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The Prospects for Nuclear Disarmament after the U.S.-Russian Summit

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Abstract

In January 2021, Joseph Biden became the U.S. president, and in June, the first U.S.-Russian Summit was held, where it was agreed to start a "Strategic Stability Dialogue." This paper analyzes the future progress in and challenges to the promotion of nuclear disarmament, including the reduction of strategic nuclear weapons, non-strategic nuclear weapons, and the risk of nuclear use. President Biden has shown a strongly positive attitude toward nuclear disarmament, including a reduction in the role of nuclear weapons, but the current trend is still characterized by nuclear competition and a nuclear arms race. An initiative to reverse this tendency is strongly desired.

Introduction

The new Biden administration, which started in January 2021, expressed a newly active attitude toward nuclear disarmament, in sharp contrast to the former Trump administration, under which nuclear confrontation and a nuclear arms race with Russia and China had continued. On June 16, at the first summit, Presidents Biden and Putin agreed on a joint statement that included the issue of nuclear disarmament.

The purpose of this paper is to examine the prospects for the progress in nuclear disarmament in the coming years and to propose some ideas for its progress, as the U.S. policy on nuclear disarmament is expected to radically change from that of the former administration.

First, it analyzes the contents of the joint statement agreed at the summit meeting and clarifies the significance of the joint statement. This is a starting point for concrete measures taken by both governments. Particularly, it surveys the content and possible future development of "the strategic stability dialogue."

Second, it studies how to reduce strategic nuclear weapons in the context of the five-year extension of the New START Treaty. In this context, it also examines the interrelationship between offensive and defensive weapons and the future role of

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intercontinental ballistic missiles (ICBMs) in the nuclear triad.

Third, it studies the direction of the reduction of non-strategic nuclear weapons by checking some proposals for the reduction of non-strategic nuclear weapons, as well as the reduction of strategic and non-strategic nuclear weapons as a whole. In this context, it considers new measures to limit intermediate-range nuclear forces (INF) that were prohibited under the INF Treaty.

Fourth, it deals with the issues of reducing the risk of the use of nuclear weapons. One is the reduction of the role of nuclear weapons in national security policy, which includes the importance of the Reagan-Gorbachev statement of nuclear weapons in 1985 and the policy of no first use of nuclear weapons proposed by President Biden. Another measure is the cancellation of the launch on warning posture. Additionally, proposals on the prohibitions of cyberattacks and attacks on satellites have been studied.

I U.S.-Russian Summit and its Joint Statement

1 Significance of the Summit and the Joint Statement

The process of nuclear disarmament between the two countries stopped in the middle of the Obama administration and worsened under the Trump administration, and now the situation has been the worst since the end of the Cold War. There has been no progress on strategic nuclear weapons since the New START Treaty was concluded in 2010 and entered into force in 2011. Much worse is the fact that the Trump administration abstained from international cooperation and adopted an America First policy, aiming to become the only great power. It planned to massively increase nuclear weapons without paying any consideration to efforts for nuclear disarmament. It unilaterally withdrew from the INF Treaty, which became null and void in 2019.

The duration of the New START Treaty is 10 years, and it provides for the possibility of its extension for a period of no more than five years. The Trump administration started negotiations on its extension with Russia at the last stage, but could not come to an agreement. The Biden administration, which started in January 2021, took a completely different policy from the Trump administration and has worked hard since the inauguration. By talking with President Putin, it was agreed just two days before the original termination day of the treaty to extend the New START Treaty for additional five years.

The first summit meeting between the two presidents was held on June 16, 2021, in Geneva. They discussed a variety of topics, including nuclear disarmament, strategic stability, cyber-security, human rights, Ukraine, Afghanistan, Syria, and the North Pole. They agreed upon and adopted the “U.S.-Russia Presidential Joint Statement on

Strategic Stability."[1)]

The Joint Statement consists of three paragraphs, the first of which provides that "We, President of the United States of America Joseph R. Biden and President of the Russian Federation Vladimir Putin, note that the United States and Russia have demonstrated that, even in periods of tension, they are able to make progress on our shared goals of ensuring predictability in the strategic sphere, reducing the risk of armed conflicts and the threat of nuclear war." It was agreed that they start a dialogue on the two principal purposes that are "ensuring predictability in the strategic sphere" and "reducing the risk of armed conflicts and the threat of nuclear war."

The second paragraph provides that "The recent extension of the New START Treaty exemplified our commitment to nuclear arms control. Today, we reaffirm the principle that a nuclear war cannot be won and must never be fought." Here, it is emphasized that the extension of the New START Treaty exemplified our commitment to nuclear arms control, and the 1985 Reagan and Gorbachev principle is reconfirmed.

The third paragraph provides that "Consistent with these goals, the United States and Russia will embark together on an integrated bilateral Strategic Stability Dialogue in the near future that will be deliberate and robust. Through this Dialogue, we seek to lay the groundwork for future arms control and risk reduction measures."

President Biden stated at the press conference that "there is no substitute... for a face-to-face dialogue between leaders. ... There are areas where there's mutual interest for us to cooperate ... One of those areas is strategic stability. ... We discussed in detail the next steps our countries need to take on arms control measures – the steps we need to take to reduce the risk of unintended conflict...We agreed today to launch a bilateral strategic dialogue ...to get our military experts and our ... diplomats together to work on a mechanism that can lead to control of new and dangerous and sophisticated weapons."[2)]

President Putin stated at the press conference: "The United States and the Russian Federation bear special responsibility for global strategic stability, at least because we are the two biggest nuclear powers—in terms of the amount of ammunition and warheads, the number of delivery vehicles, the level of sophistication and quality of nuclear arms... We agreed to start interdepartmental consultations under the aegis of

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1) U.S. Whitehouse, "U.S.-Russia Presidential Joint Statement on Strategic Stability," June 16, 2021. https://www.whitehouse.gov/briefing-room/statements-releases/2021/06/16/u-s-russia-presidential-joint-statement-on-strategic-stability/

2) U.S. Whitehouse, "Remarks by President Biden in Press Conference," June 16, 2021. https://www.whitehouse.gov/briefing-room/speeches-remarks/2021/06/16/remarks-by-president-biden-in-press-conference-4/

the U.S. Department of State and the Foreign Ministry of Russia."[3)]

