

The TPNW: Challenges and Opportunities for Ukraine and the United States

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Abstract

The Treaty for the Prohibition of Nuclear Weapons (TPNW) entered into force on 22 January 2021. By creating a symbiotic collaboration, the United States and the Ukraine could both benefit. We propose they reconsider their initial rejections of the TPNW and how signing now, jointly, could help reduce the risks of nuclear war, affirm the respective obligations of both states under Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), help build a viable TPNW verification system, and boost international support for nuclear disarmament. The special relevance of the TPNW for Ukraine stems from Ukraine's legacy as a part of the former Soviet Union. Under the Biden Administration, the United States is now seeking to undo the damage done to its position of global leadership in nuclear security affairs by the previous administration. Entry into force of the TPNW demands that the Biden Administration define its policies on whether to continue to reject the TPNW or to find a more constructive path forward. Our paper identifies opportunities that could enable the U.S. and the Ukraine to demonstrate leadership and advance the prospects for peace.

Introduction

As of 22 January 2021, the world now has in force a nuclear disarmament treaty, the TPNW. Nine states currently possess nuclear arsenals; none has shown any positive support for the TPNW, and some have pressured other states to reject the TPNW. As provided in the TPNW, the Parties plan to meet to launch the Treaty before its first anniversary in Vienna on 16 January 2022.

We are hopeful that the nine-current nuclear-armed states might decide to act boldly and eliminate their respective arsenals unilaterally or agree to time specific schedules in accordance with the language of the TPNW. However, we anticipate that progress towards disarmament will not come quickly, quietly, or cheaply, and is more likely to be in measured steps. We are optimistic that progress can be made if the TPNW is implemented to encourage successive steps while reducing the primary and collateral risks associated with the existing nuclear arsenals.

To enable the TPNW to provide a framework phased or synchronous stepwise progress towards disarmament, two formidable obstacles need to be addressed:

First, the TPNW does not provide a clear path for nuclear-armed states to synchronize disarmament progress with steps agreed between nuclear adversaries. The United States and Russia would be more likely to achieve progress building on the history of their bilateral arms control treaties and including China in a trilateral arrangement under the aegis of the TPNW will at some point become essential for continued progress. A second trilateral arrangement for China, India and Pakistan would also seem to be essential.

Second, the verification financing arrangement currently provided in the TPNW is unworkable. Requiring each nuclear-armed state to pay for its disarmament verification could enable a state to limit verification by withholding funds, cause the verification authority to lose its continuity of verification by disruptions in funding, and make it

difficult if not impossible to maintain the same verification standards from state-to-state. An alternative financing arrangement involving periodic nuclear warhead taxes could merit consideration.ⁱ

The TPNW Parties should choose several ways to resolve these shortcomings; failure to do so will likely doom the TPNW to failure.

Progress towards disarmament will also demand a mechanism for reducing tensions that might escalate into conflict, thereby reducing the risks of nuclear war. This should be a central function of the verification authority created to serve the needs of the TPNW. Moreover, the TPNW verification authority must also address collateral risks associated with nuclear arsenals that are not currently within the purview of any international oversight, which would benefit the United States, Ukraine, and the world at large. Indeed, failure to manage these risks provide nuclear-armed states with reasons for postponing the steps required for progress towards peace, security, and disarmament. These collateral risks include:

1. Unauthorized use of nuclear weapons.
2. Accidents or sabotage involving nuclear weapons.
3. Source through which a state, subnational organization or individual could acquire nuclear weapons, components, fissile material, or nuclear weapon know-how, with or without the support of the governments involved. And,
4. Further production and/or stockpiling of fissile material, including fissile material released from use in or committed to use in nuclear weapons.

It seems extremely unlikely that a second disarmament treaty will be created. Hence, the TPNW Parties should decide on how to correct its shortcomings in order to make the TPNW work.ⁱⁱ

Should the TPNW Parties agree that progress towards disarmament would be far more likely if the TPNW addressed the risks of nuclear war and the collateral risks above, they might include such considerations within the scope of activities to be authorized for the TPNW verification authority. Such an approach would also seem to provide each nuclear-armed state with added mechanisms for affecting the behavior of all other nuclear-armed states, especially their principal nuclear adversaries.ⁱⁱⁱ

Recall that Article VI of the NPT currently obligates all NPT Parties – including the Ukraine and the United States:

Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.

