warheads on missiles and bombers that can reach the other nation's territory. The collapse of the 1987 Intermediate-range Nuclear Forces (INF) Treaty and the possible expiration of the 2010 New Strategic Arms Reduction Treaty (New START) in 2021 may signal the end to mutual restraint and limits on such weapons.

This reality – that the last treaty restraining U.S. and Russian nuclear weapons may expire in early 2021 – has raised questions about the future of arms control. The near-term question, and the focus of much of this paper, is the debate about whether the United States and Russia can salvage any of the benefits of these two treaties, through either formal agreements or informal cooperation to maintain transparency and restraint in nuclear deployments. The longer-term question is less specific: can the United States and Russia maintain stability, exhibit restraint, and reduce the risk of war if the era of formal arms control treaties has ended?

The End of the INF Treaty

When signing the INF Treaty in 1987, the United States and Soviet Union banned all land-based ballistic and cruise missiles with ranges between 500 and 5,500 kilometers. The ban applied to missiles with nuclear and conventional warheads, but did not apply to sea-based or air-delivered missiles. When implementing the Treaty, The Soviet Union destroyed 1,846 missiles, including 654 3-warhead SS-20 intermediate-range ballistic missiles, while the United States destroyed 846 single warhead ballistic and cruise missiles.

The United States withdrew from the INF Treaty on August 2, 2019, six months after notifying Russia of its intent to do so [2]. This withdrawal was a response to Russia's testing and deployment of a ground launched-cruise missile with a range between 500 and 5,500 kilometers – thus a violation of the Treaty. When the United States first identified this violation in 2014, Russia rejected the U.S. accusation and initially denied that that such a missile even existed. After the United States released the designator for the noncompliant missile – the

9M729 missile, which NATO refers to as the SSC-8 – Russia acknowledged its existence but denied that it had ever tested the missile to a range between 500 and 5,500 kilometers. It also accused the United States of violating the Treaty by using intermediate-range missiles as targets during tests of U.S. missile defense systems, employing armed drones, and by deploying missile defense interceptors on land in the Navy's MK-41 launchers, which can carry sea-launched cruise missiles. The United States has denied that these weapons and activities violate the INF Treaty.

Moving Past INF

On August 18, 2019, the U.S. Department of Defense (DOD) tested an intermediate-range ground-launched cruise missile by firing a sea-launched Tomahawk cruise missile from an MK- 41 launcher that had been attached to flat-bed trailer on land. According to DOD sources, the missile flew to more than 500 kilometers and provided data that would inform the development of future systems. Although this was more of a demonstration than a test of an actual system, the Department of Defense had indicated in March 2019 that that the United States might deploy a ground-launched cruise missile 18 months after the test. DOD also announced that it planned to test an intermediate-range ground-launched ballistic missile in November 2019, with deployment following five years later; this test has not yet occurred.

The United States has not outlined any plans to deploy new intermediate-range missiles in either Europe or in Asia. In a briefing on February 1, 2019, a senior U.S. government official noted that the United States had not developed these systems while the treaty was in force and did not plan to deploy any INF-range systems immediately. The official also noted that the United States was considering only conventional options and did not plan to develop new nuclear-armed INF-range missiles. NATO Secretary General Jens Stoltenberg has also indicated that NATO "does not intend to deploy new land-based nuclear missiles in Europe." [3] Moreover, the United States has not identified any allied nations that might be willing to deploy these missiles on their territories, and it is not clear whether it has initiated any discussions towards this end. Consequently, even if NATO, as a whole, or individual European nations were to agree to accept U.S. intermediate- range missiles, deployment is unlikely to occur in the near-term.