As an evaluation of the summit, Sharon Squassoni stated: "The agenda of the bilateral summit between Presidents Joseph Biden and Vladimir Putin was jam-packed: strategic stability, cyber threats, human rights, Afghanistan, Syria, the Arctic, and more. It was no surprise, however, that the sole joint statement issued was on the topic of strategic stability. This is perhaps one of the few areas where U.S. and Russian interests do and must converge. The statement was brief and to the point: The United States and Russia share the three goals of enhancing strategic predictability, reducing the risk of armed conflicts, and reducing the threat of nuclear war and, to that end, will embark on 'a deliberate and robust' dialogue on strategic stability that will lay the groundwork for future arms control and risk reduction measures. The inclusion of the Reagan-Gorbachev statement that a nuclear war cannot be won and must never be fought, which at the height of the Cold War was needed and significant, shows just how far strategic relations have deteriorated."[4)]

Steven E. Miller stated that "Biden clearly intended to put down unambiguous markers about American positions in areas of friction of disagreement, but there was also an interest in finding areas of collaboration and cooperation. The most significant opening at Geneva was the agreement to initiate a bilateral Security Stability Dialogue aimed at promoting arms control and risk reduction measures... Agreeing to talk solves nothing and all the hard work lies ahead, but the Geneva opening provides the opportunity for a return to serious arms control—all the more important when U.S.-Russian relations are so poor."[5)]

The fact that the Summit was held and the two presidents agreed on the Joint Statement marks just the beginning of a long process to try to reach an agreement on measures to promote nuclear disarmament, and we should not be optimistic for the future. However, taking into account the historical record of the last 10 years of no progress in nuclear disarmament, we should cautiously judge this event as a useful and promising starting point for future development.

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3) Russia, Kremlin, "News conference following Russia-US talks," June 16, 2021. http://en.kremlin.ru/events/president/news/65870

4) Sharon Squassoni, "Biden in Geneva: Strategic stability is a conduit for arms control," Bulletin of the Atomic Scientists, June 17, 2021. https://thebulletin.org/2021/06/biden-in-geneva-strategic-stability-is-a-conduit-for-arms-control/

5) Steven E. Miller, "Biden to Putin in Geneva: There's a new sheriff in town," Bulletin of the Atomic Scientists, June 17, 2021. https://thebulletin.org/2021/06/biden-to-putin-in-geneva-theres-a-new-shriff-in-town/

2 Strategic Stability Dialogue

What was agreed at the summit is to embark on a bilateral Strategic Stability Dialogue, and the two nations held the first meeting on July 28 in Geneva. The U.S. Deputy Secretary of State Wendy Sherman and Russian Deputy Foreign Minister Sergey Ryabkov led delegations of officials. This meeting did not involve negotiations for nuclear arms control or risk reduction but was the occasion for a preliminary exchange of opinions about the issues the parties wanted to address. The second meeting was held on September 30, where it was agreed to establish two working groups, one that would focus on the principles and objectives of future arms control and the other on capabilities and actions with strategic effects.

First, this dialogue was decided as a framework of "bilateral" dialogue, that is, just between the United States and Russia. As a result, participation by China was excluded. The Trump administration, concerned with China's recent increase in armaments, including nuclear weapons, strongly argued for trilateral negotiations on nuclear arms control. This trilateral dialogue was not accepted, mainly because of the great differences in the numbers of nuclear warheads of the three states: The U.S., Russia, and China have 3,570, 2,585, and 350 warheads respectively. Furthermore, China strongly resisted joining the dialogue. This does not mean that the U.S. does not seek dialogue with China. While the U.S. will concentrate its efforts on dialogue with Russia, it will be necessary to find another route for the dialogue with China to build confidence in strategic situations by exchanging opinions.

Second, it was agreed to hold an "integrated" dialogue. Traditionally, when nuclear-weapon states discuss issues surrounding nuclear weapons, particularly negotiations over nuclear limitation or reduction, their most important purpose has been to establish "strategic stability," which denotes a state of affairs intended to minimize all types of risks of deterrence failure. Strategic stability refers to a state in which the postures, capabilities, and doctrines of nuclear-weapon states do not incentivize the first use of nuclear weapons in a crisis (crisis stability); second, a state in which those states have an assured retaliatory capability; and third, a state in which they do not improve their relative position by increasing strategic arsenals qualitatively or quantitatively (arms race stability). However, recently, new issues beyond the framework of nuclear weapons have been discussed under strategic stability.

Russia's principal position in this integrated dialogue was expressed by Deputy Foreign Minister Sergey Ryabkov as follows[6]:

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6) Keynote Address: Sergey Ryabkov, 2021 Carnegie International Nuclear Policy Conference, June 22, 2021. https://www.youtube.com/watch?v=yrj082o4tGM

> We have to address jointly a broad spectrum of issues on the strategic agenda. We have already proposed to our U.S. colleagues to undertake as a first step, a joint review of each other's security concerns. And the next steps in our view would be to try to outline possible ways how to address these concerns on an equal footing and mutually acceptable basis, including through arms control solutions. The underlying idea of our vision is to jointly develop a new security equation. As for offensive arms, we need to pay particular attention to nuclear and conventional systems that could be used to counterforce strikes against the territory of the other side. Associated with the post-INF dynamics, the issue of land base intermediate range missiles requires priority attention. It is also important to work our common approaches to preventing an arms race in outer space.

The U.S.'s fundamental position in this dialogue was expressed by the Under-Secretary of Defense for Policy Colin Kahl as follows[7]:

> The concept of "integrated deterrence" is what Secretary Austin has used to talk about what our goals are. When the Secretary talks about integrated deterrence, he's talking about deterrence across a number of different categories. Integrated across domains, so deterrence that is integrated across nuclear, conventional, space, cyber, informational. Deterrence across the spectrum of conflict. So, everything from high-end nuclear and conventional conflict scenarios on one end to hybrid and gray zone competition on the other end. He means integrated across the instruments of national power. The strategic stability talks will have a significant nuclear component. I think where we agree is that at the heart of this will have to be a set of questions around nuclear weapons, and then how we fold in the cyber piece, the space piece, emerging technologies like artificial intelligence, those types of things.

It is clear from these statements that the central issue of the strategic stability dialogue will be nuclear issues, but it will also consider a wide range of topics, including cyber, outer space, and new emerging technologies. As a result, the problem of how to deal with these issues, including the relationship between nuclear and other issues may emerge.

