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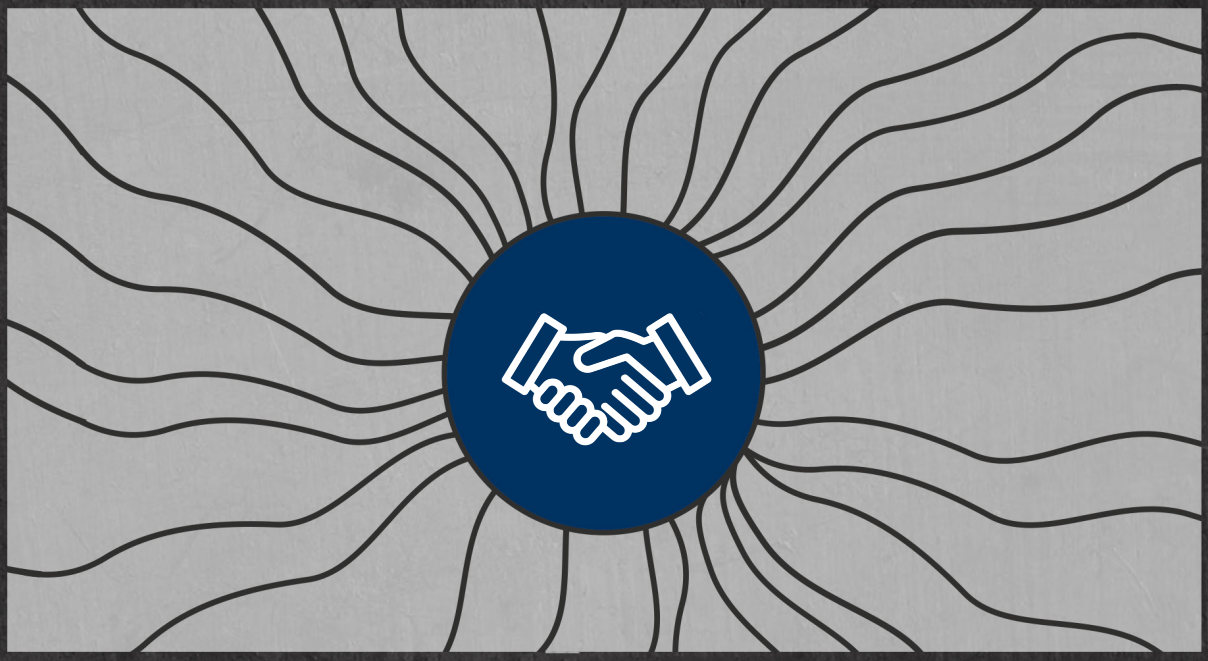
PAPER NINE

THE PAST AND FUTURE OF BILATERAL NUCLEAR ARMS CONTROL



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NOTE

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ABBREVIATONS

ABM	Anti-ballistic missile
INF	Intermediate-range Nuclear Forces
NPT	Non-Proliferation Treaty
P5	The five nuclear weapon states recognized under the NPT
SALT	Strategic Arms Limitation Talks
START	Strategic Arms Reduction Treaty

SUMMARY

The United States and the Soviet Union began their efforts to control nuclear weapons and manage nuclear risks in the early decades of the nuclear age, with meetings and negotiations that addressed, among other issues, nuclear disarmament, nuclear testing and the risk of surprise attack. During the 1960s, they signed multilateral Partial Test Ban Treaty, which banned nuclear weapon tests in the atmosphere, outer space and under water, and the Non-Proliferation Treaty, through which non-nuclear weapon states renounced the pursuit of nuclear weapons and gained assistance developing peaceful nuclear programmes, while setting the expectation that the nuclear weapon states would take steps to end the arms race and pursue nuclear disarmament. The United States and the Soviet Union also began to engage in formal bilateral negotiations, known as the Strategic Arms Limitation Talks (SALT), which produced an agreement capping the number of launchers for offensive nuclear missiles and a treaty limiting the deployment of anti-ballistic missile (ABM) defences.

The United States and the Soviet Union (later the Russian Federation) pursued bilateral negotiations for more than 50 years, signing eight legally binding agreements that limited their deployed nuclear weapons and the defensive systems arrayed against them. In 1991, they also pledged, without negotiations, that they would eliminate thousands of shorter-range nuclear-armed delivery systems. During this same time period, they reduced the size of their nuclear arsenals from more than 31,000 warheads for the United States and 40,000 warheads for the Soviet Union to fewer than 4,300 active warheads in each state's stockpile.

Formal negotiations, informal meetings and expert engagements were a recurring feature of the US–Soviet and US–Russian arms control relationships. These dialogues provided a venue for discussions about nuclear arsenals, nuclear modernization plans and nuclear threat assessments. The bilateral arms control process has included a broad set of mechanisms to manage nuclear competition and reduce the risk of nuclear war. The United States, the Soviet Union and the Russian Federation have adopted transparency, communication, and risk-reduction measures to reduce the risk that misunderstandings about routine events or accidents could lead to escalation, even when they did not codify these measures in legally binding treaties that limited or reduced the numbers of deployed nuclear warheads. They have also issued joint statements recognizing the need to manage their nuclear competition, strengthen stability and reduce the risk of war.

During the Cold War, the United States and the Soviet Union used arms control to support deterrence objectives and serve their national security interests. They sought to strengthen

stability, rather than pursue disarmament. Each side hoped to restrain weapons and activities that might exacerbate crises or escalate competition; neither agreed to reduce or eliminate essential military capabilities. The improving international security environment in the late 1980s allowed both states to reassess their nuclear requirements and reduce their numbers of deployed and stockpiled nuclear weapons. They then codified these reductions in arms control treaties.

Current crises and escalating tensions between the United States and the Russian Federation may reverse this process. The two states have found little common ground on arms control since 2010, when they signed New Strategic Arms Reduction Treaty (New START). Each has raised questions about the other's compliance with past agreements. The United States has expressed concerns about Russia's development of new types of nuclear delivery system. Russian officials have criticized the US failure to address its concerns about US ballistic missile defences and US long-range non-nuclear strategic weapons. They have been unable to agree on the agenda for a new treaty, with differences over the types of weapons to include in the limits and the number of states to include in the negotiations. Both also continue to place nuclear weapons at the centre of their national security strategies and neither seems willing to implement deeper reductions in its numbers of deployed nuclear warheads. The current conflict in Ukraine has added further disruptions and the two sides have not met in the Strategic Stability Dialogue since early 2022. Russia announced its suspension of New START in 2023.

Even if the United States and the Russian Federation return to this dialogue when the conflict in Ukraine ends, they may not have enough time to negotiate a new treaty before New START expires in 2026. They could agree, informally, to maintain their forces at the levels mandated in New START, but they would be likely to lose access to much of the data and other cooperative measures and inspections mandated by the treaty. A renewed Strategic Stability Dialogue could, nonetheless, provide a venue for continuing discussions about nuclear policies, plans and force structures.

The United States and the Russian Federation are likely to continue to implement some risk-reduction measures (e.g., missile launch notifications) if there is a lapse in formal arms control negotiations. They could also seek to reinvigorate cooperative mechanisms that have eroded in recent years. Open lines of communications and other confidence-building measures could both build trust during peacetime and mitigate the risk of conflict during crises.

This approach may seem inadequate to the task of reducing nuclear dangers and eventually eliminating nuclear weapons. But the United States and the Russian Federation both believe that nuclear weapons are essential to their security, and neither is likely to entertain deeper reductions, never mind nuclear disarmament, until the security environment changes.