Russia insists that it has not tested the 9M729 missile to INF range, and denies that the missile can fly to that range, [4] but does admit that it has deployed several battalions of the missile. Further, on February 2, 2019, when Russia responded to the U.S. withdrawal by suspending its participation in INF, President Putin indicated that Russia would develop INF-range missiles—including a land-based version of the sea-based Kalibr cruise missile and

hypersonic intermediate-range and shorter-range missiles—to counter new U.S. systems. However, he indicated that Russia would only deploy intermediate-range systems in Europe or Asia after the United States deployed these types of weapons in these regions. [5] This, too, could indicate that new missile deployments in Europe might not occur in the near-term.

In September 2019, President Putin sent a letter to leaders in China, Europe, NATO, and the European Union, calling for a moratorium on the deployment of short and medium-range missiles in Europe and Asia. Reports indicate that he noted that "the implementation of such a scheme will require additional verification measures, especially in conditions where launchers for medium-range missiles are already located in Europe." He also said that Russia was ready "to discuss relevant technical aspects" of this verification system. [6] Anatoly Antonov, the Russian Ambassador to the United States explained President Putin's offer by noting that Russia has "no interest in an escalation of tensions in Europe, the Asia-Pacific region or anywhere else. We will not get involved in a costly arms race. Such actions benefit the security of no country, including the United States. Tensions lead to unpredictability, which in turn requires additional investments in defense." Hence, he argued that "the U.S. and other NATO countries will benefit, at the very least, if they declare a moratorium similar to the Russian one." [7]

NATO officials rejected President Putin's proposal, dismissing the offer as "not credible" since it "disregards the reality on the ground: Russia has already deployed the SSC-8, in violation of the INF treaty." Oana Lungescu, the NATO spokesperson noted that "unless and until Russia verifiably destroys the SSC-8 system, this moratorium on deployments is not a real offer. [8] France's President Emmanuel Macron has reportedly indicated that he supports discussions about the proposal. While he stated that he has not accepted the moratorium, he also does not believe that the proposal should be dismissed without further discussion. [9]

Alternatives to INF

While officials in the United States and NATO have rejected Russia's proposal for a moratorium on the deployment of INF-range missiles, many analysts outside government have identified this as one possible way to retain some of the security benefits of the INF Treaty. They note that an agreed moratorium could possibly delay missile deployments and provide time for discussions on a more formal agreement. Further, while most agree that the United States and Russia are unlikely to recreate the INF Treaty's global ban on all land-based INF-range missiles, they have identified partial measures that could restore some of the treaty's limitations.

For example, the United States and Russia could agree to ban INF-range missiles in Europe, while allowing their deployment in Asia. This would allow both nations to counter missiles deployed by countries, such as China, who were not parties to the INF Treaty, while precluding a new missile race in Europe. Daryl Kimball, of the Arms Control Association described this alternative by stating that "one option would be for NATO to declare, as a bloc, that none of them will field any INF Treaty-prohibited missiles or any equivalent new nuclear capabilities in Europe so long as Russia does not field treaty-prohibited systems that can reach NATO territory." [10] As an alternative, the United States and Russia could allow the deployment of intermediate-range missiles, but agree to limit the permitted numbers of new missiles. Rose Gottemoeller, the former Deputy Secretary of NATO, who suggested this approach in a recent speech, noted that it would be more difficult to verify compliance with a limit than with a complete ban, but also noted that verifiable and reciprocal restraint measures can "enhance mutual predictability," and, therefore, help maintain stability and avoid an arms race. [11]

Kimball and Gottemoeller both offered a third alternative, where the United States, Russia, China, and possibly other nations who possess intermediate-range missiles could agree to ban *nuclear-armed* intermediate-range missiles. Both recognized that this type of ban would require a more intrusive monitoring and inspection regime. As Gottemoeller noted, the INF Treaty had banned both nuclear and conventional missiles because the parties "could not distinguish nuclear from conventional warheads on the front end of missiles." But she noted that both technology and policy options had advanced since the 1980s, as was evident with the "re-entry vehicle onsite inspection regime of the New START Treaty."