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7) Keynote Address: Colin Kahl, 2021 Carnegie International Nuclear Policy Conference, June 23, 2021. https://www.youtube.com/watch?v=2NSELljDFNk

II Reduction of Strategic Nuclear Weapons

1 Negotiations over Strategic Nuclear Weapons

The New START Treaty was extended for five years according to the provision of the Treaty. This agreement between Presidents Biden and Putin on the extension is indispensable for future progress in nuclear disarmament and is significant as a starting point for the further reduction of strategic nuclear weapons. The New START Treaty obliged the two parties to reduce the deployed warheads to 1,550 and delivery vehicles to 700. These obligations were implemented fully within seven years. However, the numbers of actually deployed warheads and delivery vehicles are considerably lower than the treaty's limits. In February 2018, the U.S. deployed 1,335 warheads, and Russia deployed 1,447 warheads, while in September 2020, the U.S. deployed 1,457 warheads, and Russia deployed 1,447 warheads.

Taking these facts into account, it seems that reducing strategic nuclear warheads to under 1,550, the limitation in the Treaty is not so difficult. This should be the first measure taken for nuclear reduction. Lynn Rusten states: "The United States should announce its intention to reduce its deployed strategic warheads to no more than 1,400 by the end of 2021 and invite Russia to take a reciprocal step. This would send an unmistakable signal of the U.S. commitment to build on the foundation of New START and provide an invitation to Russia to join in recommitting to constructive engagement on nuclear arms control and reducing nuclear risks."[8)]

President Obama in 2013 decided that the U.S. could meet the purpose of central deterrence even if the levels of strategic nuclear forces were reduced by one-third, that is, to the level of around 1,000, based on the information from the Joint Chiefs of Staff. From this point of view, Squassoni recommends that Presidents Biden and Putin now seek a joint understanding to reduce deployed strategic nuclear warheads by a third. "The most obvious approach would be to reduce warheads loadings on submarine-launched ballistic missiles (SLBM's) or reduce the intercontinental ballistic missile force. Nothing in the treaty precludes either side from fielding forces below the agreed ceilings. A joint statement or memorandum of understanding between the two presidents could accompany the cuts without further legislative action."[9)]

The chief negotiator for the New START Treaty, Rose Gottemoeller, expresses

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8) Lynn Rusten, "Next Steps on Strategic Stability and Arms Control with Russia," NPI, U.S. Nuclear Policies for a Safer World, June 2021, p.16. https://www.nti.org/analysis/reports/us-nuclear-policies-safer-world/

9) Sharon Squassoni, "How the Biden administration can secure real gains in nuclear arms control," March 30, 2021. https://thebulletin.org/2021/03/how-the-biden-administration-can-secure-real-gains-in-nuclear-arms-control

her opinion on how to conduct a successful negotiation, as follows[10]:

> To set their arms control teams up for success, Biden and Putin should issue clear, simple guidance about what exactly the new treaty will cover and when it should be completed. Then, they should step back and let negotiators do what they do best. First, the replacement for New START will focus on limiting strategic offensive arms, but will also acknowledge the relationship between strategic offensive forces and missile defense capabilities. Second, the negotiations should include weapons delivery systems, including the exotic new missile systems Putin is rolling out, as well as warheads themselves – that is, the actual bombs. Third, the presidents should set a deadline, for example, the end of 2022.

As these experts assert, we can anticipate the direction for further reductions of strategic nuclear weapons. However, it is still not clear whether negotiations will focus on a treaty that reduces only strategic nuclear weapons. In particular, the agreement on the Strategic Stability Dialogue covers many elements, including emerging weapons and technologies. There is a possibility to agree upon documents that also include other elements not directly connected with strategic offensive nuclear weapons. Further, there is also the possibility of negotiating a treaty that includes both strategic and non-strategic nuclear weapons.

2 Related issues of strategic nuclear weapons

The first issue that relates to the reduction of strategic nuclear weapons is the relationship between strategic offensive and defensive arms. Under the Strategic Arms Limitation Talks (SALT), the Anti-Ballistic Missile (ABM) Treaty was agreed upon, followed by offensive arms limitation. Further limitations and reductions of strategic offensive arms were agreed upon. However, in 2001, the U.S. unilaterally withdrew from the ABM Treaty and began to deploy theater missile defense (TMD) systems in order to defend against the threat from North Korea and Iran. On the other hand, Russia understood the TMD as having strategic capabilities and expressed deep concern about the TMD. In November 2020, the U.S. intercepted and destroyed an intercontinental ballistic missile (ICBM) target with a Standard Missile-3 (SM-3) Block IIA missile during a flight test demonstration in the broad ocean area northeast of Hawaii. Russia is eager to proceed with its own missile defense systems and to develop its offensive nuclear weapons to surpass U.S. missile defensive capabilities.

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10) Rose Gottemoeller, "A Former Nuclear Negotiator's Advice for Biden and Putin," Politico, June 14, 2021. https://carnegieendowment.org/publications/84789

These activities are no doubt the reason that the arms race will proceed rapidly.

John Tierney and Samuel M. Hickey state that "Russia and the United States should commit to publicly explaining the role of missile defenses in their nuclear deterrent strategy, and emphasizing that their missile defense systems do not target the other."[11] Regarding the significance of missile defense, John Tierney and Joe Cirincione state that, "mindful that less expensive offensive weapons can always be developed to overwhelm, sabotage, or destroy any conceivable defense system, the Biden administration can return to diplomacy, seek verifiable mutual reduction, prevent the development of new threats, and address rising concern such as the weaponization of space and cyber threats."[12]

As the steps to unlock the offensive-defensive stalemate, Steve Andreasen recommends 1) a "joint U.S./NATO-Russia analysis to develop a framework for cooperation," 2) a "joint data exchange center," 3) measures to "maximize transparency," 4) "technology exchange and joint research and development," and 5) steps to "ensure that missile defense cooperation is not rigidly linked with other issues."[13] Daryl G. Kimball emphasized the importance of the constraints on U.S. long-range missile defense capabilities, as he states that "U.S. efforts to further limit Russian nuclear weapons and bring China into the arms control process are unlikely to gain traction unless Washington agrees to seriously discuss constraints on its long-range missile defense capabilities. Fielding sufficient numbers of US missile interceptors to mitigate the threat of a limited ballistic attack from North Korea or Iran and agreeing to binding limits on the quantity, location, and capability of missile defense systems should not be mutually exclusive."[14]

The United States and Russia recognize the existence of a relationship between strategic offensive arms and strategic defensive arms in the preambular paragraph of the New START Treaty. The relationship between them is a crucial issue that cannot

