Responsibilities of nuclear weapons and non-nuclear weapons states under the Treaty on the Non-Proliferation of Nuclear Weapons and Discuss the contribution to the nuclear disarmament and non-proliferation regime of the Comprehensive Nuclear-Test-Ban Treaty

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Without assigning any moral value to nuclear weapons, they are not going anywhere. In fact, they remain the cornerstone of global stability. However, regulating them requires complex and intricate mechanisms, with international frameworks and agreements at their core.

In the strategic military planning, the key distinction between a threat designed to compel an adversary and one aimed at deterring lies in their objectives. A compelling threat seeks to force the adversary to take a specific action or meet a demand, whereas a deterrent threat aims to prevent the adversary from initiating an unwanted action. To compel someone, for example, to retreat, it is crucial to demonstrate a clear willingness and readiness to follow through with action. A mere verbal warning or empty threat—what Thomas Schelling, the architect of nuclear deterrence doctrine, aptly describes as "words are cheap"—is insufficient; the adversary must genuinely believe in the initiator's preparedness to act if they refuse to withdraw. Unlike deterrent threats, compelling threats often require continuous application of punishment until the adversary takes the desired action, rather than imposing punishment as a consequence of an unwanted act.

Treaties are formal agreements that oblige states to comply with their terms under international law. They can compel or deter. Violations of treaties can lead to consequences, such as sanctions, arbitration, or adjudication by international courts. Once ratified, they become a whip—flexible yet firm, a tool of both control and persuasion. In the right hands, it can compel states follow the rules. But it can also lash back, punishing those who wield it recklessly or fail to respect its purpose. A whip is only as effective as the strength and skill of those who use it; in careless hands, it’s just a piece of leather snapping in the wind.

The political dynamics of the Cold War significantly influenced the development and evolution of international legislation. The ideological divide between the West and the East permeated global legal

frameworks and shaped the creation of international treaties, agreements, and institutions. During this period, international law became a tool for advancing geopolitical interests. Arms control treaties, including the Comprehensive Nuclear-Test-Ban Treaty (CTBT), Nuclear Non-Proliferation Treaty (NPT), the Strategic Arms Limitation Talks (SALT I and SALT II), the Strategic Arms Reduction Treaty (START), were pivotal in managing the nuclear arms race during the Cold War and its aftermath.

The recommendations of the Coolidge Report (1960) highlight the United States' reluctance to abandon nuclear weapons or engage in significant negotiations over their limitation, reflecting its strategic and military priorities during this period:

"There are those who advocate seeking an amendment to the Atomic Energy Act which would permit the United States to transfer nuclear weapons to selected allies or assist them in manufacturing their own nuclear weapons. If selected allies should acquire their own nuclear weapons, this might well increase the stability of balanced deterrence between the Free World and the Soviet Union. (It should not be in this connection that there are a number or nations which might well acquire a nuclear weapon capability without outside help.) On the other hand, there are many who believe that the more nations who have nuclear weapons, the greater the likelihood of a major nuclear war, and the less chance there is that effective controls over nuclear weapons will be established.

Of course, even if an agreed prohibition on aiding other nations to acquire a nuclear weapons capability were effective, it would prevent the Soviet Union from aiding Red China in this field. But it seems unlikely that the Soviet Union would so aid Red China for reasons of its own security, unless badly threatened by the West, in which case the agreement undoubtedly would be violated anyway.

On balance, it seems that in the present state of the world, the United States should not forego the right to aid its allies in this area. This right is an extremely valuable bargaining tool and should not be traded

away. In any case until there is a beneficial change in the world situation, we should refuse to negotiate proposals to eliminate our right to transfer to other nations either the capability to manufacture nuclear weapons or the weapons themselves.

Once we establish a stable balance of deterrence with an adequate number of relatively invulnerable missiles, it may well be worthwhile to negotiate for a cut off of missile testing, although study should be undertaken as to whether the knowledge to be gained in the development of space vehicles may not render such a cut off low largely meaningless. But until satisfactory invulnerability is attained, we should not agree to a cessation of missile tests."[1]

Despite the significant arms reductions at the end of the Cold War, concerns remain about the global nuclear landscape and the emergence of what Paul Bracken calls "the second nuclear age." Since 1998, India, Pakistan, and North Korea have conducted nuclear tests, joining the nuclear powers that previously included the five permanent members of the UN Security Council (United States, United Kingdom, Russia, France, and China) and Israel, which is widely believed to possess nuclear weapons despite its lack of official acknowledgment.

Robert Jervis emphasises the paradox of stability created by nuclear weapons: while their existence prevents large-scale wars between nuclear-armed states, it also perpetuates a precarious balance where miscalculation or accidental escalation could trigger a catastrophic outcome. This balance of terror stipulates nuclear wars cannot be fought by great powers due to the catastrophic consequences that would inevitably follow, a concept often encapsulated in the idea of Mutually Assured Destruction.

[1] National Security Archive (2008). National Security Archive, Washington, D.C.