These proposals, while offering partial solutions to the lapse of the INF Treaty, raise a number of complex problems. First, all would require a resolution of the dispute over the Russian 9M729 missile. If this missile can fly to intermediate-range, as the United States and NATO assert, then a moratorium on INF-range missiles in Europe would require its elimination, or at least its removal from bases within range of Europe. Ambassador Antonov noted, "our missile has never been tested for a distance surpassing the 500-kilometer limit and, therefore, a priori could not violate the treaty. That means that there is no contradiction to our moratorium." But the United States has claimed that the 9M729 missile has the *capability* to travel more than 500 km, not that it has been tested to that range.

An agreement to ban, or even limit, intermediate-range missiles in Europe would also have to address the relatively small size and mobility of these

systems. The United States and Soviet Union agreed to a global ban on INF-range missiles in 1987 because the Soviet Union could move missiles from Asia to Europe in a crisis and because these missiles could threaten U.S. allies in Asia. This is still true. The United States could also move missiles stored in the United States to bases in Europe in a time of increasing tensions. Hence, a regional ban in INF missiles might have little meaning during a crisis when one or both nations could begin to move the missiles into range of targets in Europe.

Finally, although the United States and Russia could develop new monitoring mechanisms to determine whether intermediate-range missiles carried nuclear or conventional warheads, it is not clear that occasional reentry vehicle inspections would be sufficient. New START allows a small number of inspections so that the parties can confirm the number of warheads deployed on a specific, inspected missile. Because most of Russia's short and intermediate-range missile systems, and the U.S. Tomahawk cruise missile, are designed to be dual-capable, these limited inspections may not provide a sufficient level of confidence about the absence of nuclear warheads across the force. Hence, a robust monitoring regime would likely include data exchanges and inspections that could confirm the presence or absence of nuclear warheads, and, possibly limits on the numbers and locations of warheads that could be mated to intermediate- range missiles.

Even without new agreements, however, the absence of the INF Treaty may not lead to rapid or significant changes in the missile deployments in Europe. Russia has pledged that it will not deploy new intermediate-range missiles if the United States does not do so and the United States has neither developed new missiles nor negotiated basing agreements for these missiles with its allies. Still the absence of INF could produce a slow degradation of knowledge about and confidence in estimates of missile deployments in the Euro-Atlantic region. This could prove to be destabilizing if the presence of capable missile forces were combined with the continuing deterioration of the U.S.-Russian relationship.

Extension of New START

The United States and Russia signed the New START Treaty on April 8, 2010. The Treaty entered into force on February 5, 2011. The Treaty limits each side to no more than 700 deployed land-based intercontinental ballistic missile (ICBM), submarine-launched ballistic missile (SLBM) launchers, and heavy bombers equipped to carry nuclear armaments, within a total of 800 deployed and nondeployed missile launchers and nuclear-capable heavy bombers. The treaty also limits each side to no more than 1,550 deployed warheads on these launchers – these are the actual number of warheads on deployed ICBMs and

SLBMs, with one warhead counted for each deployed heavy bomber. New START provided the parties with 7 years to reduce their forces; both completed their 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.

The provision allowing for the extension of New START is included in Article XIV, paragraph 2 of the Treaty. Because this provision is a part of the text that has already been reviewed by the Senate and received the Senate's consent to ratification, the United States could extend the Treaty without submitting it to the Senate for further consideration. Some reports indicate that the Russian parliament may need to pass a new Federal Law on the Treaty to extend it, but this would likely be uncontroversial if President Putin supported the extension. Hence, it may be possible for the Presidents of the United States and Russia to agree that they both want to extend the Treaty, and to exchange letters to mark this agreement.