It is remarkable – perhaps miraculous – that after Hiroshima and Nagasaki no nuclear weapons have been used, that tensions that could have brought nuclear war have been managed successfully, and that no nuclear weapons were acquired by terrorists. The use of nuclear weapons came quite close on several occasions during the last 76 years, and accidents involving nuclear weapons were too frequent for comfort.^{iv} To past threats, cyber vulnerability demands additional attention.

How can mankind continue to avoid nuclear war or acts that might be misinterpreted, leading to nuclear outcomes? How can the TPNW contribute to managing risks while pushing progress towards disarmament?

Ukraine and the United States may seem to be an odd couple in relation to the TPNW. Both have been linked in recent history, and connections such as we propose might help both to build a foundation for the close trust and cooperation they need. If Ukraine and the U.S. reconsider their past rejections and jointly sign the TPNW, they would contribute to international peace and security and help reduce the risks of nuclear war. Signing would reaffirm their respective obligations under Article VI of the NPT, boost international support for nuclear disarmament, and contribute to building a viable TPNW verification system. Together, Ukraine and the U.S. would present a choice for all other nuclear-armed states causing each to reconsider its national position.

The Ukraine

Ukraine urgently needs a sustainable plan for peace and prosperity. Ukrainians recognize that their security will be enhanced if Ukraine is accepted into the EU and NATO. President Zelensky noted recently “that Ukrainians are Europeans in terms of geography, values and aspirations, and Ukraine will definitely be in the European Union.”^v NATO Secretary General Jens Stoltenberg “thanked Ukraine for its important contributions to NATO missions and operations and stressed that the country’s status as an Enhanced Opportunities Partner will deepen NATO-Ukraine cooperation.”^{vi}

While not an obvious candidate for bridge-building, the TPNW might provide one possible means to realize Ukraine’s needs.

Recall that the Ukraine was one of the original constituent republics of the Union of Soviet Socialist Republics (USSR) in 1922 and regained its independence only after the Soviet Union collapsed in December of 1991. When the USSR collapsed, approximately 1,900 Soviet strategic nuclear warheads and between 2,650 and 4,200 Soviet tactical nuclear weapons were orphaned in the Ukraine.^{vii} By 1996, all Soviet warheads had been repatriated to Russia.^{viii} Urging its agreement to disarm, Ukraine received assistance from Russia and from the U.S. Cooperative Threat Reduction Program to dismantle or destroy ICBMs, ICBM silos, heavy bombers, and cruise missiles. All ICBM silos were destroyed by 2002, all ICBMs were dismantled or transferred to Russia, and all heavy bombers based in Ukraine were eliminated by 2001.^{ix,x}

Ukraine’s sovereign rights and its territorial integrity were guaranteed by Russia, the United States, and the United Kingdom in what has come to be known as “the Budapest Memorandum,” which failed to function as intended.^{xi,xii}

For its part, the Ukraine facilitated the agreed repatriation and weapon systems destruction. It signed the NPT as a “non-nuclear-weapon State” and concluded the required comprehensive IAEA Safeguards Agreement (CSA), and an Additional Protocol (AP) with the IAEA. Ukraine has also sought to improve its security by embracing international and multilateral mechanisms addressing, for example, Chornobyl and the removal of legacy HEU.^{xiii}

By signing the TPNW, Ukraine would demonstrate its intention to never again acquire nuclear weapons, and its continuing commitment to peace and multilateral mechanisms for peaceful conflict resolution. By signing the TPNW, the Ukraine would join Kazakhstan as the second of the three former Soviet Republics to have repatriated Soviet nuclear weapons and subsequently become a Party to the TPNW. For its part, Ukraine would have to decide that a close alliance with the United States could advance its national security interests, enhance its chances for NATO and EU membership, and spur the governmental changes needed to secure such a future.

Should the Ukraine sign the TPNW, its legal verification obligations would be limited as provided in Article 4.1 of the TPNW. Open questions remain on how the TPNW will be implemented and how the Ukraine might voluntarily contribute to its development.^{xiv} For example, Ukraine could contribute to the success of the TPNW by inviting the TPNW verification authority^{xv} to verify that the nuclear weapon support infrastructure existing in the Ukraine had in fact been eliminated.^{xvi} Such a voluntary confidence-building measure would help to build the TPNW verification system, and importantly, help unify the Ukrainian people to build their future by understanding their nuclear weapons legacy. Such steps might also help the Ukraine gain membership in NATO and the EU.

It might be hoped that the framework to be created by the TPNW will enhance the robustness and durability of any future disarmament commitments, and we expect that Ukraine should champion this goal.

