Arms Control Without Treaties

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Increasing tensions between nuclear powers and the disruptive potential of various technologies are heightening nuclear risks. While nuclear arms control treaties may be difficult to negotiate, informal measures can provide opportunities to reduce risks.

By Névine Schepers and Oliver Thränert

Most international observers have welcomed the five-year extension of the Strategic Arms Reduction Treaty (New START), which limits the number of strategic nuclear forces of the US and Russia. While the Biden administration has signaled its intent to pursue further arms control measures with Russia as well as China,[1] it is questionable whether further legally binding and verifiable treaties such as New START will be feasible.

All nuclear possessor states are in the process of modernizing their nuclear arsenals. The US, Russia, and China are also engaged in a technological race within the fields of space, cyber, and AI, all of which have potential disruptive impacts on their nuclear forces and postures. These factors along with increasing geopolitical tensions have led to fears that a conventional conflict could spiral out of control, making nuclear escalation more likely and endangering strategic stability. While no commonly agreed definition of strategic stability exists, the Cold War-era concept encompasses both crisis stability, meaning the lack of incentive to use nuclear weapons first during a conflict, and arms race stability, which implies that no party believes it could win a conflict by accelerating the build-up of its forces. Arms control contributes to maintaining strategic stability. At its core, it promotes common security, which means that adversaries' security interests need to be taken into consideration.

Throughout the Cold War, the US and the USSR negotiated and signed a number of arms control treaties. These legally binding and verifiable treaties became the most visible and well-known elements of arms control. Yet

Key Points

- A range of issues, from the interconnectedness of non-nuclear and nuclear systems to the need to include recalcitrant actors, significantly complicates the negotiation of arms control treaties.
- Nuclear weapon states should further utilize arms control's full toolset to reduce the most likely pathways to nuclear escalation and encourage military restraint.
- A number of confidence-building measures aimed at improving communication, understanding, and transparency should be developed between the US and China, or existing US-Russian ones could be "trilateralized."
- Unilateral initiatives, ranging from declarations of restraint to the suspension of certain systems, could help break the current deadlock and pave the way for treaty negotiations.

President John F. Kennedy's American University commencement address, known as his "Peace Speech," 10 June 1963. *Cecil Stoughton / JFK Library*

a number of non-treaty initiatives also played a crucial role in reducing tensions and nuclear risk, often at times when dialogue was deadlocked and finding compromise near impossible. Given today's increasingly destabilizing and complex international threat environment, it becomes imperative to use the arms control toolbox in its entirety, including non-treaty activities such as confidence-building measures, restraint, and unilateral initiatives.

Arms Control's Stalemate

Most nuclear arms control treaties have been based so far on the principle of parity, for instance by establishing common ceilings for certain weapon categories. For Moscow, this approach showcased that it was on par with the US. Such treaties were possible because they were negotiated bilaterally and mainly concentrated on nuclear weapons. This is no longer possible because arms control needs to include actors beyond the US and Russia, most notably China, and can no longer afford to focus exclusively on nuclear weapons, without taking into account the interconnectedness with non-nuclear systems.

Moreover, short-range nuclear weapons, also known as tactical nuclear weapons, have never been limited by past US-Russian arms control agreements. Given Russia's significantly larger arsenal of these weapons and their impact on the interests of US allies in Europe and Asia, the US has raised their inclusion in arms control negotiations. Moscow sees new arms control accords as only worth considering if Washington is willing to put missile defense systems, which Beijing is also concerned with, on the table. This, in turn, seems unfeasible as missile defense enjoys wide bipartisan support in Congress and serves to defend the US and its allies against potential aggression, mainly from North Korea and Iran.

Finding a compromise, in the form of a legally binding and verifiable treaty, to address both US and Russian concerns has long appeared nearly impossible given the complexity of what is at stake. In addition to missile defense, there are other non-nuclear technologies that arms control negotiations should consider, given their potential impact on nuclear systems and strategic stability. In particular, the vulnerability of nuclear command, control, communication, and intelligence (C3I) systems to increasingly sophisticated conventional weapons as well as cyber-attacks has become a major source of concern.[2] Artificial Intelligence's potential as an enabling technology, and the various ways in which it could be incorporated into nuclear systems, also poses a number of risks related to escalation and strategic stability.[3] Neither case is easily amenable to traditional arms control treaties that deal with specific quantities and capabilities rather than behaviors.