U.S. and Russian Views on Extension

Both the United States and Russia have identified concerns with the New START and its implementation. The United States would like Russia to address, and possibly agree, to count its new kinds of strategic offensive arms under the limits in the Treaty. Some of these, including the new Sarmat ICBM and Avangard hypersonic glide vehicle, are likely to meet the definitions of systems counted under the treaty. [12] But Russian officials have stated that others, like the Poseidon underwater drone and the new nuclear-powered cruise missile, should not count under New START, because they are not ICBMs, SLBMs, or heavy bombers. In addition, Russian officials have stated that Russia is not willing to extend New START until the United States addresses its concerns with the conversion and elimination procedures the United States employs to reduce the numbers of launchers and warheads that count under the Treaty. Specifically, Russian officials have noted that these procedures can be reversed, which would allow the United States to exceed the limits in the Treaty in a short period of time.

Moreover, the United States has not yet decided whether to extend New START, even if Russia addresses its concerns. In May 2019, Under Secretary of State Andrea Thompson and Deputy Under Secretary of Defense David Trachtenberg emphasized that New START might not be sufficient to address emerging threats to U.S. national security both because Russia is developing new kinds of strategic offensive arms and because it is expanding its stockpile of shorter-range nonstrategic nuclear weapons. They also noted that China is modernizing and expanding its nuclear arsenal but is not a part of the treaty at all. In mid-June 2019, former National Security Advisor, John Bolton, said that the Administration had not yet made a decision about extending New START,

but that he thought its extension was unlikely. He cited a number of reasons for this view, echoing the complaints about Russia's shorter-range nonstrategic nuclear weapons, Russia's new strategic systems, and China's nuclear weapons.

Russian officials have also questioned whether the United States and Russia should extend New START. At a conference in Washington, D.C. in March 2019, Anatoly Antonov, Russia's ambassador to the United States, noted that Russia is not interested in expanding New START to count Russia's new kinds of strategic systems. He also said that Russia would be unwilling to discuss an extension of New START until the United States addresses Russia's concerns withU.S. implementation of the treaty's conversion and elimination procedures. On the other hand, Russia's Deputy Foreign Minister, Sergey Ryabkov recently noted if the United States was uncomfortable with a five year extension, Russia would be willing to extend the treaty for a shorter period of time. [13]

Issues in the Extension Debate

U.S. analysts and experts who support the extension of New START argue that this should not be a difficult decision. By extending New START, the parties could retain the treaty's limits while they negotiated a new agreement that addressed the concerns that each has with the New START framework. They also note that, without extension, the consequences for monitoring, verification, and transparency could be significant. The United States and Russia:

- Would no longer be required to share data on the numbers and types of systems in their strategic nuclear forces – either through the periodic updates to the data base or through notifications every time they move or change the status of the weapons;
- Would no longer be able to conduct on-site inspections at production, testing, and deployment areas, to confirm the data shared in the data exchanges;
- Would no longer share telemetry from missile flight tests or discuss concerns about the status of forces and treaty implementation in the Bilateral Consultative Commission. [14]

Consequently, without New START, both would likely lose the insights into the size, structure, and capabilities of the others' forces and both might respond to this uncertainty by misunderstanding or overestimating the changes they detected through intelligence means or open sources. U.S. military officials have often noted that transparency and predictability created by New START has eased planning and reduced the need for the United States to expand its forces based on future uncertainties. [15] Although neither the United States nor Russia has indicated how it might react to the absence of limits on

deployed missiles and bombers, both would have the capacity to expand the number of deployed nuclear warheads and both could eventually add new missiles and bombers to their forces.

Others, however, have argued that, by extending New START, the United States would lose leverage that could help it convince Russia and China to negotiate a new, more comprehensive Treaty. This view seems to hold that Russia (and possibly China) would be at a disadvantage without the limits and transparency measures in New START, and, therefore, would be more amenable to U.S. proposals for a new treaty. There is little evidence, however, that, with or without New START, the parties would be able to bridge their differences and complete a new Treaty.