Under these circumstances, an agenda that focuses on risk reduction may not only serve as a temporary venue for negotiations, but may also create opportunities for the two sides to address and resolve those security concerns that are blocking the path to deeper reductions in nuclear weapons.

THE BILATERAL NUCLEAR ARMS CONTROL PROCESS

OVERVIEW

On 26 May 1972, US President Richard Nixon and Soviet General-Secretary Leonid Brezhnev signed the Treaty on the Limitation of Anti-Ballistic Missile Systems (ABM Treaty) and an Interim Agreement on Certain Measures with Respect to the Limitation of Strategic Offensive Arms (often referred to as SALT-I Interim Agreement). The two states had addressed nuclear weapons in negotiations prior to this time – most prominently with the Partial Test Ban Treaty and the Nuclear Non-Proliferation Treaty in the 1960s – but ABM treaty and SALT-I were the first formal bilateral agreements limiting deployed nuclear weapons. They were followed by a 50-year period of arms control discussions, negotiations and agreements that not only altered the size and structure of their nuclear forces but helped shape US–Soviet and US–Russian nuclear relations for decades. Between 1972 and 2010, the United States and the Soviet Union (later the Russian Federation) signed eight legally binding agreements that imposed limits on the numbers and types of nuclear weapon deployed on active nuclear-armed delivery systems—seven limited delivery systems intended for offensive use, and one limited the numbers of launchers for ballistic missile defence interceptors (see table 1). In 1991, they also pledged, without any formal negotiation, to reduce and eliminate thousands of shorter-range nuclear-armed delivery systems that had been deployed on land and at sea in what became known as Presidential Nuclear Initiatives (PNIs).

Table 1. US–Soviet and US–Russian nuclear arms control agreements, 1972–2022

TREATY/AGREEMENTS	YEAR	FORMAT	STATUS
ABM Treaty	1972	Treaty	Entered into force In 1972, lapsed after U.S. withdrawal in 2002.
Interim Agreement on Offensive Arms	1972	Executive Agreement	Entered into force in 1972, due to remain in force for 5 years, then lapsed while awaiting ratification of SALT II.
SALT II	1979	Treaty	U.S. Senate held hearings and debate but did not vote and Treaty did not enter into force.
INF	1987	Treaty	Entered into force in 1988, reductions complete in 1991. Lapsed after U.S. withdrawal in 2018.
Presidential Nuclear Initiatives	1991 and 1992	Unilateral, reciprocal measures	Implemented unilaterally, without negotiation or verification.
START	1991	Treaty	Entered into force in 1994, reductions complete in 2001. Lapsed in 2009.
START II	1993	Treaty	U.S. Senate consented to ratification in 1996, but never entered into force.
Moscow Treaty	2002	Treaty	Entered into force in 2003, would have lapsed in 2012 but was superseded by New START.
New START	2010	Treaty	Entered into force in 2011, reductions complete in 2018. Extended through 2026. Russia announced suspension in 2023.

The United States, the Soviet Union and the Russian Federation also reduced the total numbers of warheads in their nuclear stockpiles during this time period.[1] In 1967, two years before the Strategic Arms Limitation Talks (SALT) negotiations began, the United States' stockpile peaked at more than 31,000 warheads. According to unofficial estimates, the Soviet stockpile reached its apex of more than 40,000 warheads in the mid-1980s. By 2018, after the 2010 New Strategic Arms Reduction Treaty (New START) had brought their deployed long-range forces down to 1,550 warheads, the United States and the Russian Federation each had fewer than 6,500 total warheads in their stockpiles (see figure 1). Within that total, the Russian Federation had around 4,300 warheads available for use if deployed and the United States had around 3,785 such warheads.

[1] For historical data on the US nuclear stockpile, see US National Nuclear Security Administration (NNSA), "Transparency in the U.S. nuclear weapons stockpile", October 2021, https://www.energy.gov/nnsa/nuclear-stockpile-transparency. For unofficial estimates, see H.M. Kristensen and M. Korda, "Russian nuclear weapons, 2022", Bulletin of the Atomic Scientists, vol. 78, no. 2 (2022), pp. 98–121, https://doi.org/10.1080/00963402.2022.2038907; and H.M. Kristensen and M. Korda, "United States nuclear weapons, 2021", Bulletin of the Atomic Scientists, vol. 77, no, 1 (2021), pp. 43–63, https://doi.org/10.1080/00963402.2020.1859865.

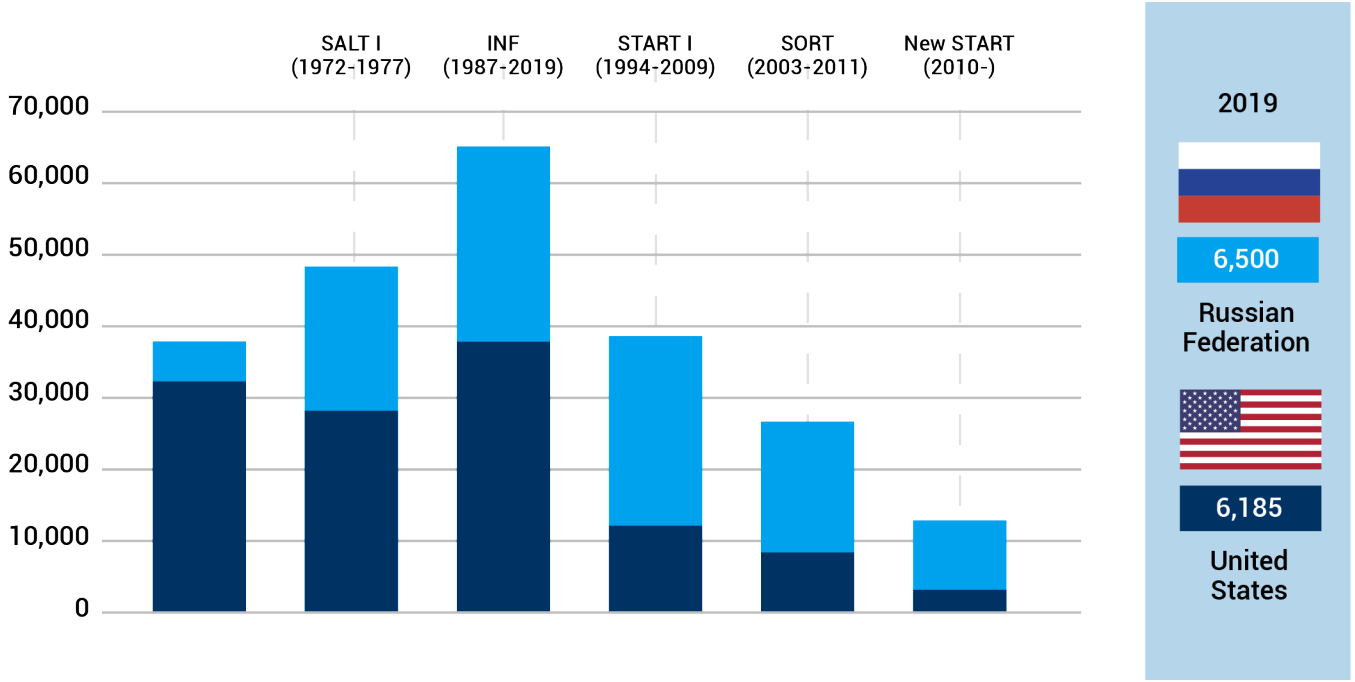

Figure 1. Nuclear arsenals and arms control agreements, 1960s–2010s

Source: United Nations, Office for Disarmament Affairs, "Nuclear Weapons", https://www.un.org/disarmament/wmd/nuclear/.