Non-Proliferation Treaty

In the summer of 1945, the United States conducted its first successful nuclear test at Alamogordo, New Mexico, ushering in the nuclear age. This milestone was soon followed in 1949 by the Soviet Union's detonation of its first atomic bomb, raising fears that more states would seek to acquire nuclear weapons, potentially plunging the world into chaos.

During the 1950s and early 1960s, initiatives like President Dwight Eisenhower’s Atoms for Peace programme led to the establishment of the International Atomic Energy Agency (IAEA), the development of IAEA safeguards, and the promotion of nuclear energy for peaceful purposes. Yet concerns persisted, as three additional nations had tested nuclear weapons by 1964, raising fears that peaceful nuclear technology could not be separated from weapons proliferation.

In 1961, the United Nations General Assembly approved a Resolution introduced by Ireland, urging states to negotiate an agreement prohibiting the acquisition and transfer of nuclear weapons. Discussions advanced at the Geneva disarmament conference, which, in 1965, began drafting a treaty. These efforts culminated in the completion of the Treaty on the Non-Proliferation of Nuclear Weapons in 1968. The treaty was opened for signature on July 1, 1968, and entered into force on March 5, 1970, with 43 signatory states, including three of the five nuclear-armed powers: the Soviet Union, the United Kingdom, and the United States.

The NPT stands as the internationally binding agreement that acts as a global barrier to the spread of nuclear weapons. By establishing the norm of nonproliferation and forming the foundation of a wider nonproliferation regime.

Arms control agreements are often driven by frameworks like the Nuclear Non-Proliferation Treaty. The NPT, by promoting non-proliferation and disarmament, frequently creates the impetus for arms control, encouraging states to limit their military expenditures and prioritise cooperative security measures. When a state is locked in an arms race, it allocates a disproportionate share of its budget to maintaining and expanding its military capabilities, often at the expense of economic development and social welfare. Arms control agreements inspired by the NPT alleviate this financial burden, enabling states to invest in long-term economic growth and societal advancement.

Arguably the most important aspect of the NPT is its safeguards system, administered by the International Atomic Energy Agency. These safeguards are the foundation of the treaty's credibility, as they ensure compliance by verifying that civilian nuclear programs in non-nuclear-weapon states are not diverted to military uses. Through inspections, monitoring, and verification, the safeguards build trust among member states, prevent proliferation, and uphold the treaty's overarching goals of non-proliferation, disarmament, and the peaceful use of nuclear energy.

The NPT has played a crucial role in reducing the incentives for non-nuclear-weapon states to pursue nuclear capabilities and in fostering the peaceful resolution of conflicts. Upon its opening for signature, the Treaty encouraged several countries to abandon serious consideration of nuclear weapons programs.

In the 1960s, Sweden explored the possibility of developing nuclear weapons but ultimately chose to renounce such plans, joining the NPT as a non-nuclear-weapon state in 1968. Similarly, Switzerland considered a nuclear weapons program but opted to commit to nonproliferation, signing the Treaty in

1969. Egypt, despite having previously pursued nuclear capabilities, decided to forgo these ambitions and became a party to the NPT in 1981.

Japan, while possessing the technological capacity to develop nuclear weapons, reaffirmed its non-nuclear stance by signing the NPT in 1970, relying instead on the U.S. nuclear umbrella for its security. These decisions underscore the NPT's effectiveness in shaping global norms around nonproliferation and promoting collective security. It also later served as a framework for nations to renounce nuclear ambitions, as demonstrated when South Africa dismantled its nuclear arsenal and joined the NPT as a non-nuclear-weapon state. Additionally, following the collapse of the Soviet Union, successor states transferred their inherited nuclear weapons to Russia and adhered to the NPT as non-nuclear-weapon states.

While its accomplishments remain essential, the treaty's intellectual framework reflects the realities of an earlier era. Moreover, vague provisions and semantic ambiguities within the treaty undermine its ability to address contemporary security challenges and emerging threats. In fact, NPT is one of the most violated treaties in the world, along with the UN Charter and Geneva Conventions.[2]

As of February 2015, 190 states are recognised as parties to the treaty, with 14 states having violated or currently violating the NPT:

[2] Hoffman, S. J., & Poirier, M. J. P. (2022). "International Treaties Have Mostly Failed to Produce Their Intended Effects." Proceedings of the National Academy of Sciences, 119(32)

States violating Article I	**States violating Article II**	**States violating Article IV**	**Countries Challenging the NPT Framework**
Russia – Deployment of nuclear weapons in Belarus.	Belarus – Hosting Russian nuclear weapons.	United States - Modernising its nuclear arsenal and developing new weapons instead of reducing reliance on them.	North Korea – Withdrew from the NPT in 2003 and developed nuclear weapons.
United States – NATO nuclear sharing arrangements.	Germany – Participation in NATO nuclear sharing.	Russia – Expanding its nuclear capabilities, such as deploying new systems like hypersonic weapons.	Iran – Conducted undeclared nuclear activities, raising concerns about compliance.
China – Alleged transfer of nuclear technology to Pakistan.	Italy – Participation in NATO nuclear sharing.	China – Increasing its nuclear stockpile and modernising delivery systems.	Syria – Alleged to have constructed an undeclared nuclear reactor.
	Belgium – Participation in NATO nuclear sharing.	France – Continued maintenance and modernisation of their nuclear arsenals.	Libya – Operated a clandestine nuclear weapons program before dismantling it.
	Turkey – Participation in NATO nuclear sharing.	United Kingdom – Continued maintenance and modernisation of their nuclear arsenals.	