There are further political and systemic factors that make it more difficult to negotiate and ratify arms control treaties. US leadership is sorely needed to initiate and see through discussions that would address a range of capabilities. However, such leadership may be in short supply as the Biden administration focuses its attention at home and on a range of other issues such as the health and climate crises. The ratification of any arms control treaty requires a two-thirds majority in the US Senate, which seems unlikely due to severe polarization along party lines. The collapse of the Intermediate-range Nuclear Forces (INF) treaty, which banned all US and Russian ground-based intermediate forces, over Russian violations also casts a shadow over any agreement negotiated with Moscow and fuels skepticism over future compliance.

Russia for its part may be interested in discussing follow-on arms control treaties with Washington, if only to present itself as a superpower. At the same time, President Vladimir Putin has no interest in pursuing substantial or visible collaboration with the US. Rather, portraying the West and the US in particular as an adversary is key to domestic stability and serves to legitimize an increasingly anti-democratic regime. China's disinterest in arms control presents an even greater problem. China does not want its agenda with the US to be dominated by nuclear issues as opposed to areas where it believes that it has more leverage, such as communications technologies. Moreover, Beijing associates arms control with reductions and limitations of

capabilities, which it believes should remain within the purview of the US and Russia as long as their arsenals are significantly higher. Other elements such as differences in priorities and understandings of doctrines also play a role in Beijing's current refusal to engage on arms control (see CSS Analysis No. 276).

Non-Treaty Based Arms Control

Legally binding and verifiable treaties remain highly desirable arms control instruments to achieve continued reductions in nuclear capabilities. In terms of sheer numbers, US and Russian nuclear stockpiles are still unnecessarily high and far superior to those of other nuclear possessor states. However, the challenges mentioned previously will limit the range of capabilities and measures that treaties could realistically cover, as well as the number of actors involved. Yet two of the founding fathers of nuclear arms control, Thomas Schelling and Morton Halperin, envisioned arms control as encompassing "all forms of military cooperation between potential enemies in the interest of reducing the likelihood of war."[4] This includes "less formal, less institutionalized, less negotiated understandings and agreements" as well as "a shared recognition that certain forms of self-control will be reciprocated."

Non-treaty arms control can consist of confidence-building measures such as those promoting better communication and understanding through information exchanges, dialogues on doctrines and postures, prior notifications of military maneuvers or tests, and the establishment of crisis management hotlines. A number of these measures are already in place between the US and Russia, less so between the US and China, but few target the intersection between nuclear capabilities and disruptive technologies. Others exist under formal regimes such as the Open Skies Treaty, the existence of which is precarious following the US' withdrawal (see Policy Perspectives 8/8), or the Hague Code of Conduct, which implements a range of transparency measures related to ballistic missiles but has not been signed by key states such as China. Through the P5 Process, a forum under the auspices of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) that brings together the five recognized nuclear weapon states, there has been some progress in pursuing dialogue on nuclear doctrines, but it has been slow, limited, and not very transparent.

Other scholars such as Charles Osgood or Amitai Etzioni developed the concept of non-treaty activities even further and argued that, in order to reverse the nuclear arms race, nuclear powers should unilaterally seek to reduce tensions. As a first step, such actions may be rather symbolic but should be clearly communicated to the opponent in order to signal that reciprocity is expected. More substantial efforts can then follow. However, these should not call into question the credible deterrent and defense of the actor that undertakes these initiatives. The US and the Soviet Union/Russia have used such unilateral measures on several occasions to pursue arms control objectives with a certain degree of success. In a speech at the American University in 1963, President John F. Kennedy announced that the US would no longer conduct atmospheric nuclear tests, which paved the way for the Limited Test Ban Treaty. In the 1990s, President George H.W. Bush made a series of unilateral pledges to reduce the number and deployment of tactical nuclear weapons, which Soviet President Mikhail Gorbachev reciprocated. This led to a series of parallel steps, known as the Presidential Nuclear Initiatives (PNI), and the most significant reductions in nuclear weapons to date. Another example includes separate declarations against the deployment of nuclear weapons in space, which led to the signing of the Outer Space Treaty of 1967.