The United States

The U.S. places great importance on the continued success of the NPT. Successive NPT review conferences have reflected growing concerns over the unwillingness of NPT nuclear-weapon States to fulfill their vows to make progress on Article VI. Today, Russia is exploring hypersonic weapons and nuclear-powered cruise missiles; China is expanding its strategic nuclear forces; and Britain is also increasing its nuclear arsenal. With the delay of the 2020 NPT Review Conference caused by the covid pandemic, President Biden must soon decide what position the U.S. will take.

Those responsible for drafting the TPNW focused on the moral issues associated with nuclear weapons.^{xvii} While many would hope that the United States might set in place a plan to eliminate its nuclear arsenal and its nuclear weapons complex, and vouchsafe any return to nuclear weapons, we believe that U.S. nuclear weapons have—until now—prevented World War III. Unilateral U.S. disarmament could endanger peace rather than make it more likely. But while draconian steps could be unwise, the United States must recognize its obligations to seek peace along a pathway intended to secure through progress towards nuclear disarmament.^{xviii}

Noting that the U.S. and Russia have a long history of bilateral nuclear arms control treaties, the willingness of the United States to reduce its nuclear forces will be greater if the Parties agree that the United States could specify that its nuclear arms reductions and related disarmament steps would be based on bilateral agreements with Russia under the aegis of the TPNW. This would continue long-standing U.S.-Russian bilateral arms controls, while providing a means for TPNW Parties to be involved. These arrangements should anticipate that China would join this mechanism in three-party arrangements when the TPNW parties and the U.S., Russia and China agree.^{xix} (Note that a similar arrangement might be appropriate for China, India and Pakistan.)

In Conclusion

This appears to be a moment when new decisions could begin the steps that one day could lead to a world free of nuclear weapons. No doubt many proposals will be advanced. Of fundamental importance will be the policies coming from the Biden Administration, reflecting the NPT Review and the entry into force of the TPNW.

Our proposal is intended to encourage the consideration of ways and means to move past the current stalemate which threatens the continued success of the NPT and leaves the risks of nuclear

war – and the related collateral risks mentioned – without a venue for progress and without a voice for international engagement.

To recap, we propose that the United States and Ukraine decide to join the TPNW, provided that the conditions following can be met.

1. The Parties to the TPNW agree to implement the Treaty in such a manner as to facilitate synchronized steps by nuclear-armed states according to bilateral or trilateral arms reductions agreed by principal nuclear adversaries concluded under the aegis of the TPNW. The Parties might amend the TPNW or approve model protocols. The alternative of reinforcing specific disarmament deadlines would all but guarantee that the nuclear-armed states would remain outside the TPNW.^{xx}
2. The Parties to the TPNW agree to implement the Treaty in such a manner as to assure verification financing will not be restricted by a nuclear-armed state and will permit equal standards of verification to the extent possible in all nuclear-armed states joining the TPNW, without disruption.
3. The Parties to the TPNW agree to implement the Treaty in such a manner as to avert nuclear war and to minimize collateral risks associated with nuclear arsenals, including the adoption of:
 - a. Protective measures by all nuclear-armed states to prevent any unauthorized use of nuclear weapons.
 - b. Adoption of design features and administrative controls intended to prevent accidents or sabotage of nuclear weapons.
 - c. Adoption of design features and administrative controls intended to prevent the acquisition of nuclear weapons, fissile material or nuclear weapon know-how by any state, subnational organization or individual, including any assistance given with or without the support of the governments involved.
And,
 - d. Implementation of national policies which prohibit any production and/or stockpiling of fissile material, including fissile material released from use in or committed to use in nuclear weapons.
4. The Parties to the TPNW agree to implement the Treaty in such a manner as to ensure that the verification system will be as effective as possible. The Parties should agree to create a dedicated research center to invent and develop verification technologies and procedures that will enable the inspectors to base their findings on sound science applied under conditions that will assure their authenticity, while assuring state authorities that such technologies and procedures could not be used for espionage. The Parties should agree to provide credible information obtained through their sources to the verification authorities on possible non-compliance by nuclear-armed states.
5. The TPNW Parties would need to build the TPNW verification system to confirm that disarmament steps declared by each nuclear-armed state are in fact carried out, that the nuclear weapon complex in each such state is eliminated or irreversibly converted to peaceful use, and that verification is carried out so as to

ensure that each such state does not hide nuclear weapons, components or fissile material, nor produces or otherwise acquires nuclear weapons, components or fissile material, or mission-critical nuclear weapon capabilities in the future.

6. The Parties to the TPNW agree to implement the Treaty in such a manner as to assure that disarmament commitments accepted by any TPNW Party will be guaranteed.