Challenges to the NPT regime include North Korea's withdrawal from the treaty in 2003 and the Nuclear Suppliers Group's 2008 waiver for India, which allowed it to trade civilian nuclear goods despite its nuclear tests. Meanwhile, concerns about Iran's intentions persist, even after the 2015 agreement limiting its production of weapon-grade fissile material for 15 years. These developments raise questions about the coherence and credibility of global non-proliferation efforts.[3]

The Three Pillars of NPT

The NPT's grand bargain is built on three interdependent pillars: nonproliferation, the peaceful use of nuclear energy, and disarmament.

I - Nonproliferation

Article I of the NPT commits nuclear-weapon states to refrain from transferring nuclear weapons or other nuclear explosive devices to any recipient and prohibits them from assisting, encouraging, or inducing any non-nuclear-weapon state to develop or acquire such weapons. Article II obligates non-nuclear-weapon states not to acquire or take control of nuclear weapons or explosive devices, and to avoid seeking or accepting assistance in manufacturing them. Article III requires non-nuclear-weapon states to implement International Atomic Energy Agency safeguards to ensure their nuclear activities are solely for peaceful purposes.

[3] RAND

It is further strengthened by a series of UN Security Council Resolutions, such as Resolution 1887 (2009); Resolution 1718 (2006) that imposes sanctions on North Korea following its first nuclear test and demanded that it cease its nuclear weapons program; Resolution 2231 (2015) that endorsed the Joint Comprehensive Plan of Action (JCPOA) on Iran's nuclear program, lifting certain sanctions in exchange for restrictions on Iran's nuclear activities; Resolution 2371 (2017) that further expandes sanctions against North Korea in response to its continued ballistic missile and nuclear weapons tests.

The IAEA safeguards system, referenced in Article III of the NPT, is the primary mechanism through which non-nuclear-weapon states verify their commitment to using nuclear energy solely for peaceful purposes. Article III also establishes a connection between safeguards and export controls, mandating that IAEA safeguards be applied to nuclear exports to non-nuclear-weapon states to ensure nonproliferation.

Export controls are developed and maintained by two key groups: the Zangger Committee and the Nuclear Suppliers Group. These bodies work to prevent the misuse of nuclear and related materials for weapons purposes, while still allowing for international cooperation on peaceful nuclear energy use. Additionally, UN Security Council Resolution 1540 (2004) and related resolutions strengthen the regime by requiring all UN Member States to implement and enforce legal and regulatory measures to prevent the proliferation of weapons of mass destruction and their delivery systems.

II - Peaceful Uses

Article IV affirms the right of all Parties to develop and benefit from nuclear energy for peaceful purposes, while adhering to their nonproliferation commitments. It also promotes international cooperation in the development of nuclear energy.

III – Disarmament

Article VI obligates all Parties to pursue good-faith negotiations on effective measures to halt the nuclear arms race, achieve nuclear disarmament, and work toward general and complete disarmament.

These three pillars are interconnected and mutually supportive. A robust nonproliferation regime, with full compliance from its members, lays the groundwork for disarmament and enables greater international collaboration on the peaceful use of nuclear technology. The right to access nuclear technology for peaceful purposes carries the responsibility to uphold nonproliferation. Likewise, meaningful progress in disarmament strengthens the nonproliferation regime and enhances enforcement, facilitating broader peaceful nuclear cooperation.

Responsibilities of nuclear weapons and non-nuclear weapons states – Articles I and II

Under the NPT, nuclear-weapon states are those that had tested and possessed nuclear weapons before January 1, 1967. These include the United States, Russia, China, France, and the United Kingdom, all of which are also permanent members of the UN Security Council. Non-nuclear-weapon states are all other signatories that have committed not to develop or acquire nuclear weapons.

Article I of the Nuclear Non-Proliferation Treaty establishes obligations for nuclear-weapon states to prevent the spread of nuclear weapons and nuclear explosive devices. It prohibits these states from transferring nuclear weapons or explosive devices to any recipient, whether directly or indirectly, and from aiding, encouraging, or inducing non-nuclear-weapon states to develop or acquire such capabilities.

The article is central to the treaty's goal of limiting the proliferation of nuclear weapons by ensuring that NWS do not facilitate the spread of nuclear arms or the means to produce them.