Since unilateral measures are non-binding, they can be easier to accept, though the lack of guarantee of reciprocity can also make it more difficult to sell to a domestic audience. Yet, they can be reversed if no parallel actions materialize. Such measures can also serve to break the deadlock, particularly during periods of high tension when the likelihood of finding a longer-term compromise is slim, and as a basis for a fully-fledged treaty when political circumstances become more amenable. The more informal the agreement, the easier it is to adapt the scope depending on technological and geopolitical changes.

However, the lack of formal verification or compliance mechanisms limits the level of trust that is achievable

Further Reading

Sarah Bidgood, **"Just GRIT and Bear It: A Cold War Approach to Future US-Russia Arms Control,"** *The International Spectator* 56:1 (2021), pp. 1–19.
Offers a historical overview of US-Soviet unilateral acts of tension-reducing nature and explores their potential in today's context.

James M. Acton / Thomas MacDonald / Pranay Vaddi, **"Revamping Nuclear Arms Control: Five Near-Term Proposals,"** *Carnegie,* 2020.
Outlines politically binding measures that could be taken by the US, Russia, and China to mitigate nuclear risks.

Tong Zhao, **"Practical Ways to Promote U.S.-China Arms Control Cooperation,"** *Carnegie-Tsinghua,* 2020.
Provides pathways through which to engage China on arms control issues.

through such measures. In cases such as the withdrawal or elimination of certain capabilities, the absence of verification can lead to ambiguities, as was the case with the PNIs. A lack of transparency from Moscow and the disparity between the two stockpiles has led to current deadlocks on the issue. Furthermore, the way in which states communicate unilateral measures is also important in order for the intended international audience to understand them correctly and see them as coming from a position of strength, rather than weakness. In the case of the US, Washington would therefore need to discuss and closely coordinate any such steps with its allies in Europe and Asia in order to ensure alliance cohesion and avoid undermining extended deterrence.

Looking Forward

The return to great power politics and the disruptive potential of various technologies on nuclear postures have exacerbated threat perceptions. Nuclear weapon states – in particular the US, Russia, and China – should further utilize arms control's full toolset to reduce the most likely pathways to nuclear escalation, improve communication between strategic rivals, and encourage military restraint. While there are some initiatives and frameworks already in place, there is a lot more that states could and should do without necessarily having to invest as much political capital as for treaties.

The existing dialogue within the P5 process related to nuclear doctrines could be expanded to include threat perceptions, especially those related to the impact of disruptive technologies. This could pave the way for unilateral declarations by P5 members, on issues that are of most concern to others, with the expectation of reciprocation, and perhaps eventual multilateralization. Examples include a moratorium on anti-satellite tests or a declaration not to strike C3I systems. Moreover, statements, unilateral or joint, on the restricted purpose of nuclear weapons or impossibility of winning a nuclear war could contribute to a more cooperative atmosphere and tension reduction.

A number of confidence-building measures such as crisis hotlines, the Incidents at Sea Agreement, and Nuclear Risk Reduction Centers could be reinforced between the US and Russia, and either developed bilaterally between the US and China or, in some cases, "trilateralized." For instance, Russia has separate agreements on missile launch notifications with the US and China. The former covers intercontinental and submarine-launched ballistic missiles, and the latter additionally covers space launch vehicles. Developing such an agreement at the trilateral level and expanding it to cover hypersonic boost glide vehicles as well would serve to reduce the risks of inadvertent escalation.

Finally, there are several unilateral measures the US could take to "break the ice" and set the scene for further discussions. The most prominent of these measures, and the subject of heated debate in policy circles in Washington, would be to pause the current procurement of the replacement program for its aging intercontinental ballistic missiles, the Ground-Based Strategic Deterrent – estimated to cost 264 billion USD across the program's lifetime – while discussing further strategic forces reductions with Russia. Other US systems that could be subject to cancellation include the long-range standoff cruise missile and the nuclear-armed submarine-launched cruise missile, both of which are destabilizing as they are not distinguishable from their conventional equivalents. A Russian response could involve some of Putin's "exotic weapons" such as the *Burevestnik* nuclear-powered nuclear-armed cruise missile or the *Poseidon* nuclear-armed underwater drone. Implementing some of these measures will not be easy, but many seem possible in the short to medium term, more so than a legally binding and verifiable treaty, and would help fill a dangerous governance gap.

Selected Sources

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