In 2009, when the negotiations on a new Strategic Arms Reduction Treaty (START) began, US President Barack Obama and Russian President Dmitriy Medvedev expected to negotiate deeper reductions in subsequent agreements. They referred to the 2010 New START as part of a "step-by-step process" towards "verifiable reductions in our strategic offensive arsenals".[2] But the United States and the Russian Federation did not begin negotiations on the next treaty until 2020 and, in six months of talks, they failed to reach an agreement. In February 2021, US President Joe Biden and Russian President Vladimir Putin agreed to extend New START until 2026.[3] In July 2021, they agreed to participate in a dialogue that could set an agenda for a subsequent treaty. These talks began in the latter half of 2021 but had made little progress before they were suspended in early 2022. In early 2023, Russia announced it was suspending its participation in the implementation of the New START but would stick to the treaty's central limits.[4]

The absence of negotiations between the United States and the Russian Federation and the two countries' current fraught relationship have dimmed hopes for a follow-on to New START

[2] 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", 1 April 2009, https://obamawhitehouse.archives.gov/the-press-office/joint-statement-president-dmitriy-medvedev-russian-federation-and-president-barack-.

[3] Article XIV, paragraph 2 of New START states that the parties can agree to extend the treaty "for a period of no more than five years unless it is superseded earlier by a subsequent agreement on the reduction and limitation of strategic offensive arms".

[4] Statement of the Russian Foreign Ministry regarding the Suspension by the Russian Federation of the Treaty for the Further Reduction and Limitation of Strategic Offensive Arms (New START). 21 February, 2023, https://mid.ru/ru/foreign_policy/news/1855184/

that would mandate deeper reductions in nuclear weapons. But the lack of progress in the past decade does not necessarily signal an end to nuclear arms control. The United States, the Soviet Union and the Russian Federation pursued arms control not just to limit their numbers of nuclear weapons, but also to manage their nuclear competition and reduce the risk of nuclear war. These goals remain as relevant today as there were in the early years of the arms control process. Moreover, formal treaties are not the only form that arms control can take or the sole measure of its success. The arms control process has also produced achievements in transparency, cooperation and risk management that were not captured in formal treaties. These mechanisms remain valuable as a part of a broader arms control process.

NATIONAL SECURITY AND NUCLEAR REDUCTIONS

Arms control is one tool in the national security toolbox, which has stability as its primary focus, rather than disarmament or the elimination of nuclear weapons. Thomas Schelling and Morton Halperin described arms control, in their 1961 classic book on the topic, as "a means of supplementing unilateral military strategy by some kind of collaboration with the countries that are potential enemies".[5] They argued that arms control sought to stabilize nuclear deterrence "in the interest of reducing the likelihood of war, the scope of war if it occurs, or its consequences". Moreover, the parties could pursue arms control through "formal treaties, informal agreements, tacit understandings, or just mutual self-restraint", even if the mutual restraints were reached "without explicit negotiation".[6] Michael Krepon described this as a process that was "devised to take the sharpest edges off deterrence, thereby helping to prevent nuclear war".[7]

Defence and national security goals have shaped the bilateral nuclear arms control negotiations. The United States, the Soviet Union and, later, the Russian Federation participated in the process and signed agreements to mitigate risks, bolster transparency and contribute to predictability in nuclear force planning and operations. Each side sought to restrain weapons and activities on the other side that might undermine stability and exacerbate crises, while protecting their own military capabilities. In practice, this often produced measures that "reinforced second-strike stability at lower numbers, promoted cooperation and communication between peer

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[5] T.C. Schelling and M.H. Halperin, Strategy and Arms Control, 1961, pp. 141–142.
[6] Ibid., p. 77.
[7] M. Krepon, "China's new orbital weapon underlines that nuclear peace requires arms control", Forbes Magazine, 27 October 2021, https://www.forbes.com/sites/michaelkrepon/2021/10/27/chinas-new-orbital-weapon-underlines-that-nuclear-peace-requires-arms-control/.
[8] R.K.C. Hersman, H. Williams and S. Claeys. Integrated Arms Control in an Era of Strategic Competition, Center for Strategic and International Studies (CSIS), January 2022, https://www.csis.org/analysis/integrated-arms-control-era-strategic-competition, p. 27. Second-strike stability refers to the goal of maintaining a sufficient number of forces that could survive a first strike and retaliate, with unacceptable consequences, against valued targets. Weapons with these characteristics include mobile land-based missiles and missiles based on submarines.

adversaries, and encouraged transparency in ways that reduced arms racing pressures".[8]
The stability–arms control link is evident in many Cold War-era agreements. The 1972 Strategic Arms Limitation Talks paired the ABM Treaty's limits on ballistic missile defence systems with the Interim Agreement's limits on the numbers of offensive missile launchers – both to dampen pressures for an offence–defence arms race and to ensure that each side could execute a successful retaliatory strike after absorbing a nuclear attack. The 1991 Strategic Arms Reduction Treaty's limits on the Soviet Union's largest land-based missiles and the ban on land-based missiles with multiple warheads contained in the 1993 START II both sought to strengthen crisis stability by reducing incentives to launch a sudden first strike before an attack destroyed vulnerable land-based missiles.

The United States and the Soviet Union did not explicitly seek to reduce the numbers of warheads deployed on their long-range missiles and bombers during the first decade of bilateral arms control. The agreements limited the numbers of launchers for ballistic missile defence interceptors (in the ABM Treaty), the numbers of launchers for long-range nuclear-armed ballistic missiles (in the SALT I Interim Agreement) and the numbers of launchers for missiles that could be armed with multiple warheads (in the SALT II Treaty). But the numbers of warheads deployed on long-range missiles continued to increase through the mid-1980s, as each side placed multiple warheads on many of their long-range missiles.

Moreover, the two countries only accepted treaty-mandated changes to their force postures after they had already reconsidered their requirements and recalculated which forces were necessary for their national security. They agreed to the limits in the 1972 ABM Treaty after they had already recognized the high costs and limited technical effectiveness of anti-ballistic missile systems. They accepted the Interim Agreement's cap on the number of missile launchers, but did not restrain the emerging technology that allowed both sides to deploy several warheads on each missile.

In the 1980s, the United States and the Soviet Union began to negotiate treaties that codified reductions in their numbers of deployed missiles and warheads, but these reductions were also consistent with their evolving assessments of their national security requirements. The changing security environment that emerged in the late 1980s allowed each side to reconsider its nuclear posture and reduce its perceived requirements for nuclear weapons. The changing requirements both advised the arms control negotiations and prompted reductions in their nuclear arsenals.

The treaties signed between 1987 and 2010 and the limits they set for numbers of deployed nuclear warheads appear in table 2. Before they signed these treaties, the United States and the Soviet Union each deployed more than 10,000 warheads on their long-range missiles and

bombers. The United States and the Russian Federation now have fewer than 1,550 warheads on the missiles and bombers that count under New START. As is evident in figure 2, the numbers of warheads in both states' nuclear arsenals also began to decline in the 1980s, from a peak of more than 40,000 warheads for the Soviet Union in 1986 to fewer than 4,300 active warheads for each country now.