Article II, in turn, obliges non-nuclear-weapon states to prevent the spread of nuclear weapons. Under this article, NNWS commit not to receive nuclear weapons or other nuclear explosive devices from any source, nor to seek or acquire control over such weapons directly or indirectly. This ensures that NNWS do not contribute to nuclear proliferation, supporting the treaty's goal of preventing the spread of nuclear weapons globally.

However, there are several international cases that are worth reviewing on the matter of violation of article I and II of NPT.

NATO nuclear sharing program

NATO's nuclear forces comprise strategic weapons from the United States, France, and the United Kingdom, alongside U.S. "sub-strategic" or "tactical" nuclear weapons deployed in Europe. These sub-strategic weapons are viewed within NATO as a symbol of the transatlantic bond between the United States and its European allies.

Since its establishment in 1949, nuclear weapons have been central to NATO’s military strategy. NATO’s 1999 Strategic Concept highlights their primary purpose, stating: “The fundamental purpose of the nuclear forces of the Allies is political: to preserve peace and prevent coercion and any kind of war.”

Five Non-Nuclear Weapon States under the Non-Proliferation Treaty—Belgium, Germany, Italy, the Netherlands, and Turkey—participate in nuclear sharing arrangements with the United States. These countries host United States' B61 gravity bombs, which, in the event of nuclear war, could be delivered by the host nations' aircraft and pilots. Greece previously took part in nuclear sharing but reportedly saw the withdrawal of U.S. nuclear weapons in 2003. The United Kingdom also hosts U.S. nuclear weapons, along with U.S. Air Force aircraft and personnel.

Does NATO nuclear sharing breach the NPT?

"NATO's nuclear sharing arrangements were, and remain, in full compliance with the NPT. When the deliberations of the NPT began in the 1960s, NATO's nuclear sharing arrangements already existed and were known to the Soviet Union. During their bilateral discussions on the draft NPT, both the US and the USSR carefully negotiated text to ensure that no provisions prohibited NATO's nuclear sharing arrangements, which were viewed by both actors as necessary to prevent further nuclear," states North Atlantic Treaty Organisation's overview of its Nuclear Sharing Arrangements Programme.[4]

NATO's nuclear sharing arrangements were a key focus during the mid-1960s negotiations between the United States and Russia on Articles I and II of the NPT. Article I of the NPT specifies: "Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices, directly or indirectly." Article II, in turn, requires NNWS not to "receive or transfer" of nuclear weapons. NATO's nuclear sharing arrangements seemingly contravene this obligation, as they aim to facilitate the transfer of US nuclear weapons to non-nuclear Allies for wartime use. However, NATO argues that these

[4] North Atlantic Treaty Organization (NATO) (2022), "NATO Nuclear Sharing Arrangements," NATO, Brussels

arrangements align with the NPT, based on the US interpretation that no transfer of nuclear weapons or control occurs unless a decision to go to war is made, at which point the treaty would no longer be applicable.[5]

An interesting interpretation of the term "transfer." According to the Cambridge Dictionary, however, "transfer" means “to move someone or something from one place, vehicle, person, or group to another.” But the NPT is not primarily an experimental document in terms of semantics. Given current global geopolitical developments, it may be convenient to introduce conditional interpretations of the term “transfer.” However, based on the linguistic norms of 1970, the NPT likely regards the B61 missiles stationed in Europe as nuclear weapons transferred from a Nuclear Weapon State—the United States—to several Non-Nuclear Weapon States.

Over the past decade, this interpretation has become increasingly contentious. At the 1995 NPT Review Conference, Mexico sought clarification in Main Committee I on whether NATO’s nuclear sharing arrangements breached Articles I and II of the Treaty. These concerns were echoed by the Non-Aligned Movement, which proposed several amendments to the Committee's final report. One such proposal stated: “The Conference notes that among States Parties there are various interpretations of the implementation of certain aspects of Articles I and II which need clarification, especially regarding the obligations of nuclear-weapon State Parties… when acting in cooperation with groups of nuclear-weapon State Parties under regional arrangements.” In response, the Conference acknowledged the existence of differing interpretations among States Parties regarding the implementation of certain aspects of Articles I and II, particularly concerning the obligations of nuclear-weapon states when cooperating under regional

[5] British American Security Information Council (BASIC) and Oxford Research Group (ORG) (2005), "NATO: Nuclear Sharing or Proliferation? A BASIC/ORG Project – Briefing 8," BASIC and ORG, London and Washington, D.C.

arrangements. However, the Conference did not reach a consensus on this issue, and the final report did not include a definitive clarification or resolution regarding NATO's nuclear sharing practices.

In 1998, Egypt proposed closing the perceived loophole on nuclear sharing by recommending that the 2000 Review Conference affirm unequivocally that Articles I and II of the NPT allow no exceptions and that the Treaty is binding on States Parties at all times. At the 2000 NPT Review Conference, the final document included an "unequivocal undertaking" by nuclear-weapon states to accomplish the total elimination of their nuclear arsenals. However, the conference did not specifically address or close the perceived loophole concerning nuclear sharing arrangements. Similarly, at the 1999 PrepCom, the New Agenda Coalition emphasised that “all the articles of the NPT are binding on all States Parties and at all times and in all circumstances.”