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11) John Tierney and Samuel M. Hickey, "Missile Defense is not a Substitute for Arms Control," War on the Locks, May 25, 2010. https://warontherocks.com/2021/05/missile-defense-is-not-a-substitute-for-arms-control/

12) John Tierney and Joe Cirincione, "How Biden can Leverage Missile Defense in His Summit with Putin," Defense One, June 15, 2021. https://www.defenseone.com/ideas/2021/06/how-biden-can-leverage-missile-defense-his-summit-putin/174151

13) Steve Andreasen, "The Offense-Defense Relationship," NPI, U.S. Nuclear Policies for a Safer World, June 2021, pp.32-33. https://www.nti.org/analysis/reports/us-nuclear-policies-safer-world/

14) Daryl G. Kimball, "Why Biden and Putin Should Restart Talks on Strategic Stability and Nuclear Arms Control," June 14, 2021. https://www.justsecurity.org/7691/why-biden-and-putin-should-restart-talks-on-strategic-stability-and-nuclear-arms-control/

be avoided. The U.S. should submit proposals that include U.S. concessions.

The second issue related to the reduction of strategic nuclear weapons is how to deal with ICBMs. Compared to SLBMs and bombers among the triad of strategic weapons, ICBMs are particularly dangerous because they are vulnerable to the first strike and exert extreme pressures on leaders to "use or lose" them. In the United States, it has become a major issue in connection with the plan to replace Minuteman III ICBMs with new ground-based strategic deterrence (GBSD).

Frank N. von Hippel states: "There are strong arguments to be made against the new ICBMs on the basis of their cost, vulnerability, and the contribution of their launch-on-warning posture to the danger of accidental nuclear war."[15] Daryl G. Kimball argues that not only is the U.S. nuclear arsenal costly, it is excessive and redundant. The land-based leg of the U.S. nuclear triad is the most destabilizing. U.S. ICBMs are maintained on high alert, ready to launch within minutes of an order by the president. The reality is that the United States can deter and, if necessary, respond to nuclear attacks without the 400 nuclear warheads atop its 400 ICBMs.[16] William J. Perry and Tom Z. Collina assert that ICBMs "make nuclear war more likely due to a mistake by an unstable president, miscalculation, or false alarm. They make us less safe... Regardless of our ICBMs, Russia would still be unable to locate and destroy subs at sea, and thus could not escape retaliation. That is the essence of deterrence."[17]

Although these arguments are mainly concerned with United States policy, there is a high possibility that the issues will arise of a new structure of the strategic triad, particularly from the viewpoint of the reduction of nuclear risk, even in negotiations with Russia.

III Reduction of Non-Strategic Nuclear Weapons

1 Reduction and Regulation of Non-Strategic Nuclear Weapons

As there are no public announcements about the numbers and deployment areas of the U.S. and Russian non-strategic nuclear weapons (NSNWs), it will be necessary to have an exchange of transparency measures, including regarding their numbers and deployment areas, in order to start negotiations. Among experts in this area, the status

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15) Frank von Hippel, "The United States would be more secure without new intercontinental ballistic missiles," February 11, 2021. https://thebulletin.org/2021/02/the-united-states-would-be-more-secure-without-new-intercontinental-ballistic-missiles/

16) Darryl Kimball, "Enough Already: No New ICBMs," *Arms Control Today*, March 2021. P.3.

17) William J. Perry and Tom Z. Collina, "$246B for ICBMs that would be Destroyed in the Ground? No, Thanks," Defense One, April 21 2021. http://defenseone.com/ideas/2021/04/246b-icbms-would-be-destroyed-ground-no-thanks/173481/

of NSNWs is understood as follows:

The United States has approximately 100 NSNWs stored at NATO bases in Europe and approximately 130 NSNWs stored in the continental United States. The 100 NSNWs in Europe are gravity B61 warheads stored at six U.S. nuclear weapon facilities in Belgium, Germany, Italy, the Netherlands, and Turkey. Russia maintains approximately 1,870 NSNWs for use on various delivery platforms throughout its territory, and many are stored in central storage sites.

In the context of the reduction or regulation of the NSNW, as there is a large numerical difference between the U.S. and Russia, the numerical limit only on the NSNW seems to be difficult to agree. However, measures to regulate their deployment may be possible, as Steve Andreasen suggests that "the United States and Russia would agree to consolidate Russian and U.S. nuclear warheads, respectively, at central storage sites away from operations bases in and near Europe (west of the Urals)... That is, Russia could agree to remove nuclear warheads from storage sites associated with operational bases near Russia's western border (including in Kaliningrad), and to consolidate those warheads at declared central storage sites in Russia's interior. In return, the United States would agree to remove its forward-based nuclear weapons from NATO bases in Europe and consolidate them at central storage sites in the United States."[18)]

However, these measures could pose a dilemma for NATO. The value of the European-based bombs is far higher in political terms and the assurance of allies. Such an outcome may call into question U.S. readiness to use nuclear weapons in the alliance's defense. At the end of the 1970s, when the Soviet Union deployed SS-20 missiles, the decoupling of NATO from the U.S. was hotly discussed. Then, NATO adopted a dual decision to deploy and negotiate intermediate-range nuclear forces. In particular, the Baltic and Eastern European regions may oppose this option.

The second issue is concerned with the numerical limitation on not only NSNWs but also comprehensive limitations, including on strategic and non-strategic nuclear weapons. Steven Pifer argues that "Given the disparity in numbers, a narrow stand-alone negotiation on NSNWs has little prospect of success...A more viable approach would seek an aggregate limit covering all U.S. and Russian nuclear warheads. In such an arrangement, the U.S. numerical advantage in non-deployed strategic warheads would partially offset the Russian advantage in NSNWs. Within such an

18) Steve Andreasen, "Reducing U.S. and Russian Non-Strategic and Forward-Deployed Nuclear Weapons," NPI, U.S. Nuclear Policies for a Safer World, June 2021, p.27. https://www.nti.org/analysis/reports/us-nuclear-policies-safer-world/

overall aggregate limit, the sides could negotiate a sub-limit to constrain the number of deployed strategic warheads on ICBMs and SLBMs.[19)]

The U.S. nuclear stockpile number is 3,800, of which 230 are B61 nuclear bombs designated as non-strategic. Russia's nuclear stockpile numbers are less than 4,500 warheads, with 1,870 categorized as non-strategic or defensive. For a notional agreement, Pifer assumes "an aggregate limit of no more than 2,500 total nuclear warheads. Within that aggregate, there could be a sublimit of no more than 1,000 deployed ICBMs and SLBMs."[20)]

Richard Burt and Jon Wolfsthal argue that "President Biden should seek for the first time to limit all nuclear weapons in both countries, with effective verification. This would include a cap on all weapons regardless of range and whether they are deployed or in storage. Both countries now possess roughly 3,500-4,500 such weapons and could maintain rough parity under such arrangement." Although they do not demand the reduction of the total numbers, they assert that this total weapon constraint "would constitute a major step forward in nuclear transparency and predictability... and would require both countries to accept more intrusive verification measures."[21)]

The negotiation of the regulation and reduction of non-strategic nuclear weapons will require starting from the construction of a fundamental framework, and there will be many opinions on concrete measures for it. As a result, negotiations will be complex and time-consuming.