For example, during his speech in March 2019, Ambassador Antonov noted that, if the United States and Russia negotiated a new treaty to capture the systems of concern to the United States, Russia would insist on addressing U.S. systems—such as ballistic missile defenses and strategic conventional weapons—that are of concern to Russia. But the United States has been unwilling to negotiate a new treaty limiting ballistic missile defenses, and, even if a new Administration pursued such an agreement, it is hard to imagine that the U.S Senate would have the vote to consent to the treaty's ratification.

In addition, although Russia has agreed with the U.S. suggestion that future arms control agreements include other nuclear-armed nations, [16] it probably does not have the same view of which nations should join the process. The United States has focused on its desire to include China in future discussions. Russia, and the Soviet Union before it, have long believed that arms control treaties should also limit British and French nuclear forces because these can reach targets in Russia. Deputy Foreign Minister Sergey Ryabkov confirmed this view in June 2019. He noted that Russia "sees the need to include all countries" recognized as nuclear weapons states "in such a format," including "the UK and France, the closest allies of the United States, whose nuclear potentials are an integral element in the overall military planning system, including within the framework of NATO." [17] Neither France, with around 300 nuclear warheads, nor the United Kingdom, with a force of around 200 warheads, have shown any interest in participating in the U.S.-Russian arms control process.

The Trump Administration has not indicated whether it believes China's nuclear forces should count under the limits in a New START-type of treaty, or whether China should just participate in the transparency and monitoring regime established by the treaty. It has also offered no indication of what the United States might offer China, with respect to possible limits on U.S. forces or capabilities, as incentives for China to participate in the negotiations.

Nevertheless, Administration officials have indicated that they believe China should be willing to participate in the process in some way. In May 2019, Under Secretary of State Andrea Thompson argued that China should be willing to participate in the U.S.-Russian arms control process, in spite of its far smaller nuclear force, because "they want to be a responsible player on the world stage. They want to be part of this great power competition. And with that comes responsibilities." [18]

Yet it is highly unlikely that China would be willing to participate in an arms control framework based on the New START model. In May 2019, a spokesman for China's foreign ministry reiterated China's long-standing opposition to participating in the U.S.-Russian arms control process. He said that the country's nuclear forces were at the "lowest level" of its national security needs, and that they could not be compared to the United States and Russia. He noted, further, "China believes that countries with the largest nuclear arsenals have a special responsibility when it comes to nuclear disarmament and should continue to further reduce nuclear weapons in a verifiable and irreversible manner, creating conditions for other countries to participate." [19]

China has participated for years in the P-5 process established by the Nuclear Nonproliferation Treaty (NPT) review process, and, according to other participants, seems interested in further engagements on nuclear stability and security. However, even if this process serves as a path for China to engage on nuclear weapons issues, it cannot serve as a replacement for treaty-based limits on U.S. and Russian nuclear weapons and the transparency measures included in those treaties.

The Future of Arms Control

Most discussions about the future of arms control seek to:

- Define an alternative to INF that would retain some limitations on intermediate-range missiles in Europe; and
- Define a path forward for New START where the United States and Russia extend the Treaty then agree to expand the arms control enterprise to capture weapons and nations that are outside the current framework.

These two goals fail to address present political limits or the full range of future options.

First, these goals view arms control as a formal process, leading to the signing of legally binding treaties that limit or reduce nuclear weapons. In the current environment, political support for this type of arms control has waned. The arms control legacy of the past 50 years seems to indicate that support for restraint, and the formal treaties that codify it, is widespread. But there has always been a debate in the United States (and probably in Russia) about

whether limits and restrictions on nuclear weapons serve to strengthen or undermine national security.

Those who view arms control as an unnecessary restraint on U.S. nuclear weapons are currently in control of the U.S. policy process. Consequently, the U.S. proposal to set aside New START and move to a multilateral "21st century arms control formula" may be less a serious proposal for the future of arms control than an effort to obscure the lack of interest in formal limits on nuclear weapons. There are dissenting voices. Some, particularly in the military, recognize the value of predictability and transparency, and support continued cooperation with Russia to manage nuclear dangers. Others recognize the connection between congressional support for U.S. nuclear modernization programs and the continued implementation of New START. But, as long as the President disparages policies supported by the previous Administration and his close advisors eschew nuclear restraint, the United States is unlikely to support the extension of New START.