NATO also argues that its nuclear sharing arrangements comply with the NPT because they predate the treaty. However, not all NPT parties were fully informed of these arrangements at the time.[6] And there is no widely recognised legal principle that explicitly exempts pre-existing arrangements from treaty obligations. Treaties are generally not retroactive, meaning they do not apply to actions or agreements that occurred before the treaty entered into force. This principle is codified in Article 28 of the Vienna Convention on the Law of Treaties, which states: “Unless a different intention appears from the treaty or is otherwise established, its provisions do not bind a party in relation to any act or fact which took place or any situation which ceased to exist before the date of the entry into force of the treaty.” Based on this, NATO could argue that nuclear sharing arrangements established before the NPT’s entry into force in 1970 are not retroactively prohibited. However, the key question is whether these arrangements represent

[6] British American Security Information Council (BASIC) and Oxford Research Group (ORG) (2005), "NATO: Nuclear Sharing or Proliferation? A BASIC/ORG Project – Briefing 8," BASIC and ORG, London and Washington, D.C.

a static situation that ceased to exist or an ongoing practice that continues to evolve. Under Article 31 of the VCLT, treaties must be interpreted in good faith according to the ordinary meaning of their terms in light of their object and purpose. NATO asserts that its arrangements align with the NPT's purpose, as they do not transfer nuclear weapons or control in peacetime. The US interpretation—that the treaty applies only in peacetime—serves as the basis for claiming compliance. But the NPT does not explicitly differentiate between wartime and peacetime in its provisions. Articles I and II of the treaty impose unconditional obligations on Nuclear Weapon States and Non-Nuclear Weapon States, respectively, with no mention of temporal limitations or exceptions during armed conflict. This lack of differentiation undermines the argument that the treaty applies only in peacetime.

Another thing to consider is the fact that the NPT is strictly a treaty among individual sovereign states and does not confer any special status or recognition to alliances, organisations, or coalitions, such as NATO, as independent entities under its framework. Each member state of the NPT is responsible for its own adherence to the treaty's provisions, and compliance is evaluated on an individual basis. Although NATO includes nuclear-sharing arrangements among its members, these arrangements do not equate to NATO being considered a separate "state" under the NPT. Instead, NATO's nuclear-sharing practices are understood within the treaty as arrangements between individual NPT member states, specifically structured to remain compliant with NPT obligations. Ultimately, the NPT holds each state individually accountable, regardless of membership in alliances, requiring that all nuclear activities within alliances remain compliant with the treaty's provisions. Although, NATO and other alliances can influence how individual member states implement the NPT, particularly in terms of nuclear sharing arrangements, where nuclear-armed NATO members may station nuclear weapons in non-nuclear NATO countries.

These arrangements are contentious and often discussed at NPT review conferences, with some non-aligned countries arguing that they may undermine the NPT's non-proliferation goals.[7]

While nuclear sharing went unchallenged in the 1960s, it is increasingly scrutinised today. No international legal mechanism has been used to definitively resolve whether NATO's arrangements breach the NPT. The International Court of Justice has not been asked to rule on this specific issue, and the NPT lacks a formal enforcement body to adjudicate disputes.

Therefore, NATO's nuclear sharing arrangements may appear to breach Article I and II of the NPT, as they are designed to facilitate the transfer of U.S. nuclear weapons to non-nuclear Allies.

To succinctly capture the cyclical nature of double standards, it would be fair to say that hypocricy breads more hypocricy. Russia has consistently criticised NATO's nuclear sharing arrangements, viewing them as a violation of the Treaty on the Non-Proliferation of Nuclear Weapons and a direct threat to its national security. For example, at the 2015 Review Conference, Russian delegates reiterated that these practices compromise the integrity of the treaty and destabilise global non-proliferation norms. Russian officials also argue that these practices escalate regional tensions.[8][9] In response to NATO's nuclear policies and the alliance's support for Ukraine, Russia has taken several measures. In February 2023, President Vladimir Putin announced the suspension of Russia's participation in the new START nuclear arms control treaty, citing concerns over NATO's actions and the deployment of nuclear weapons in Belarus.

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[7] British American Security Information Council (BASIC) and Oxford Research Group (ORG) (2005), "NATO: Nuclear Sharing or Proliferation? A BASIC/ORG Project – Briefing 8," BASIC and ORG, London and Washington, D.C.
[8] ТАСС (2023), "Договор о нераспространении ядерного оружия. История и основные положения," ТАСС, Москва
[9] Министерство иностранных дел Российской Федерации (2024), "Договор о нераспространении ядерного оружия (ДНЯО)," Министерство иностранных дел Российской Федерации, Москва

Russia’s nuclear programme with Belarus

The deployment falls under the framework of Russia and Belarus' Union State Treaty, which facilitates military and strategic cooperation between the two countries. However, specific details about the programme, beyond official announcements, are not publicly disclosed. It also highlights the deepening military integration between Russia and Belarus, with Belarus increasingly acting as a platform for Russian strategic objectives.