2 Related Issue to Non-Strategic Nuclear Weapons

The most important issue related to non-strategic nuclear weapons is how to cope with the situation in which the United States withdrew from the INF Treaty and the regulations under the Treaty no longer exist. The INF Treaty was signed in 1987 during the Cold War era and entered into force in 1988. The Treaty provided for a total elimination of land-based intermediate-range (1,000-5,500 km) missiles and shorter-range (500-1,000 km) missiles within three years. The obligations were completely

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19) Steven Pifer, "The Art of Negotiating Non-Strategic Nuclear Weapons," National Interest, June 4, 2021. https://nationalinterest.org/feature/art-negotiating-non-strategic-nuclear-weapons-186848

20) Steven Pifer, "Nuclear Arms Control in the 2020s: Key Issues for the US and Russia," Brookings, April 8, 2021. https://www.brookings.edu/blog/order-from-chaos/2021/04/08/nuclear-arms-control-in-the-2020s/

21) Richard Burt and Jon Wolfsthal, "Why Joe Biden Needs to Go Big on Nuclear Arms Control," National Interest, June 1, 2021. https://nationalinterest.org/feature/why-joe-biden-needs-go-big-nuclear-arms-control-186642

implemented, which helped build confidence between the two countries and played a significant role in leading to the end of the Cold War.

However, President Trump declared a unilateral withdrawal from the Treaty because Russia was in violation of the Treaty by deploying its new 9M729 missiles. The Treaty became null and void on August 2, 2019. While Russia argues that the new missiles do not constitute the violation of the Treaty, promises that unless the United States deploys a new land-based intermediate-range missile, Russia will continue the moratorium of the deployment, and proposes reciprocal verification measures with regard to the Aegis Ashore systems with Mk-41 launchers deployed at the U.S. and NATO bases in Europe as well as 9M729 missiles at the site of Russia in the Kaliningrad region.[22)]

On this issue, Daryl G. Kimball states that "Biden, in coordination with NATO, should counter Russia's 2020 proposal for a verifiable moratorium on the deployment in Europe of missiles formerly banned by the INF Treaty. Although imperfect, the Russian proposal is a starting point. Another option would be to verifiably ban nuclear-armed ground-launched and sea-launched cruise and ballistic missiles."[23)]

Richard Burt and Jon Wolfsthal argue that the best outcome would be "a renewed ban on all INF weapons, nuclear-armed and conventional, but Moscow's violations of past deals may make that impossible. Instead, the United States and Russia ... should consider a ban on nuclear-armed INF missiles alone, a step that can be verified. America has no plans to develop nuclear-armed INF systems. Russia's stocks of nuclear 9M729s are thought to be quite small... If an outright ban on nuclear INF missiles is not possible, strict numerical limits and ensuring that any such systems are not co-located with conventional missiles would be preferable and more predictable than one where all such systems are unconstrained."[24)]

Squassoni states that "Russia's deployment of ground-launched cruise missiles known as 9M729 missiles potentially threatens European capitals once again... and the category of intermediate-range missiles may once again be up for negotiations." She continues that "the United States should pocket Russia's proposal on the moratorium with joint transparency measures and seek negotiations on a global treaty to ban both nuclear and conventionally armed ballistic and cruise missiles of that

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22) Russia, Kremlin, "Statement by Vladimir Putin on additional steps to de-escalate the situation in Europe after the termination of Intermediate-Range Nuclear Forces Treaty (INF Treaty)," October 26, 2020. https://en.kremlin.ru/events/president/news/64270

23) Daryl Kimball, op. cit., note 14.

24) Richard Burt and Jon Wolfsthal, op. cit., note 21.

range."[25]

IV Reduction of the Risk of Nuclear Use

1 Reduction of the Role of Nuclear Weapons

The first important progress is the fact that Presidents Biden and Putin agreed on the principle that "Nuclear war cannot be won and should not be fought' at the summit. This principle was agreed upon by President Reagan and Secretary-General Gorbachev in 1986 at the peak of the Cold War. They started negotiations on nuclear weapons based on this principle, building mutual confidence, and agreed upon the INF Treaty. This principle was a starting point for the negotiations on nuclear disarmament and the end of the Cold War.

Jane Kinninmont emphasizes this principle, stating that "the Biden-Putin statement is significant as a step reinforcing the taboo on nuclear weapons and reducing the risks of creeping entanglement between nuclear weapons and newer weapons, in a world where tensions between major states are rising." She insists that "leaders from rich countries ... have a responsibility to work to reduce the risks of nuclear escalation, and ensure that a nuclear war—the unwinnable war—is never fought."[26] The statement is also rated by the Unite Nations Institute for Disarmament Research (UNIDIR) report as a significant measure to dissuade nations from the use of nuclear weapons in the face of extreme circumstances.[27] The Secretary-General of the United Nations Antonio Guterres has suggested the value of the U.S. and Russia, as well as other nuclear-weapon states, reaffirming the statement. It is strongly recommended that the five nuclear-weapon states submit a joint statement.

The Treaty on the Prohibition of Nuclear Weapons (TPNW), which entered into force in January 2021, prohibits almost all activities of nuclear weapons, including the use or threat of the use of nuclear weapons. The TPNW was negotiated and adopted without the participation of the nuclear-weapon states, and they are not expected to join soon. As a result, among the nuclear-weapons states, the obligations of the TPNW will not become the rule of positive international law. The main purpose of the TPNW is to stigmatize and delegitimatize nuclear weapons in the long term.

The second important matter in this regard is the adoption of the policy of "no

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25) Sharon Squassoni, op. cit., note 9.