Table 2. Limits in START, START II, the Moscow Treaty and New START

LIMITS	TREATY			
	START	START II	Moscow Treaty	New START
Limits on Delivery Vehicles	1,600 stategic nuclear delivery vehicles	No limits	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 Deployed Warheads	6,000 warheads on ICBMs, SLBMs, and heavy bombers 4,900 warheads on ICBMs and SLBMs 1,100 warheads on mobile ICBMs 1,540 waheads on heavy ICBMs	3,000-3,500 warheads attributed to ICBMs, SLBMs, and heavy bombers No ICBMs with multiple warheads 1,750 SLBM warheads	1,700-2,200 operationally deployed strategic warheads No sublimits	1,550 deployed warheads No sublimits
Additional Provisions	Detailed definitions Extensive data exchange and notifications On-site inspections	Detailed definitions Extensive data exchange and notifications On-site inspections	No definitions No data exchanges or notifications No monitoring beyond START expiration	Detailed definitions Extensive data exchange and notifications On-site inspections

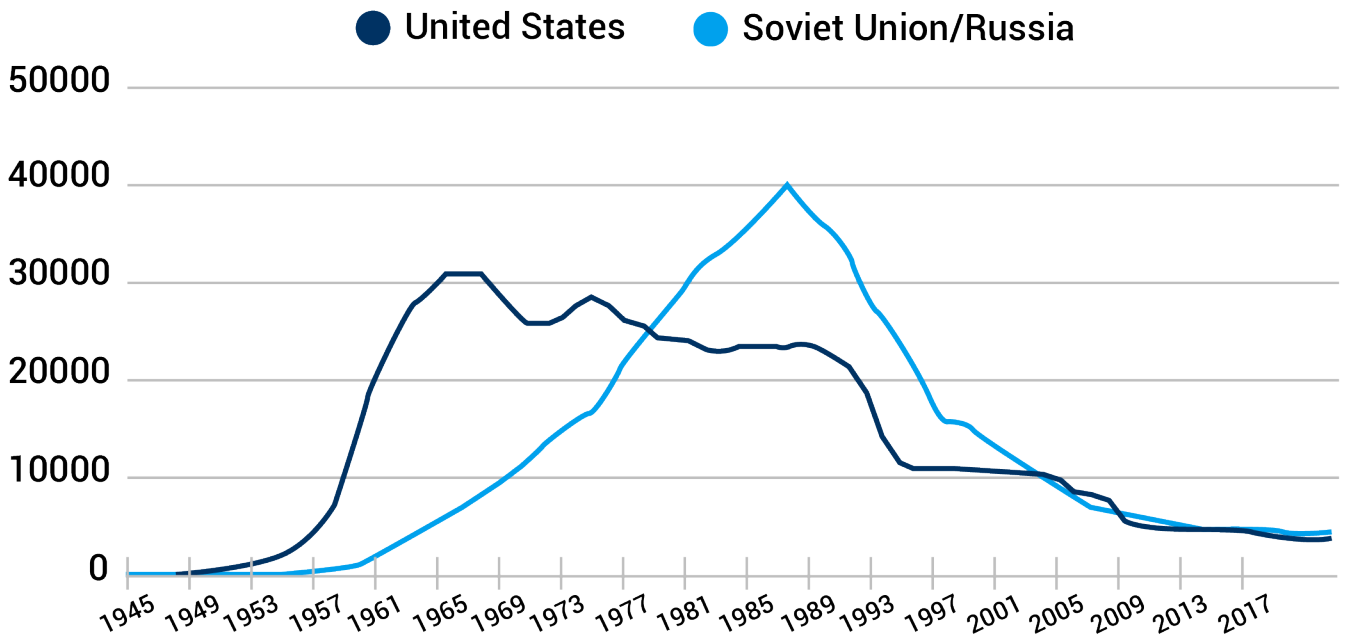

Figure 2. Estimates of the nuclear stockpiles of the United States and of the Soviet Union and the Russian Federation, 1945–2020

Source: Federation of American Scientists, 2021

The changing security environment in the early 1990s also prompted the United States and the Soviet Union to implement unilateral reductions in shorter-range nuclear systems that did not count under the limits in the formal treaties. Under the 1991 Presidential Nuclear Initiatives (PNIs), both states eliminated thousands of nuclear-capable shorter- and medium-range land-based and sea-based delivery systems. The withdrawal of Soviet-era short-range nuclear weapons from deployment outside the Russian Federation addressed Russian concerns about the safety and security of weapons stored far from Moscow. The US reductions signalled a reduced reliance on shorter-range nuclear systems in Europe and their complete withdrawal from Asia; they also allowed the United States to save money by eliminating several ongoing nuclear modernization programmes.

The limits codified in the 2002 Strategic Offensive Reductions Treaty (known as the Moscow Treaty) and the 2010 New START also reflected changing assessments of the required numbers of nuclear weapons. The limits in the Moscow Treaty equalled the number of warheads the United States had settled on for its requirements in the 2001 Nuclear Posture Review. For the Russian Federation, signing a formal treaty with these limits helped it to retain parity with the United States as financial restraints forced reductions in ageing Soviet systems.

The limits and conversion rules in New START were also consistent with US nuclear requirements established during the 2010 Nuclear Posture Review, thus requiring few changes

in the US nuclear force posture. Russian forces already contained fewer than the treaty limit of 700 deployed missiles and bombers, and the Russian Federation could reduce the number of deployed warheads to the new limit as it replaced older multiple warhead missiles with new missiles that carried fewer warheads.

Thus, the bilateral nuclear arms control process has sought to bring predictability, transparency and cooperation to the US–Soviet and US–Russian nuclear relationships without impeding either side's ability to meet its national security imperative. Between 1987 and 2010, the improving international security environment allowed the two countries to reduce their numbers of deployed and stockpiled nuclear weapons. Now, with growing concerns about great power rivalry and expanding nuclear threats, the national security imperative could create impediments to, rather than incentives for, future treaties that mandate deeper reductions.

BEYOND FORMAL TREATIES

Formal treaties offer a narrow view of the scope and durability of the arms control process. Two of the treaties – SALT II and START II – never entered into force. Two others – the SALT I Interim Agreement and START – expired without an immediate replacement. Two more – the ABM Treaty and the 1987 Intermediate-range Nuclear Forces (INF) Treaty – lapsed after the United States announced its withdrawal. The Moscow Treaty was due to expire in 2012 but was superseded by New START. New START has later been suspended by Moscow, though it technically remains in force. Regardless of this it will expire in 2026. But, as is evident from table 3, the arms control process includes a far longer list of dialogues, engagements, joint statements and agreements than those that count as treaties.

Formal negotiations, informal meetings and expert engagements on arms control were a recurring feature of the US–Soviet relationship, and were joined, on occasion, by meetings and summits among high-level government officials. These dialogues continued after the Cold War, even though the United States and the Russian Federation had other channels for cooperation. Ongoing talks provided a venue for frank and, occasionally, revealing discussions about nuclear arsenals, nuclear modernization plans and nuclear threat assessments, even when they did not lead to the conclusion of formal treaties. In some cases, as with the Vladivostok Accords in 1974 and the framework for START III in 1997, the two states hoped to convert their agreements into treaties. In others, they produced documents designed to serve as political agreements without a legal framework.