We propose that Ukraine and the United States sign the TPNW jointly and agree to work within the TPNW to help it succeed, rather than continue to frustrate universal desires for stability, peace, and cooperation in solving the demands of common tenancy on Earth.

The collaboration we propose could help both to overcome the internal objections each will certainly encounter. It could also prompt a search for other collaborations that could encourage other nuclear-armed states to join a movement towards universal acceptance of the TPNW and the quest for a world free of nuclear arms, free of violence.

ⁱ T. Shea (2019), *Verifying Nuclear Disarmament*, Routledge Press, Modern Security Studies, ISBN-13: 978-1138103887, ISBN-10: 1138103888. See Chapter 1.

ⁱⁱ As of 4 July 2021, 54 states have signed and ratified the Treaty, out of a total of 86 states which have signed the Treaty. https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVI-9&chapter=26

ⁱⁱⁱ See, for example, Shea, op.cit.

^{iv} See literature referring to “Broken Arrows.”

^v <https://www.kyivpost.com/ukraine-politics/zelensky-were-europes-center-and-heart-ukraine-will-definitely-join-eu.html>

^{vi} https://www.nato.int/cps/en/natohq/news_181348.htm?selectedLocale=en

^{vii} J. Cirincione, J. Wolfsthal, and M. Rajkumar (2005), *Deadly Arsenal: Nuclear, Biological, and Chemical Threats*, Washington, DC, Carnegie Endowment for International Peace, p. 373.

^{viii} H. Kristensen, A. Godsberg, and J. Garbose, *Ukraine Special Weapons*, Nuclear Information Project: Federation of American Scientists, www.fas.org.

^{ix} J. Cirincione, J. Wolfsthal, and M. Rajkumar, *op.cit.*, pp. 378-379.

^x Y. Kostenko, *Ukraine’s Nuclear Disarmament: A History*, Harvard University Press, 2020, ISBN 9780674249301.

^{xi} <https://treaties.un.org/Pages/showDetails.aspx?objid=0800000280401fbb&clang=en>

^{xii} Y. Kostenko, *op.cit.*

^{xiii} In addition, the Ministry of Foreign Affairs confirmed in 2012 that all HEU had been transferred to Russia. See P. Podvig (2012), *Ukraine removed all HEU from its territory*, International Panel on Fissile Materials, www.fissilematerials.org.

^{xiv} One proposal for the TPNW suggests creating a new *International Nuclear Disarmament Agency* to be responsible for verifying the irreversible elimination of states’ nuclear-weapon programs, under the Conference of TPNW States Parties and a Nuclear Disarmament Council (NDC) serving as the governing body. In this proposal, as a state previously armed with nuclear weapons, Ukraine would have a permanent place on the NDC, as would Kazakhstan and South Africa, both Parties to the TPNW, and Belarus, which is not. See: T. Shea (2019), *Op.Cit.*

^{xv} Deciding whether to entrust the IAEA with all TPNW verification tasks or to create a new authority to verify the elimination of a state’s nuclear arsenal nuclear disarmament will be one of the most consequential affecting the success of the Treaty.

^{xvi} Under Article 4.1 of the Treaty, “Each State Party that after 7 July 2017 owned, possessed or controlled nuclear weapons or other nuclear explosive devices and eliminated its nuclear-weapon programme, including the elimination or irreversible conversion of all nuclear- weapons-related facilities, prior to the entry into force of this Treaty for it, shall cooperate with the competent international authority designated pursuant to paragraph 6 of this Article for the purpose of verifying the irreversible elimination of its nuclear-weapon programme.” Ukraine’s disarmament was completed before this date.

^{xvii} See, for example, A. Kmentt (2021), *The Treaty Prohibiting Nuclear Weapons: How It Was Achieved and Why It Matters*, Routledge Global Security Studies, ISBN 9780367531942.

^{xviii} See, for example, K. Egeland (2021), *NATO and the Nuclear Weapons Ban Treaty: Options for the Biden Administration*, <https://www.justsecurity.org/74366/nato-and-the-nuclear-weapons-ban-treaty-options-for-the-biden-administration/>

^{xix} Note that similar arrangements might also encourage broader progress, e.g., involving China, India and Pakistan.

^{xx} *1st U.N. nuke ban mtg. to discuss disarmament period with 10 yrs eyed*, Kyodo News, 7 July 2021, <https://english.kyodonews.net/news/2021/07/9b0b84b2cbbf-1st-un-nuclear-ban-meeting-to-discuss-10-yr-disarmament-deadline.html>