26) Jane Kinninmont, "Why can't world leaders agree that a nuclear war should never be fought?" The Guardian, 21 Jun 2021. http://www.theguardian.com/commentisfree/2021/jun/21/world-leaders-biden-putin-nuclear-war

27) Wilfred Wan, *Nuclear Risk Reduction: A Framework for Analysis*, UNIDIR, 2019, pp.20-21. https://unidir.org/publication/nuclear-risk-reduction-framework-analysis

first use" or "the sole purpose" policy. The former is the policy not to use nuclear weapons first, and the latter is the policy that "the sole purpose of the nuclear weapons is to deter the use of nuclear weapons by other states." They differ slightly in emphasis, but we can treat them as essentially identical.

The nuclear armed states, except China and India, depend on the policy of "nuclear ambiguity" or "calculated ambiguity," which expresses a threat against other states. Under the Obama administration, the United States pursued the adoption of the sole purpose policy but failed in the face of strong opposition from the allied states that depend on the extended nuclear deterrence of the United States.

As Biden as vice president supported the adoption of the policy, it has been hotly discussed in recent times. Biden asserted in *Foreign Affairs* that he would pursue the sole purpose policy if he became president.[28] The Democratic Party Platform agreed upon in July 2020 includes the same message."[29]

Gareth Evans, a co-chairman of the International Commission on Nuclear Non-Proliferation and Disarmament (ICNND), enthusiastically recommended the adoption of the policy of no first use, explains the reasons for its adoption as follows. First, to the question, "why not no use instead of no first use," he responds that although the former is desirable, there is no possibility that it will be accepted by nuclear-weapon states and the only way forward is incremental. "The process needs to focus on serious nuclear risk reduction, decrease the salience of nuclear weapons and create doubts in policymakers' minds about not only the legitimacy but the utility of nuclear deterrence. The priority now is to direct immediate advocacy energy, not into elimination, but rather minimization. In such a risk reduction agenda, achieving universal buy-in by the nuclear-armed states to no first use would be one of the four highest priorities." This measure will be strengthened by de-alerting, reduced deployment, and decreased stockpiles.[30]

Bruce Blair strongly appeals to the adoption of the no first use policy, stating: "Because of the inherent danger of first use of nuclear weapons, the US Government should, first, terminate operational planning, training, and exercising for the contingency of striking first. Introducing nuclear weapons into conflict—indeed merely

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28) Joseph R. Biden, Jr. "Why America Must Lead Again: Rescuing U.S. Foreign Policy After Trump," *Foreign Affairs*, March/April 2020. https://www.foreinaffairs.com/articles/united-states/2020-01-21/why-america-must-lead-again

29) 2020 Democratic Party Platform. http://www.democonvention.com/wp-content/uploads/2020/08/2020/07-31-Democratic-Party-for-Distribution.pdf

30) Gareth Evans, "Revisiting the case for no first use of nuclear weapons," May 5, 2021. https://thebulletin.org/2021/05/revisiting-the-case-for-no-first-use-of-nuclear-weapons/

preparing for it—is a recipe for catastrophic escalation. Scuttling the first-use option would also remove the biggest opportunity for a disturbed president to trigger Armageddon with a single bad call."[31)]

Jonathan Granoff recommends that President Biden and Putin, who agreed on the Strategic Stability Dialogue, also agree that neither side will seek military superiority and that they will strive to prevent any war between them. "The best way to start enshrining that idea and building trust is to adopt a No First Use policy... That would build trust and confidence globally."[32)]

However, Steve Andreasen cautiously responded by stating that: "Given the potential for resistance, a strategy for moving toward sole purpose declaratory policy will have to clearly lay out the rationale and benefits, while reassuring U.S. allies about the enduring and reliable U.S. commitment to their security... After clearly articulating the U.S. intention to move toward a sole purpose policy, the United States could challenge other nuclear-weapon states to make the same commitment."[33)]

On June 28, 2021, Russia and China agreed to extend the 20-year Treaty of Good Neighborliness and Friendly Cooperation to last for another five years: "The contracting parties reaffirm their commitment that they will not be the first to use nuclear weapons against each other and not target strategic nuclear missiles against each other."[34)] Further, China explained at the Conference on Disarmament that, as early as 1964, China's state priorities publicly reflected a rare "no-first-use" (NFU) pledge. More importantly, Beijing's efforts have evolved in recent decades to advance a treaty of "mutual no-first-use" among P5 states.[35)]

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31) Bruce G. Blair, "Loose cannons: The president and US nuclear posture," Bulletin of the Atomic Scientists, January 1, 2020. https://thebulletin.org/premium/2020-01/loose-cannons-the-president-and-us-nucler-posture/

32) Jonathan Granoff, "Can Biden and Putin Ease Nuclear Dangers Like Reagan and Gorbachev? Opinion," 6/24/21. https://www.newsweek.com/can-biden-putin-ease-nuclear-dangers-like-reagan-gorbachev-opinion-1603945

33) Steve Andreasen, "Declaratory Policy: Advancing Sole Purpose," NPI, U.S. Nuclear Policies for a Safer World, June 2021, pp.7-11. https://www.nti.org/analysis/reports/us-nuclear-policies-safer-world/

34) "Russia, China Pledge to Not Use Nuclear Weapons First, Avoid Firing Missiles at Each Other," Newsweek, June 28, 2021. http://www.newsweek.com/russia-china-pledge-not-use-nuclear-weapons-first-avoid-firing-missiles-each-other-1604865

35) "Conference on Disarmament: China spells the future of common security," June 12, 2021. http://news.cgtn.com/news/2021-06-12/Conference-on-Disarmament-China-spells-the-future-of-common-security-1122AMVLByo/index.html

2 Reduction of the Operational Posture of Nuclear Weapons

Today, the U.S. Strategic Command keeps virtually all of its 400 single-warhead Minuteman III ICBMs launch-ready, as well as about as many warheads on its SLBMs at sea, to be able to launch the ICBMs before they and the U.S. nuclear command and control system can be partially destroyed by an incoming Russian attack. This posture also puts the United States in a position to be able to quickly implement a "damage-limiting" strike on Russia's or China's nuclear forces in case they appear to be preparing to launch. Russia is believed to have a large fraction of its ballistic missiles in a similar "hair trigger" posture, and the U.S. believes that China is preparing to place its silo-based ICBMs into such a posture.