Table 3. The US–Soviet and US–Russian nuclear arms control process, 1972–2022

Decade	Formal Agreements	Treaty frameworks and political agreements	Communications, risk reduction measures, and Joint Statements	Ongoing Discussions	Cooperative Endeavours
1960s & 1970s	SALT I SALT II	Vladivostok Accords	Hot Line Accident Measures Prevention of Nuclear War Basic Principles of U.S-USSR Relations		
1980s	INF	Defense and Space Talks	Prevention of Dangerous Military Activities Ballistic Missile Launch Notification Strategic Exercise Notifications Nuclear Risk Reduction Centers		Pre-START data exchange Pre-START verification exercises
1990s	START I START II	PNIs (unilateral steps advanced without formal agreement) START III ABM Succession ABM Demarcation	Joint Statement on Future Negotiations...and Further Enhancing Strategic Stability De-targeting of Ballistic Missiles	Missile Defense Cooperation	CTR JDEC Y2K Joint Missile Warning
2000s	Moscow Treaty		Joint Statement on New Strategic Relationship Ballistic Missile and Space Launch Notification	Missile Defense Cooperation START/Moscow Treaty Follow-on	CTR
2010s	New START			Missile Defense Cooperation Strategic Stability Dialogue NST extension/ Cap on arsenal	CTR
2020s	New START Extension			Strategic Stability Dialogue	

The United States, the Soviet Union and later the Russian Federation also signed joint statements that recognized the need to manage their nuclear competition, strengthen stability and reduce the risk of war. For example, during their summit meeting in June 2021, presidents Biden and Putin reaffirmed the principle that "a nuclear war cannot be won and must never be fought", repeating a statement issued by Presidents Ronald Reagan and Mikhail Gorbachev in 1985.[9] The United States and the Soviet Union also recognized "the devastating consequences that nuclear war would have for all mankind" and their role in exerting "every effort to avert the

[9] US–Russia Presidential Joint Statement on Strategic Stability, 16 June 2021, https://www.whitehouse.gov/briefing-room/statements-releases/2021/06/16/u-s-russia-presidential-joint-statement-on-strategic-stability/; and Joint Soviet–United States Statement on the Summit Meeting in Geneva, 21 November 1985, https://www.reaganlibrary.gov/archives/speech/joint-soviet-united-states-statement-summit-meeting-geneva.

risk of outbreak of such a war" in the 1971 Accident Measures Agreement.[10] They expressed similar sentiments in the 1972 Basic Principles of Relations Between the United States of America and the Union of Soviet Socialist Republics,[11] the 1973 Agreement on the Prevention of Nuclear War,[12] and the 1990 Joint Statement on Future Negotiations on Nuclear and Space Arms and Further Enhancing Strategic Stability.[13]

The two sides also established high-level commissions and engaged in expert-level dialogues to identify further areas of cooperation. These included the Gore–Chernomyrdin Commission, established in 1993, which addressed cooperation in securing nuclear materials, and the 1992 Ross–Mamedov talks on missile defence cooperation. They subsequently held numerous rounds of discussions on cooperation in ballistic missile defences, both to address the Russian Federation's concerns about US missile defence programmes and to foster cooperation in addressing concerns about ballistic missile developments in other countries. The Strategic Stability Dialogue that presidents Biden and Putin launched in June 2021 was also intended as a forum for discussions on a wide range of nuclear posture issues, beyond just those that might be addressed in a formal treaty to follow New START.

These types of discussion and engagement add to the depth and breadth of the bilateral arms control process. They are an essential part of the history of bilateral arms control and the process of managing the nuclear competition and reducing the risk of nuclear war.

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[10] Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War between the United States of America and the Union of Soviet Socialist Republic, 30 September 1971, https://2009-2017.state.gov/t/isn/4692.htm.

[11] Basic Principles of Relations between the United States of America and the Union of Soviet Socialist Republics, 29 May 1972, https://www.presidency.ucsb.edu/documents/text-the-basic-principles-relations-between-the-united-states-america-and-the-union-soviet

[12] Agreement between the United States of America and the Union of Soviet Socialist Republics on the Prevention of Nuclear War, 22 June 1973, https://2009-2017.state.gov/t/isn/5186.htm.

[13] Soviet–United States Joint Statement on Future Negotiations on Nuclear and Space Arms and Further Enhancing Strategic Stability, 1 June 1990, https://www.presidency.ucsb.edu/documents/soviet-united-states-joint-statement-future-negotiations-nuclear-and-space-arms-and

ARMS CONTROL AND RISK REDUCTION

The United States, the Soviet Union and later the Russian Federation also adopted a number of measures that specifically support nuclear risk reduction. For example, the United States and the Soviet Union established a Direct Communications Link in 1963, after the Cuban Missile Crisis highlighted the need for improved crisis communications. This hotline reduced the time required for direct communication between the two countries from hours to minutes.[14] The United States and the Russian Federation have also established ad hoc communications channels for military leaders to support deconfliction and address escalation risks during recent crises and conflicts.

The monitoring and verification mechanisms in formal arms control agreements also foster communication and transparency. They include data exchanges that provide detailed information about the characteristics of weapons limited by the treaties and notifications that help the two states keep track of the locations and operational status of these weapon systems. They also include on-site inspections that not only allow the two sides to confirm the accuracy of the data shared during treaty implementation, but also provide a venue for engagement and cooperation between their inspection teams. The 1992 Treaty on Open Skies[15] and the Vienna Documents of 1994, 1999 and 2011 also supported transparency goals and were designed to manage the risk of confrontation resulting from misperceptions about military forces and activities. The Cooperative Threat Reduction (CTR) program despite not being a formal arms control agreement saw Russians and Americans working together to dismantle nuclear arsenals and secure nuclear material.

The United States, the Soviet Union and later the Russian Federation have also adopted formal measures to reduce the risk that misunderstandings and accidents could lead to escalation. They negotiated the 1972 Incidents at Sea Agreement to reduce the risk of dangerous encounters at sea after several incidents when US and Soviet naval forces bumped into one another or made threatening movements against the other side.[16] In 1988, presidents Reagan and Gorbachev agreed to provide pre-launch notifications for tests of all land-based intercontinental ballistic missiles (ICBMs) and long-range submarine-launched ballistic missiles (SLBMs), to reduce the risk that test launches would be seen as the opening salvo of

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[14] Memorandum of Understanding between the United States of America and the Union of Soviet Socialist Republics Regarding the Establishment of a Direct Communications, 20 June 1963, https://2009-2017.state.gov/t/isn/4785.htm.

[15] The United States withdrew from the treaty in 2020 and Russia did so in 2021.

[16] Agreement between the Government of the United States of America and the Government of the Union of Soviet Socialist Republics on the Prevention of Incidents On and Over the High Seas, 25 May 1972, https://2009-2017.state.gov/t/isn/4791.htm.

a missile attack.[17] This was supplemented in 1989 by notifications of major strategic exercises that included the participation of heavy bombers.[18] In 2000, the United States and the Russian Federation expanded this effort and agreed to provide pre- and post-launch notifications for ballistic missiles and space launch vehicles.[19] They also sought to establish a Joint Data Exchange Center (JDEC) to allow for the "uninterrupted exchange of information on launches of ballistic missiles and space launch vehicles" detected by their early-warning systems, regardless of their origin.[20] Although they never opened this permanent centre, they established a temporary joint missile launch warning centre in late 1999 in response to concerns about the potential for disruption to computers and launch control capabilities during the millennium rollover on 1 January 2000 ("Y2K" problem).

[17] Agreement between the United States of America and the Union of Soviet Socialist Republics on Notifications of Launches of Intercontinental Ballistic Missiles and Submarine-Launched Ballistic Missiles, 31 May 1988, https://2009-2017.state.gov/t/avc/trty/187150.htm.

[18] Agreement between the Government of the United States of America and the Government of the Union of Soviet Socialist Republics on Reciprocal Advance Notification of Major Strategic Exercises, 31 May 1988, https://1997-2001.state.gov/global/arms/starthtm/start/relatagre.html#3.