Russia has stationed tactical nuclear weapons in Belarus, the first deployment of such weapons outside its territory since the 1990s. This decision was announced by President Vladimir Putin in March 2023, citing the need to counter perceived threats from NATO and the West, particularly in the context of ongoing military support to Ukraine. The deployment aligns with Russia’s broader strategy of enhancing regional deterrence and projecting military power closer to NATO’s borders.

By June 2023, President Putin confirmed that the first batch of tactical nuclear weapons had been delivered to Belarus,[10] following the completion of training for Belarusian forces on Russian nuclear-capable systems, such as the Iskander-M. Storage facilities for these weapons were constructed in Belarus, but Russia maintains full control over their use, following a model similar to U.S. nuclear sharing arrangements with NATO allies.

In May 2024, Russian Deputy Foreign Minister Sergey Ryabkov commented on the Russia-Belarus tactical nuclear weapons programme, stating: “The tactical nuclear weapon drills conducted by Russia and Belarus do not violate the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), especially

[10] Российская газета (2023), "Спроси у Искандера," Российская газета, Москва

when compared to similar exercises held by NATO member states."[11] He then went on to explain the matter further: "We and Belarus are integral parts of the Union State and, therefore, we have a common perimeter of military security provision. Secondly, we have protocols and practices in this sphere differing from NATO's. Therefore, specifically training measures involving the non-strategic nuclear weapon component do not violate the Non-Proliferation Treaty compared to [NATO's] nuclear sharing joint missions… Nuclear sharing is a NATO program that envisages placing and keeping the US nuclear arsenal in Europe. It stipulates that member countries without nuclear weapons can place such weapons on their soil and participate in related drills."[12] Moreover, Belarus's new 2024 military doctrine has incorporated nuclear weapons. Article 58 states: "…The deployment of Russian Federation nuclear weapons on Belarusian territory is regarded as an important component of preventive deterrence against potential adversaries from initiating armed aggression. It is also considered a compelled response to the failure of Western guarantor states to uphold the conditions of the Memorandum on Security Assurances in connection with Belarus's accession to the Treaty on the Non-Proliferation of Nuclear Weapons (the Budapest Memorandum)."

Let me stop there: a non-nuclear-weapon state has officially embedded nuclear weapons into its military doctrine, completely disreagarding the NPT, and justifying it as a response to perceived threats from Western states.

Perceived threats and the "supreme interests" are at the height of current trends. This approach serves as a convenient pretext. The real issue, however, is that truly aggressive states don't even need to invent new

[11] TASS (2024), "Russia-Belarus Nuclear Drills Do Not Violate Non-Proliferation Treaty — Senior Diplomat," TASS, Moscow
[12] TASS (2024), "Russia-Belarus Nuclear Drills Do Not Violate Non-Proliferation Treaty — Senior Diplomat," TASS, Moscow

justifications—they only have to mirror their Western counterparts. And the most concerning aspect is that the language of the NPT creates room for such situations to arise.

Russia has fetishised the same NPT aspects as NATO, highlighting the uniqueness of its alliance with Belarus and prioritising “control over the weapons” over physical transfer. However, following the same logical trajectory as in the previous example, the NPT is strictly an agreement among individual sovereign states and does not grant any special status or recognition to alliances, organisations, or coalitions within its framework. Each NPT member state is independently accountable for adhering to the treaty's provisions, with compliance assessed on a state-by-state basis.

The International Atomic Energy Agency has not publicly reported any specific investigations into the deployment of Russian tactical nuclear weapons in Belarus.

So. What constitutes the threshold at which a state decides to prioritise national law over international law, thereby basing its actions on domestic legal frameworks rather than adhering to its international obligations?

The decision by a state to disregard international law in favour of national law, particularly regarding nuclear military programmes, is not explicitly defined by legal thresholds. Instead, it arises from a combination of political, strategic, and legal considerations.

One key factor is the perception of national security threats. A state may prioritise national law when it views international obligations as inadequate to address existential or significant dangers to its sovereignty. For example, North Korea’s withdrawal from the NPT in 2003 was justified by citing threats

to its national security. Similarly, sovereignty is often invoked as the overriding principle, enabling states to act in their own interests when they believe international law unduly restricts them. This is particularly true for actions like developing nuclear weapons or withdrawing from agreements, where sovereignty serves as both shield and rationale.

Ambiguities in international law further complicate the situation. States may exploit grey areas in treaties or the absence of enforcement mechanisms to act outside established norms while claiming compliance. The treaty contains no provisions that explicitly prohibit the modernisation or qualitative improvement of nuclear arsenals. This omission effectively allows nuclear-weapon states to develop new technologies and delivery systems, as long as these activities do not constitute proliferation.