Frank N. von Hippel criticizes the launch on warning by stating that it is controversial for two reasons: "First, history has shown that false warnings do occur due to equipment failure and human error, and today there is the additional danger of hackers. Second, a launch-on-warning posture is indistinguishable from being constantly poised to mount a first strike." He then states that President Biden "should end the launch-on-warning option and the danger it entails of an unintended nuclear Armageddon. He could order Strategic Command to plan the U.S. nuclear posture on the assumption that he will not launch on warning."[36)]

Blair also recommends that the U.S. "terminate operational planning, training, and exercising" for launch on warning, stating: "The feasibility of safely implementing launch on warning under realistic combat conditions, including cyber-attack, is so much in doubt that it should be eliminated from the repertoire of the launch protocol. This step would in turn eliminate the rationale for keeping vulnerable, 'use-or-lose' silo-based missiles on hair-trigger alert; they could instead be de-alerted or eliminated so that they no longer pressurize the decision process or invite hacking of their launch circuitry."[37)]

Steve Andreasen argues: "The United States should work with other nuclear weapons states, beginning with Russia, to set the goal of removing all nuclear weapons from prompt-launch status globally over the next decade. Working first with Russia to take nuclear missiles off prompt-launch status—with a priority on silo-based ICBMs—would increase time for U.S. and Russian leaders to assess their options and make a more considered decision in response to a suspected or actual attack. This change would significantly reduce the risk of an accidental, mistaken, or unauthorized launch

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36) Frank N. von Hippel, "Biden should end the launch-on-warning option," June 22, 2021. https://thebulletin.org/2021/06/biden-should-end-the-launch-on-warning-option/

37) Bruce G. Blair, op. cit., note 31.

of a nuclear ballistic missile, and it would set an example for all states with nuclear weapons."[38)]

This issue has been continually discussed at NPT review conferences. At the 2000 conference, the Final Document included the agreement on concrete measures to further reduce the operational status of nuclear weapon systems. The New Agenda Coalition (NAC) has demanded as concrete measures de-alerting, de-mating of nuclear warheads from delivery systems, and withdrawal of all nuclear weapons from operational deployment.[39)] However, the nuclear-weapon states have opposed these concrete measures except for de-targeting.

3 Prohibition of Cyberattacks and Anti-Satellite Attacks

The first challenge is the prohibition of cyberattacks on military facilities. At the U.S.-Russian Summit, very aggressive debates on cyberattacks were conducted between the two presidents. Cyber security is widely discussed globally as one of the most important issues. In this paper, the issue is analyzed only in connection with nuclear disarmament.

Cyber threats to nuclear weapons systems increase the risk of their use as a result of false warnings or miscalculations, as well as the risk of unauthorized use of nuclear weapons, and could undermine confidence in the nuclear deterrent, affecting strategic stability. All countries with nuclear weapons are vulnerable to cyberattacks, and the potential consequences of any nuclear launch due to miscalculation, unauthorized use, or a failure of nuclear deterrence would have global implications. In these circumstances, rapid international actions to cope with cyberattacks have become an urgent challenge.

The Euro-Atlantic Security Leadership Group (EASLG) proposes: "The United States and Russia should initiate a bilateral dialogue on cyber-nuclear threats ... to develop mutual understanding on how cyber threats can affect nuclear deterrence and strategic stability—and amplify the potential miscalculation. Talks should be held to develop a shared understanding of the potential consequences and identify practical steps minimizing the risks, through both bilateral and multilateral mechanisms. As an example, countries could seek ways to cooperate internationally to improve early warning systems—including through military-to-military cooperation."[40)]

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38) Steve Andreasen, "Reducing the Risk of Nuclear Use by Increasing Leadership Decision Time," NPI, U.S. Nuclear Policies for a Safer World, June 2021, p.5. https://www.nti.org/analysis/reports/us-nuclear-policies-safer-world/

39) Statement by the New Agenda Coalition, 24 April 2000; NPT/CONF.2000/WP.3, 24 April 2000.

40) Support for Cooperation among Governments to Address Cyber Threats to Nuclear Weapons↗

The report of the UNIDIR advances as a measure to reduce the risk of use of nuclear weapons by escalation, the designation of nuclear C3 as off-limits to cyber interference.[41)]

The report of the Center for Strategic and International Studies (CSIS) argues: "Cyber threats to C4ISR and critical infrastructures are ripe material for bilateral discussion regarding a potential code of conduct or joint statement of principle prohibiting the use of cyberattacks against nuclear command-and-control infrastructure and early warning systems... because of challenges around verification, it may be difficult to achieve legally binding agreements on uses of cyberattacks, but establishing rules of the road and norms could help clarify intentions and reduce cyber risks."[42)]

Andreasen argues: "The Biden administration should launch a new dialogue leading to the establishment of cyber 'rules of the road.' ... Initiatives to establish rules of the road or redlines precluding cyberattacks on nuclear facilities, nuclear command-and-control structures, or early warning systems would reduce fears of being blinded in the early state of a crisis of conflict and help increase leadership decision time."[43)]

Jakob Hake states that "cyber-arms control efforts should focus on the nature of cyber risks and deemphasize the importance of the structure and architecture of an agreement," and proposes "a convention that requires states to make a political commitment not to use their cyber capabilities against two targets: 1. Civilian critical infrastructure and 2. Nuclear command and control."[44)]

Generally speaking, cyberattacks, including against public or civilian infrastructure, are internationally recognized as extremely dangerous. At the U.S. and Russian summit in June 2021, the two nations strongly criticized each other over cyberattacks. Rapid measures to solve this issue are urgent. Early agreements that prohibit cyberattacks against command and control centers for nuclear weapons and early warning

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↘ System, Statement by the Euro-Atlantic Security Leadership Group (EASIG), February 2019. https://search.yahoo.co.jp/search?p=support+for+cooperation+among+governments+to+address+cyber+Use+threat+to+nuclear+weapon+systems&fr=top_ga1_sa&ei=UTF-8&ts=73452&aq=-1&oq=&at=&ai=160dfcb5-a888-4300-8f55-17ee08109c96

41) Wilfred Wan, op. cit., note 27, p. 24.

42) Heather A. Conley, Cyrus Newlin, and Roksana Gabidullina, "The Future of U.S.-Russian Arms Control: Principles of Engagement and New Approaches," March 12, 2021. https://www.csis.org/analysis/future-us-russian-arms-control-principles-engagement-and-new-approaches

43) Steve Andreasen, op. cit., note 38, p.5.