Second, even without New START or a new formal treaty, the United States and Russia can pursue measures that control nuclear weapons and reduce the risk of nuclear war. For example, instead of signing a formal moratorium on missile deployments in Europe, they could provide notifications when new weapons enter the force and develop confidence building measures that allow some level of certainty about the range and payload of new missiles. In the absence of formal limits on the numbers and types of launchers for strategic nuclear weapons, they could exchange data similar to that required by New START and offer transparency into future plans for the development of new weapons. These types of measure would not replicate the predictability of binding limits, but they might reduce uncertainties and minimize the risk of worst-case assessments. The United States and Russia participate in talks on strategic stability and nuclear risks – and expand these discussions to include China, France, and the United Kingdom – to expand "21st century arms control" beyond the two nations with the largest arsenals.

If nuclear-armed states view arms control as a process, rather than an outcome, then, in the future, arms control may be a process that encourages cooperation and restraint, rather a series of discrete treaties that limit or reduce nuclear weapons.

[1] Amy F. Woolf is a Specialist in Nuclear Weapons Policy at the Congressional Research Service. The views here are her own, and are not shared by the Congressional Research Service or the Library of Congress.

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PROSPECTS AND SIGNIFICANCE OF NUCLEAR ARMS CONTROL

Evgeny Buzhinskiy

After U.S. withdrawal from the INF Treaty it has become obvious that nearly fifty years old history of nuclear arms control is coming to its end.

The New START treaty is set to expire on February 5, 2021 and there is little doubt that it will be the end of it. It could be extended if both countries agree (they should express their intention to extend the treaty not later than September 2, 2020). Given the current tensions between the two countries, such an extension would be a practical way forward. However even this relatively straightforward step is in doubt. President Trump condemned New START as one of the "bad deals" negotiated under his predecessor (I'm sure that in view of a certain group of US politicians and experts the Treaty is "bad" because it does not contain special limitations for Russian MIRVed and heavy ICBMs). There are also forces in the United States that believe (for different reasons) it is not in the U.S. interests to participate in the START.

There is no need to negotiate the extension as some experts think. The Treaty has been ratified and has an Article XIV according to which it may be extended to the period of no more than five years should the parties agree to such an extension. So, the Treaty's extension is only a matter of political will of the leaders of the U.S. and Russia. Technically the extension will only require the exchange of diplomatic notes.

If the system of nuclear arms control is fully dismantled the issue of viability of NPT and CTBT arises.

Besides dismantlement of the entire nuclear arms control system may lead to an uncontrolled multilateral arms race involving strategic, intermediate-range and tactical nuclear and non-nuclear offensive and defensive weapons, as well as cyber warfare systems, laser weapons and other arms innovations.

Do the parties to the Treaty have any motivation to preserve the it by means of extension? I think the answer is yes for both Russia and the United States.

Russia seeks to limit Washington's freedom to ramp up the US strategic arsenal so as not to be dragged into another unrestrained nuclear arms race. If the United States were no longer bound by the terms of START, it would be able to rapidly increase the number of its nuclear warheads installed on deployed ICBMs from the current 400 to 1200 thanks to its existing upload potential. It would also be able to increase the number of warheads on the deployed SLBMs from the current 900 to 1920 (given the terms of New START, each Minuteman III ICBM can be equipped with three warheads, although since June 2014 they

have typically only carried one, the U.S. Trident II missile typically carries four or five warheads each, although each missile can be equipped with eight or fourteen warheads depending on its type: W88 or W76). Uploading U.S. Minuteman and Trident missiles to their full capacity would more than double the total number of U.S. strategic nuclear weapons). The Russian Strategic Nuclear Forces would not be able to respond proportionally to such a massive increase in the US strategic offensive capability.