Another pathway is withdrawal or non-participation. States can formally withdraw from treaties under provisions like Article X, which permits exit based on "supreme national interests." Alternatively, they may opt out of joining agreements altogether, as seen with the Treaty on the Prohibition of Nuclear Weapons. In such cases, states rely solely on national law for their actions, unencumbered by international constraints.

Ultimately, the choice to prioritise national law over international obligations depends on a state’s strategic calculations. This includes weighing the perceived benefits against potential costs, such as international condemnation, loss of credibility, or retaliatory measures. The threshold lies in a state’s willingness to accept these consequences to pursue its objectives.

Therefore, Russia potentially violated Article I of the NPT, which prohibits nuclear-weapon states from transferring nuclear weapons or control over them to any recipient. By physically stationing tactical

nuclear weapons in Belarus, even while retaining formal control, Russia engaged in an act that can be interpreted as a transfer, contravening the treaty's explicit prohibition.

Similarly, Belarus violated Article II of the NPT, which obligates non-nuclear-weapon states not to receive nuclear weapons or control over them. By agreeing to host Russian tactical nuclear weapons on its territory, Belarus assumed a role inconsistent with its treaty obligations, regardless of whether it has operational control over the weapons. This act undermines the NPT’s fundamental objective of preventing the spread of nuclear weapons and maintaining global non-proliferation norms.

US-UK Mutual Defense Agreement

The US-UK Mutual Defense Agreement (MDA), formally titled the Agreement for Cooperation on the Uses of Atomic Energy for Mutual Defense Purposes, is a cornerstone of the long-standing nuclear partnership between the United States and the United Kingdom. Initially signed in 1958 at the height of the Cold War, the agreement was intended to enhance the nuclear capabilities of the UK while solidifying the strategic alliance between the two nations. It enables collaboration on the exchange of nuclear technology, information, materials, and expertise, fostering joint research and development in nuclear weapons systems.

The MDA specifically facilitates cooperation on the design, testing, and manufacturing of nuclear weapons, as well as the safe handling and maintenance of nuclear materials. It allows the transfer of critical technologies and knowledge, ensuring that both countries maintain robust and effective nuclear deterrents. This collaboration has been vital in sustaining the UK's independent nuclear deterrent, particularly its submarine-based Trident missile system, which is closely linked to US technologies.

Since its inception, the agreement has been renewed and updated multiple times to reflect changing geopolitical and technological realities. The most recent extension, signed in 2014, ensures its continuation through 2024. The agreement underscores the depth of the US-UK "special relationship" and their shared commitment to nuclear deterrence as a pillar of global security. It also reflects the broader context of NATO's collective defence strategy, in which the US and UK play leading roles.

Despite its importance to bilateral defence relations, the MDA has not been without controversy. Critics argue that it undermines global non-proliferation efforts, as it represents an exclusive nuclear partnership that some perceive as inconsistent with the spirit of the Treaty on the Non-Proliferation of Nuclear Weapons. Proponents, however, assert that the agreement strengthens global stability by ensuring the effectiveness and reliability of the nuclear arsenals of two key Western allies. The MDA remains a critical component of the strategic defence architecture of both nations, balancing national security priorities with international obligations.

No other phrase has been so lavishly applied to every nuclear-related inter-state agreement and treaty as: "It does not provide for the transfer of nuclear weapons or control over such weapons"—an unambiguous reference to Article I of the NPT. However, the mere inclusion of such language does not guarantee the absence of a breach.

Alleged violations of the NPT are reflected in the latest text of the amendments to the UK-US Mutual Defence Agreement:

It has been claimed that the renewal of the MDA would violate Article I of the NPT…

In June 2004, the organisation BASIC argued that the MDA provides for the opposite: "The fundamental purpose of the NPT is set out in the Preamble: "The prevention of wider dissemination of nuclear weapons". In reality, this is exactly what the MDA provides – an open-ended arrangement for two named states to 'disseminate' information, technology and materials in their pursuit of more sophisticated weaponry."[13]

This position was previously supported by Dr Miguel Marin Bosch, the Head of Mexico's delegation to the NPT review conference in 1995. He argued at the time that "the MDA is inconsistent with the spirit and letter of the NPT. There should be a full and transparent public debate before the UK government decides to renew it. Perhaps an advisory opinion from the International Court of Justice would help the UK government in its decision".[14] *In the backbench business debate on the MDA in November 2014, the then Minister, David Lidington, addressed the alleged violations of Article I:*

The Government regard the MDA as compliant with our obligations under article I for three reasons. First, nuclear devices or weapons are not transferred to the United Kingdom under the terms of the MDA. As I described earlier, what we receive under the MDA is a certain amount of nuclear technological know-how and some nonlethal elements, such as propulsion systems, that are not prohibited under article I. Secondly, article V of the original mutual defence agreement—not including the amendments—quite explicitly states that the transfer of nuclear weapons is not permitted.