[19] Memorandum of Understanding on Notifications of Missile Launches, 16 December 2000, https://2009-2017.state.gov/t/avc/trty/187152.htm.

[20] Memorandum of Agreement between the United States of America and the Russian Federation on the Establishment of a Joint Center for the Exchange of Data from Early Warning Systems and Notifications of Missile Launches, 4 June 2000, https://2009-2017.state.gov/t/avc/trty/187151.htm.

RECENT CHALLENGES

After New START entered into force, President Obama sought to engage the Russian Federation in further negotiations on nuclear reductions. In June 2013 he indicated that the United States could "maintain a strong and credible strategic deterrent, while reducing our deployed strategic nuclear weapons by up to one-third" and invited the Russian Federation to join the United States in codifying these reductions.[21] Russian officials did not respond to this offer and the two states never pursued an agreement. They have since found little common ground on arms control. Each has taken steps that raise questions about their commitment to managing their competition through arms control. Both have been unable to agree on the potential scope of a new agreement. And neither seems willing to implement deeper reductions in its numbers of deployed nuclear warheads.

BARRIERS TO COOPERATION

In the United States, a wide range of issues have undermined support for cooperation with the Russia Federation and raised questions about Russia's commitment to arms control. These include the Russian annexation of Crimea and occupation of eastern Ukraine in 2014; US concerns about Russian non-compliance with the INF Treaty and its development of new types of nuclear delivery vehicle;[22] and Russian military activities that led to an increase in hazardous military incidents around Europe.[23] Russian officials have also questioned the US commitment to arms control, highlighting that the United States has withdrawn from the ABM Treaty, the INF Treaty and the Open Skies Treaty. Russian officials have also raised questions about US compliance with the INF Treaty and New START, and have criticized the US failure to address Russian concerns about US missile defences or US long-range non-nuclear strategic weapons.[24]

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[21] The White House, Office of the Press Secretary, "Remarks by President Obama at the Brandenburg Gate – Berlin, Germany", 19 June 2013, https://obamawhitehouse.archives.gov/the-press-office/2013/06/19/remarks-president-obama-brandenburg-gate-berlin-germany.

[22] A.F. Woolf, "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress", US Library of Congress, Congressional Research Service, 2 August 2019, https://crsreports.congress.gov/product/pdf/R/R43832; and N.B.D. Nikitin, "Russia's Nuclear Weapons: Doctrine, Forces, and Modernization", US Library of Congress, Congressional Research Service, 21 April 2022, https://crsreports.congress.gov/product/pdf/R/R45861.

[23] Ł. Kulesa, T. Frear and D. Raynova. "Managing Hazardous Incidents in the Euro-Atlantic Area: A New Plan of Action", European Leadership Network, November 2016, https://www.europeanleadershipnetwork.org/wp-content/uploads/2017/10/ELN-Managing-Hazardous-Incidents-November-2016.pdf.

[24] See, for example, G. Kantchev, "Russia blames U.S. for not doing enough on nuclear arms treaty", Wall Street Journal, 8 November 2019, https://www.wsj.com/articles/russia-blames-u-s-for-not-doing-enough-on-nuclear-arms-treaty-11573227856. See also A.F. Woolf, "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress", US Library of Congress, Congressional Research Service, 2 August 2019, https://crsreports.congress.gov/product/pdf/R/R43832.

The current conflict in Ukraine has added further disruptions to the diplomatic process. The United States and the Russian Federation have not met in the Strategic Stability Dialogue since early 2022. Although both recognize the value of a return to this dialogue, in August 2022 a spokesman for the US State Department said that "now is not the time" for US–Russian conversations needed to "enhance global security".[25] The Russian Federation has also blocked efforts to resume inspections permitted by New START, claiming that sanctions, including restrictions on travel, have impeded the ability of Russian inspection teams to reach sites in the United States.[26] In November of 2022, Moscow indefinitely postponed planned meeting of the Bilateral Consultative Commission (BCC) under the New START. Russian Deputy Foreign Minister Sergey Ryabkov cited "increasingly hostile attitude on the part of the United States toward Russia" as a reason.[27] On January 31, 2023, US State Department announced that Russia was not in compliance with its New START obligations in terms of inspections and BCC meetings.[28] In February, Moscow announced that it was suspending its participation in the Treaty.

DISAGREEMENT ON THE ARMS CONTROL AGENDA

The United States and the Russian Federation disagree about which types of weapons to include in a treaty that would follow New START. The United States would like the next treaty to sustain limits on the Russian systems covered under New START, to limit the new kinds of Russian nuclear system and to address all Russian nuclear weapons, including non-strategic systems.[29] The Russian Federation wants the arms control process to "develop a new security equation that would take into account all the factors that affect strategic stability". To this end, the talks would "cover the entire spectrum of offensive and defensive, nuclear and non-nuclear weapons with a strategic potential" and, thus, include limits on ballistic missile defences, long-range strategic conventional arms and weapons in space.[30] The United States has long rejected Russian calls for legally binding limits on ballistic missile defences. The Russian Federation has rejected the US call to limit the numbers of warheads for shorter-range, or non-strategic, delivery vehicles.

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[25] N. Toosi, "Russia and the U.S. are entering 'dangerous and uncharted' nuclear territory", Politico, 30 August 2022, https://www.politico.com/news/2022/08/30/russia-united-states-dangerous-uncharted-nuclear-territory-00054134.

[26] M.R. Gordon, "Russia says it won't allow U.S. inspection for now of its nuclear weapons", Wall Street Journal, 8 August 2022, https://www.wsj.com/articles/russia-says-it-wont-allow-u-s-inspection-for-now-of-its-nuclear-weapons-11660001294.

[27] "Still no decision on when US, Russia will meet on New START Treaty, diplomat says", TASS, 6 February, 2023 https://tass.com/politics/1571825

[28] Report to Congress on Implementation of the New START Treaty. US State Department. January 2023. https://www.state.gov/wp-content/uploads/2023/01/2022-New-START-Implementation-Report.pdf

[29] M. Stewart, "Keynote address for the commemoration of the 50th anniversary of the Arms Control Association", US Department of State, 2 June 2022, https://www.state.gov/keynote-address-for-the-commemoration-of-the-50th-anniversary-of-the-arms-control-association/.

[30] E. Postnikova, ["The use of nuclear weapons is possible only in response to an attack": Russian Deputy Foreign Minister Sergei Ryabkov on the clash with NATO, dialogue with the US on START-3 and prisoner exchange], Izvestia, 22 August 2022, https://iz.ru/1381726/ekaterina-postnikova/primenenie-iadernogo-oruzhiia-vozmozhno-tolko-v-poriadke-otveta-na-napadenie (in Russian, author translation).

The two sides have also diverged in their views on which countries should participate in the talks on a subsequent treaty. US officials have suggested that China join the arms control process, with the administration of US President Donald J. Trump specifically calling on China to join the United States and the Russian Federation in negotiations to limit their nuclear weapons.[31] The Biden Administration has not advocated for a negotiation among the three states, but still sees a role for arms control discussions between the United States and China.[32] The Russian Federation, for its part, has also suggested that the arms control process should include more nuclear weapon states, with Deputy Foreign Minister Sergei Ryabkov stating that "the possibilities for further progress along the path of nuclear arms reductions only on a bilateral Russian–US basis are practically exhausted". Unlike the US focus on China, however, the priority of the Russian Federation is "to involve the United Kingdom and France in this process as US military allies within the [North Atlantic Treaty Organization] 'nuclear alliance'".[33] President Putin specifically mentioned UK and France nuclear forces in his announcement of suspension of the New START.[34]

PROSPECTS FOR DEEPER REDUCTIONS

Although the United States and the Russian Federation reduced the numbers of warheads in their nuclear arsenals between late 1980s and the early 2000s, this decline slowed after the mid-2000s and has levelled off in recent years (see figure 3).