As for the United States, the benefits of preserving START would also be significant. Keeping START alive would enable the United States to have much clearer idea of Russia's plans in terms of strategic nuclear weapons, which is extremely important to Washington because in 2021 Russia is expected to launch mass production and deliveries to the armed forces of such new strategic offensive weapons as *Avangard* and *Sarmat* ICBM, the new *Borei-A* class nuclear-powered missile submarines and deeply upgraded Tu-160M2 heavy bombers armed with new weapons. These strategic nuclear systems fall under the scope of START and are therefore subject to on-site verification measures by US inspection groups. Additionally, the United States has no plans of deploying any new strategic nuclear systems up to 2026 (when the extension would run out), which makes such an extension an even more attractive proposition for the Pentagon.

Finally, keeping START alive would enable Russia and the United States to demonstrate to international community their commitment to nuclear disarmament in the framework of Article VI of the NPT. This is an important consideration in view of the Tenth Review Conference scheduled for April-May 2020. Neither would a five-year extension pose any risks for Russian or US national security because under Article XIV of START, each party has the right to withdraw at any time should it decides that that extraordinary events related to the subject matter of the Treaty have jeopardized its supreme interests. [1]

Moreover, for decades, strategic nuclear arms agreements between Moscow and Washington like the latest START have bolstered strategic stability. These agreements have made it possible for the two countries to maintain a stable balance of nuclear forces affordably and receive exhaustive information about the current conditions and future prospects of the modernization of strategic offensive arms. These accomplishments have been made possible by dozens of annual local inspections and exchanges of information and notifications regarding the condition and transporting of nuclear arsenals, the addition or removal of strategic systems, and exchanges of telemetric data from missile launches.

Past experience suggests that a lack of this information inevitably and logically leads countries to overestimate their opponents' capabilities and, consequently, increase the quality and quantity of their own arsenals at considerable cost. This dynamic can easily lead to a nuclear arms race. If START were allowed to expire in 2021, strategic stability would be in danger.

Granted, if the information exchanges conducted under the treaty ceased, Russia and the U.S. could still obtain some data through other technical means, but satellite-based intelligence platforms would be a totally insufficient source of information by comparison. For instance, it would then become difficult to determine the number of warheads deployed on ICBMs and SLBMs. Moreover, some US politicians and experts believe that security and stability could be achieved by means of non-legally binding transparency and verification procedures. The Russian position od such ideas is clear – Moscow does not need transparency for the sake of transparency and verification for the sake of verification. They should be closely tied to commitments as regards limitations.

What are the main obstacles to an extension of the START treaty?

The ongoing discussions about the Treaty in the Trump administration are fairly negative. There are two prevailing views. One is that current START should be replaced by the new treaty, which is to be signed between United States, Russia and China, and covering all their nuclear systems. The other view is that START in its current form should be abandoned and the new agreement with Russian Federation should be negotiated with Russia to include all new Russian nuclear weapons systems (not just the *Avangard* hypersonic glider and *Sarmat* ICBM but also the *Burevestnik* nuclear-powered cruise missile and even the *Kinzhal* airlaunched missile and undersea autonomous vehicle Poseidon, which are not even categorized as a strategic weapon's systems).

Of course, it would be wonderful if other nuclear states adopted the restrictions and subsequently reductions on nuclear weapons after thirty years of such steps being taken overwhelmingly by Russia and the United States. For instance, it's frequently suggested that the three other signatories of the NPT – the U.K., France and China – be included in the process first, followed by the four nonsignatories; Israel, India, Pakistan and probably North Korea. This would have a positive political impact on the nuclear non-proliferation regime, especially given the fact that the five NPT members are bound by direct obligations on the issue as per Article VI of the Treaty.