44) Jakob Hake, "A Cyber Convention on Critical Infrastructure and C2," *Arms Control Idol: Ideas for the Future of Strategic Cooperation and Community*, Centre for Science & Security Studies, Kings College London, 2021 Edition, p.15. https://www.kcl.ac.uk/csss/assets/arms-control-idol-ideas-for-the-future-of-strategic-cooperation-and-community.pdf

infrastructures should be achieved as soon as possible.

The second challenge is concerned with the peaceful use of outer space, and the prohibition of attacks by anti-satellite weapons is one of the most urgent issues. Anti-satellite weapons (ASAT) are space weapons designed to incapacitate or destroy satellites for strategic or tactical purposes. Some directly attack satellites, while others attack the communication links of satellites. Since the 1991 Gulf War, armed forces have become reliant on these space assets for the conduct of military operations. In 2007, China used such a weapon to destroy one of its defunct weather satellites, in the process producing thousands of debris fragments that rained down from orbit. The United States carried out a similar test a year later, followed by India and by Russia a year later, which mounted three anti-satellite tests.

Samantha Potter analyzes that "Given the military importance of satellite networks, this makes the anti-satellite weapons ideal for disrupting communication links during a conventional conflict. For China, the use of anti-satellite missiles would be an effective strategy to weaken U.S. effectiveness. Also recognizing the reliance of the U.S. and NATO on space-based capabilities, the use of anti-satellite weapons could appeal to Russia."[45] In these circumstances, those who wish to regulate states' activities to reduce the risk of the use of nuclear weapons have advanced the following measures.

The CSIS report argues that the increased use of space-based assets, particularly anti-satellite weapons designed to inhibit missile warning or reconnaissance and surveillance systems, must be addressed within any weapons treaty. "Outer space bears great potential for disrupting the strategic balance. To prevent such a disruption, Moscow and Washington could explore a formal agreement to ban anti-satellite tests and space-based conventional weapons and develop some form of transparency and verification mechanisms. Signaling mutual restraint may prompt other parties to make their own unilateral commitments not to target space-based infrastructure."[46]

The UNIDIR report recommends that "in recognition of entanglement scenarios, an interrelated set of ideas includes a code of conduct for space-based assets, or to establish guidelines on—or even prohibit—the testing and deployment of anti-satellite weapons."[47]

Thomas Cheney states: "conducting an anti-satellite weapon (ASAT) test is becoming something of a rite of passage for space powers," and "future proliferation

45) Samantha Potter, "Satellite: Space, the final war zone," Chatham House, 1 August 2021. https://www.chathamhouse.org/publications/the-world-today/2021-08/satellites-space-final-war-zone

46) Heather A. Conley, op. cit., note 42.

47) Wilfred Wan, op. cit., note 27, p.26.

of ASAT tests could lead to a catastrophic cascade scenario that would render the near-Earth space environment effectively unusable." He highly recommends that states should adopt an "ASAT Test Ban Treaty."[48)]

John Lauden, Frank G. Klotz, and William Courtney note that "negotiating legally binding limits on weapons or activities that threaten the use of space by all nations has so far proven elusive... In the future, the problem of defining an anti-satellite weapon (ASAT) is likely to get even more complicated... Even if an agreement could be reached of the definition of an ASAT system, verifying compliance with arms control limits would prove challenging." As a result, they emphasize the importance of transparency and confidence-building in the space domain.[49)]

There exists an almost universal consensus among the experts in this field of the need to deal with the issues of the prohibition of cyberattacks and ASAT attacks as soon as possible, and they point out the difficulty of doing so. The conclusion of an internationally binding treaty may be preferable but seems too difficult. As a first step, the states concerned should examine non-legally binding rules and pursue political agreements on fundamental rules.

Conclusion

This paper, in the context of the progress in nuclear disarmament that may be achieved under the new Biden administration, selected topics that were estimated to be important, introduced the opinions of numerous experts in these fields and showed methods that might be relevant, as well as difficulties in implementing them.

First, the U.S.-Russian summit meeting should be rated highly, as the joint statement expresses the important promise of the future Strategic Stability Dialogue. The agreement between the two presidents on the principle that nuclear war cannot be won and should not be fought should also be praised because it constitutes a tailwind toward progress on nuclear disarmament. As the joint statement includes the purpose of seeking to lay the groundwork for "arms control and risk reduction measures," progress in nuclear disarmament can be expected.

Second, regarding the issue of the reduction of strategic nuclear weapons, there is a possibility of an agreement to reduce them by one-third. However, as Russia has

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48) Thomas Cheney, "Time for an ASAT Test Ban Treaty," *Arms Control Idol: Ideas for the Future of Strategic Cooperation and Community*, Centre for Science & Security Studies, Kings College London, 2021 Edition, p.15. https://www.kcl.ac.uk/csss/assets/arms-control-idol-ideas-for-the-future-of-strategic-cooperation-and-community.pdf

49) John Lauden, Frank G. Klotz, William Courtney, "How to Avoid a Space Arms Race," Rand, October 26, 2020. https://www.rand.org/blog/2020/10/how-to-avoid-a-space-arms-race.html

always argued for the intrinsic connection between the offensive and defensive arms, an arrangement will be necessary to find a solution to this. Furthermore, there is a vigorous discussion of the planned modernization of the U.S. ICBMs, and this issue will affect measures to reduce strategic nuclear weapons.

Third, regarding the issue of the reduction of non-strategic nuclear weapons, an agreement focused only on their numerical reduction will be difficult to reach, as there is a large numerical difference between the U.S. and Russia. There are some possibilities for agreement on regulations on their deployment. Further, limitation of the total number of nuclear weapons will be possible because there is not much difference if all nuclear weapons are included, both strategic and non-strategic, including non-deployed nuclear weapons. In addition, it is necessary to deal with intermediate-range nuclear weapons that were eliminated by the INF Treaty.

Fourth, on the reduction of the risk of nuclear use, the policy of "the sole purpose," which President Biden argues for, or "no first use" should be pursued unilaterally as soon as possible by the U.S. Bilateral agreement between the U.S. and Russia would be preferable, while the agreement between the five nuclear-weapon states would be much better still. The U.S. and Russia should discuss the reduction in operational posture. Prohibitions of cyberattacks and anti-satellite weapons (ASAT) as a new measure should be negotiated as soon as possible, and the states concerned should agree on non-legally binding agreements as a first step.