Both states stated that they will continue to comply with the limits in New START, though Russia ended date exchange. Nevertheless, some US analysts have questioned whether the 1,550 warheads permitted by New START will remain sufficient to meet US national security needs.35 Some Russian commentators have also questioned the continuing value of New START, and Russian government officials have complained about US implementation.[36]

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[31] C.A. Ford, U.S. Priorities for "Next-Generation Arms Control", US Department of State, Arms Control and International Security Papers, 6 April 2020, https://www.state.gov/wp-content/uploads/2020/04/T-paper-series-1-Arms-Control-2.pdf.

[32] In his statement announcing the US intention to extend New START, Secretary of State Antony Blinken noted that the United States would "also pursue arms control to reduce the dangers from China's modern and growing nuclear arsenal". See A.J. Blinken, US Secretary of State, "On the extension of the New START treaty with the Russian Federation", Press statement, US Department of State, 3 February 2021, https://www.state.gov/on-the-extension-of-the-new-start-treaty-with-the-russian-federation/.

[33] E. Postnikova, ["The use of nuclear weapons is possible only in response to an attack": Russian Deputy Foreign Minister Sergei Ryabkov on the clash with NATO, dialogue with the US on START-3 and prisoner exchange], Izvestia, 22 August 2022, https://iz.ru/1381726/ekaterina-postnikova/primenenie-iadernogo-oruzhiia-vozmozhno-tolko-v-poriadke-otveta-na-napadenie (in Russian, author translation).

[34] Presidential Address to Federal Assembly. 21 February, 2023, http://en.kremlin.ru/events/president/news/70565

[35] F.C. Miller, "Outdated nuclear treaties heighten the risk of nuclear war", Wall Street Journal, 21 April 2022, https://www.wsj.com/articles/outdated-nuclear-treaties-new-start-treaty-russia-putin-china-xi-heighten-risk-nuclear-war-missile-test-ukraine-deterrence-11650575490

[36] A. Antonov, "Cuban Missile Crisis 2.0 over Ukraine?", National Interest, 28 September 2022, https://nationalinterest.org/feature/cuban-missile-crisis-20-over-ukraine-205077.

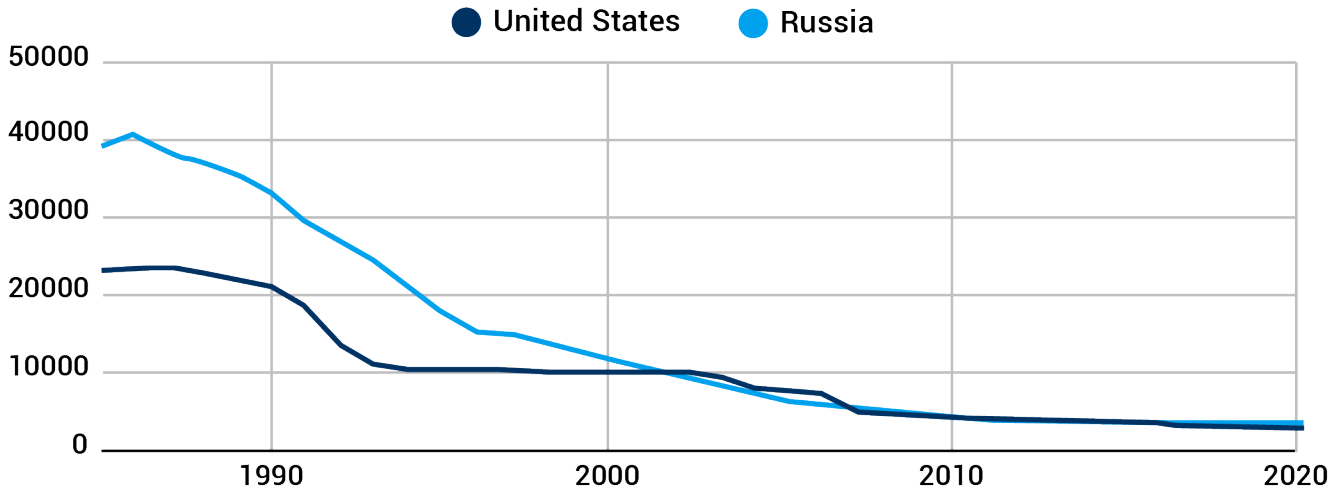

Figure 3. Estimates of the nuclear stockpiles of the United States and the Russian Federation, 1987–2020

While there is a significant chance that their numbers of deployed warheads will remain limited until 2026, both countries are now modernizing their nuclear delivery systems. Most of these programmes will replace ageing missiles and submarines, but some may add new capabilities to their forces. For example, the Russian Federation has deployed the Avangard hypersonic glide vehicle and continues to develop the Poseidon autonomous underwater drone, possibly in response to concerns about US missile defence capabilities, while the United States might add a new nuclear-armed sea-launched cruise missile to its force in response to concerns about emerging regional challenges.[37]

Both states also continue to place nuclear weapons at the centre of their national security strategies. Admiral Charles Richard, the former Commander of US Strategic Command (STRATCOM), has noted that the United States does not have to match an opponent "weapon-to-weapon", but he has asserted that "our existing nuclear forces are the minimum required to achieve our national strategy".[38] The Russian Federation has demonstrated not only that it continues to rely on nuclear weapons to meet its national security goals, but also that it has the capacity to expand its nuclear arsenal. Moreover, President Putin has, on several occasions since the beginning of the conflict in Ukraine, taken steps to remind other states of Russia's nuclear capabilities and its willingness to use all means to defend its territory. [39]

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[37] The Biden Administration has sought to cancel this programme, but the Congress continues to support it and may provide funding for its development.

[38] Fiscal Year 2023 Strategic Forces Posture Hearing. House Armed Services Committee. 1 March 2022. https://www.youtube.com/watch?v=M0QtZqeSLO4

[39] M. Ryan et al., "With Russian nuclear forces on alert, Ukraine crisis enters more dangerous phase", Washington Post, 27 February 2022, https://www.washingtonpost.com/nationalsecurity/2022/02/27/ukraine-russia-nuclear-alert/. See also Z. Sheftalovich, "Putin calls up 300,000 reservists, makes nuclear threat", Politico, 21 September 2022, https://www.politico.eu/article/putin-announces-partial-mobilization-russian-reservists-nuclear-threat-conscription-ukraine/.

PROSPECTS FOR THE FUTURE

Even if the United States and the Russian Federation resume arms control negotiations after the conflict in Ukraine ends, their inability to agree on an agenda for a follow-on agreement and their possible reluctance to accept further reductions may complicate efforts to replace New START before its 2026 expiration. The treaty itself is suspended and its future is unclear. While neither side has yet proposed an alternative to New START, they could consider other possible paths to manage their nuclear competition in the absence of a new legally binding treaty.

RETAINING THE LIMITS IN NEW START

The United States and the Russian Federation cannot extend New START beyond February 2026 unless they amend the original text. This approach would extend the predictability and transparency benefits of New START, but it could be politically untenable, particularly in the United States where two-thirds of the members of the Senate would have to consent to the amendment. Russian suspension of the treaty made this option even less likely. As an alternative, the United States and the Russian Federation could pledge to maintain their forces at the levels mandated in New START. If they wanted to retain transparency into their force levels, they might also consider exchanging data on the numbers of deployed systems without revealing potentially classified information about their locations or characteristics.