But practically limitations, reductions and the dismantlement of such complex, costly weapons of such critical importance for national security never
come about as the result of general good intentions alone. As demonstrated by the fifty years of negotiations and a dozen of serious and politically binding

agreements in this sphere between the Soviet Union/Russia and the United States, such steps are only taken on quite pragmatic, material terms.

First, a state adopts these measures if it is guaranteed tangible security improvements, i.e. limitations and reductions of weapons by the other side.

Second, such steps are possible if the states' nuclear forces are approximately equal: not because such parity is required for deterrence, but because it makes the parties equally interested reaching an agreement and provides the starting point for it. In this case both parties will have to adhere to the same numerical ceilings.

Third, no one will just trust their opponent's word on such issues, which calls for an adequate verification system, whose capacities in many ways determine the limits of possible agreements. [2]

As for an inclusion in a new treaty on limitation of strategic nuclear weapons of any other systems not covered by the present START Treaty, for some of them it is quite possible, for some – difficult but still possible, for some – not possible. Moreover, United States is not the only side which may wish to cover additional weapons systems by the provisions of the treaty, Russia also has its own concerns.

Before starting to consider such a possibility it should be mentioned that normally only comparable types of weapons systems are subject to agreements: if an agreement covers a particular type of weapon by one side, it must include the same system of the other. However, if the parties' nuclear forces are asymmetric, agreements often provide for a trade-off in which some weapons systems are limited on one side in exchange for different systems on the other.

So, the subject of mutual concerns are hypersonic gliders, long-range air, ground and sea-launched cruise missiles (ALCM, GLCM, SLCM), undersea autonomous vehicles, space-based strike systems, anti-satellite weapons, ballistic anti-missile defense and non-strategic nuclear weapons and cyber weapons.

Some of them like *Avangard* hypersonic glider can be easily counted against the ceilings of a new treaty since it is supposed to serve as a warhead for Sarmat ICBM. It is also not difficult to limit long-range ALCMs by returning to the old counting rules and airfield inspections. In the past ALCMs were counted under warheads ceilings (START I, II). GLCMs, including Russia's *Burevestnik* intercontinental nuclear missile, are even easier to numerically limit in a future agreement through the verification measures provided by the 1987 INF Treaty. SLCMs present a much more serious challenge due to the mobility of their delivery vehicles and universality of their

launchers. But technically these difficulties are solvable if there is a political will.

The subject of space-based strike weapons and anti-satellite weapons is more complicated since they have never been subject for any restrictive measures or limitations. But again, if there is a political will, at least as a first step some confidence-building mechanism could be worked out.

Russian *Poseidon* undersea autonomous systems can not be limited unilaterally and should be subject for a trade-off with the United States.

The issue of agreeing and verifying prohibitions on cyber warfare systems seem irresolvable at this time. First of all one of the main difficulties is impossibility to determine the source of a possible cyber attack – state agency or non-state actor. As for the state – the most that can be hoped for just now is a purposeful dialogue between United States and Russia on a mutual commitment not to launch cyberattacks on each other's strategic information and command and control systems.

Anyhow, I'm sure that both United States and Russia should explore the possibility of a new bilateral, legally-binding and comprehensive arms control agreement that would succeed START, whether it ends in 2021 or 2026. By its own terms or in conjunction with separate, less formal arrangements, such an agreement would need to address concerns of one side or the other about missile defenses, conventional strike systems, non-strategic nuclear weapons, offensive cyber and space capabilities, and any innovative weapons systems.

Meanwhile, today maintaining stability and predictability is the first order of business for arms control. And to achieve this goal we need to do everything possible to extend START, resume regular talks on strategic stability, abandon launch-onwarning nuclear strategies – this important step would help lower the risk of catastrophic errors. Lengthening the time required for leaders to decide whether to launch a retaliatory strike would not undermine deterrence, since such a second strike would still be guaranteed to inflict unacceptable losses on an attacker and therefore dissuade the other party to strike first.

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