Such an agreement might provide the United States and the Russian Federation with additional time to pursue negotiations on a follow-on treaty. But it would not restrain either side's modernization programmes or introduce limits on the many other items that both have placed on the agenda for a future treaty – such as the Russian Federation's new types of strategic delivery system and US missile defence programmes. Informal pledges also would not replace the frequent notifications, exhibitions, exchange of telemetry data and on-site inspections of a formal verification regime. Moreover, the pledges would be likely to lapse if the security environment were to continue to erode and either side sought additional forces to meet its national security requirements. Nevertheless, voluntary efforts at cooperation could forestall worst case assessments and mitigate the risk of an arms race until security conditions improved and formal negotiations resumed.

RESUMING STRATEGIC DIALOGUE

The United States and the Russian Federation could resume their Strategic Stability Dialogue, as soon as it is politically feasible. This would allow them to continue discussing their nuclear policies, plans and force structures, along with their concerns about potential threats to strategic stability. An ongoing dialogue could sustain and eventually advance formal arms control efforts by supporting discussions on the implementation of ongoing cooperative activities. Similarly,

this dialogue could facilitate efforts to retain an open channel for communication during crises that might otherwise lead to misunderstandings and inadvertent escalation.

This dialogue would also provide the two states with a venue to address their differing agendas for a future arms control treaty and to explore the potential for negotiated limits on nuclear weapons, emerging technologies and activities that might undermine strategic stability. An examination of possible alternative approaches that the two might take to craft such an agreement is beyond the scope of this paper. However, even if the United States and the Russian Federation do resume their discussions, the prospect for agreement on a treaty to replace New START might remain dim. As noted above, the absence of agreement on an agenda for the next treaty is not the only obstacle to progress. At the present time, both sides seem to believe that deeper reductions in nuclear weapons are incompatible with their national security requirements in the current security environment.

As an alternative, a multilateral dialogue on nuclear doctrines, force structures and threats to stability could accommodate both countries' interest in including additional countries in the discussion. Some have suggested that the five nuclear weapon states recognized by the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (Non-Proliferation Treaty, NPT) – the United States, the Russian Federation, China, France and the United Kingdom (the P5) – could expand the scope of issues addressed in process that they have established in support of the NPT.[40] This approach would introduce its own complications, as the P5 process does not, at present, serve as a venue for discussions on potential limits or restrictions on force numbers or operations. Nevertheless, the participants in the P5 process have, in recent years, addressed risk-reduction measures as an area for further cooperation, thus showing that this is a possible venue for discussions on measures to manage nuclear competition and reduce the risk of nuclear war.[41]

FOCUSING ON NUCLEAR RISK REDUCTION

Even in the current political environment, the United States and the Russian Federation may continue to implement measures, like missile launch notifications, that are designed to reduce the risk of misperceptions. The two could also pursue negotiations to reinvigorate existing risk-reduction mechanisms and identify new ones. Open lines of communications and other confidence-building measures could both reduce mistrust and tension during peacetime

[40] Dr. Christopher Ashley Ford, The P5, the "N5," and the NPT Review Conference, Wilton Park Nonproliferation Conference, 16 December, 2019. https://2017-2021.state.gov/the-p5-the-n5-and-the-npt-review-conference/index.html

[41] 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, "Strategic risk reduction", Working paper submitted by China, France, the Russian Federation, the United Kingdom and the United States, NPT/CONF.2020/WP.33, 7 December 2021, https://undocs.org/en/NPT/CONF.2020/WP.33.

and mitigate the risk that interactions between them during a crisis could lead to inadvertent escalation. They could reaffirm their commitment to consultations on doctrine and operations as a way to reduce the risk of misunderstanding in a crisis. They could also agree to provide notifications about potentially ambiguous exercises and operations, and to cooperate in addressing regional tensions so that crises do not escalate into broader conflicts.[42]

Communications and confidence-building measures would not impede military operations if a conflict did occur, although, as has been evident during the current crisis in Ukraine, routine risk-reduction measures like missile launch notifications can mitigate the risk of misunderstandings. But these mechanisms will have little effect on nuclear signalling in a political environment where the manipulation of risk seems useful in achieving political or military goals. At the same time, some non-nuclear weapon states that support arms control as a path to nuclear disarmament could see a focus on risk reduction rather than arms control as a dangerous and unnecessary retreat. Nevertheless, cooperation in one area could foster cooperation in other areas, thus possibly reducing tensions and permitting a return to more formal means of managing the bilateral nuclear competition and reducing the risk of nuclear war.

[42] W. Wan (ed.), Nuclear Risk Reduction: Closing Pathways to Use, UNIDIR, 2020, https://unidir.org/publication/nuclear-risk-reduction-closing-pathways-use

REVITALIZING BILATERAL ARMS CONTROL

The pressing need for the United States and the Russian Federation to cooperate in managing their nuclear competition advocates for a prompt return to arms control dialogue. However, the two sides are unlikely to resume formal negotiations while the current crisis in Ukraine continues. Moreover, because they have found it difficult to agree on whether and how to reduce their nuclear weapons, a return to negotiations may not mark a return to formal treaties that impose restrictions or mandate reductions in nuclear weapons.

The bilateral arms control process has always included a broader and deeper set of mechanisms to manage nuclear competition and reduce the risk of nuclear war. The United States and the Soviet Union adopted transparency, communication and risk reduction measures early in the arms control process while they learned to trust that the process of arms control could strengthen their national security. A new process focused on transparency, communication and risk reduction could help rebuild that trust before an eventual return to negotiations on agreements that limit or reduce nuclear weapons.

In other words, to move the arms control process forward, the United States and the Russian Federation may need to look back to many of the tools developed early in the arms control process, when neither side was yet willing to limit or reduce its numbers of deployed weapons. Formal and informal dialogues could provide a venue for conversations about plans, programmes and operations. Agreements to support or expand routine and crisis communications channels could help reduce the risk of misunderstandings and misperceptions. The United States and the Russian Federation might agree to exchange data on their forces and activities or to refrain from dangerous operations to increase transparency and reduce the risk of inadvertent escalation. As they did during the Cold War, they can craft normative statements that recognize the dangers of nuclear competition and their responsibility to restrain that competition.

This approach may seem inadequate to the task of eliminating nuclear dangers at a time when most see a heightened risk of nuclear use. This approach may also seem to divert attention from the long-term task of reducing and eventually eliminating nuclear weapons. However, in the current security environment, the United States and the Russian Federation both believe that nuclear weapons are essential to their security, and neither is likely to entertain deeper reductions, never mind nuclear disarmament, until the security environment changes. Under these circumstances, an agenda that focuses on risk reduction, rather than weapon reductions, may not only serve as a temporary venue for negotiations, but may also create opportunities for the two countries to address and resolve those security concerns that are blocking the path to deeper reductions in nuclear weapons.

THE PAST AND FUTURE OF BILATERAL NUCLEAR ARMS CONTROL

In this publication, the ninths in UNIDIR's nuclear dialogue series, Amy Woolf deconstructs more than 50 years of arms control process between Moscow and Washington to answer what lies ahead for the two largest nuclear powers. The report looks back at the history of bilateral arms control beyond the formal legally binding treaties, depicts the current state of affairs from the point of view of the two parties and offers a tripartite strategy for the future.

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