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[13] British American Security Information Council (BASIC) (2018), "Modernising the UK's Defence and Security Policy: An Assessment of the Modernising Defence Programme," BASIC, London

[14] "Renewal of US-UK nuclear cooperation 'in breach of NPT' says eminent lawyers", Acronym Institute for Disarmament Diplomacy, 31 August 2008

Thirdly, article I of the NPT refers in particular to transfers from the recognised nuclear weapons states to non-nuclear weapons states. However, the MDA refers to transfers of things other than nuclear weapons or devices from one nuclear weapons state to another, both of which are party to the NPT. I think that that answers the challenge that the MDA is in some way incompatible with article I of the NPT[15]

"A certain amount of nuclear technological know-how and some nonlethal elements" raises the question: what is the legal definition of nuclear weapons? Surprisingly, there is no single, universally accepted legal definition of nuclear weapons in international law.

The NPT preamble indirectly refers to nuclear weapons through phrases such as "…source and special fissionable materials by use of instruments and other techniques at certain strategic points." While it does not explicitly define nuclear weapons, this language alludes to their components and monitoring mechanisms.

Modified Brussels Treaty of 1954 defines atomic weapons as:

(a) An atomic weapon is defined as any weapon which contains, or is designed to contain or utilise, nuclea r fuel or radioactive isotopes and which, by explosion or other uncontrolled nuclea r transformation of the nuclea r fuel, or by radioactivity of the nuclea r fuel or radioactive isotopes, is capabl eof mass destruction, mass injury or mass poisoning.
(b) Furthermore , any part, device, assembly or material especially designed for, or primarily

[15] House of Commons Library (2023), "Nuclear Weapons at a Glance," House of Commons Library, London

useful in, any weapo n as set forth paragraph (a), shall be deeme d to be an atomic weapon.[16]

Article V of The Treaty of Tlatelolco gives the following definition:

For the purposes of this Treaty, a nuclear weapon is any device which is capable of releasing nuclear energy in an uncontrolled manner and which has a group of characteristics that are appropriate for use for warlike purposes. An instrument that may be used for the transport or propulsion of the device is not included in this definition if it is separable from the device and not an indivisible part thereof.[17]

P5 Glossary of Key Nuclear Terms, para. 1.3.5, defines nuclear weapons as:

Weapon assembly that is capable of producing an explosion andmassive damage and destruction by the sudden release of energy instantaneously released from self-sustaining nuclear fission and/or fusion.[18]

Glossary of Nuclear Terms defines nuclear weapons as:

A device that releases nuclear energy in an explosive manner as the result of nuclear chain reactions involving the fission or fusion, or both, of atomic nuclei.[19]

"A certain amount of nuclear technological know-how and some nonlethal elements" is sufficiently vague to avoid classification under any specific definition, yet broad enough to potentially encompass all of

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[16] Arms Control Association (2023), "Toward Verifiable Definitions of a Nuclear Weapon," Arms Control Today, Vol. 53, No. 6, Arms Control Association, Washington, D.C.
[17] United Nations Office for Disarmament Affairs (UNODA) (n.d.), "Treaty of Tlatelolco," UNODA Treaties Database
[18] U.S. Department of State (2015), "Adherence to and Compliance With Arms Control, Nonproliferation, and Disarmament Agreements and Commitments," U.S. Department of State, Washington, D.C.
[19] U.S. Embassy & Consulates in the United Kingdom (n.d.), "Glossary of Nuclear Terms"

them. The next logical question that arises is: how can we verify whether the declared technology meets or does not meet the definition of a nuclear weapon? Is a computer chip—a form of "nuclear technological know-how" and inherently nonlethal—but programmed to detonate a nuclear bomb considered a nuclear weapon? Modified Brussels Treaty of 1954, for example, says yes.

Proliferation – Article VI

Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons is a fundamental element of global nuclear disarmament efforts. It commits all state parties, especially nuclear-armed states, to engage in good-faith negotiations aimed at ending the nuclear arms race and achieving comprehensive disarmament under effective international oversight. While its goals remain pivotal, Article VI has faced criticism for limited progress, highlighting the complexities of advancing disarmament while maintaining international security.

Article VI plays a central role in promoting disarmament. By committing states to pursue negotiations for nuclear disarmament and the cessation of the arms race, Article VI creates a foundation for arms control initiatives that reduce excessive military spending. In an arms race, states devote significant resources to expanding military capabilities, often at the expense of economic and social development. Arms control agreements grounded in Article VI help mitigate this burden, allowing states to focus on sustainable economic growth and improving societal welfare.

However, despite the commitments under Article VI of the NPT, all five recognised nuclear-weapon states—China, France, Russia, the United Kingdom, and the United States—are currently expanding or modernising their nuclear arsenals. This trend reflects a divergence from the disarmament goals outlined

in the treaty, as these states cite evolving security concerns and strategic competition as justification for their actions.

The goal of a world free from nuclear weapons was articulated over forty years ago by the United Nations General Assembly, which hopes to push Security Council members towards adopting a "universal, total, and verifiable ban," as advocated by International Campaign to Abolish Nuclear Weapons that was founded in 2007. However, nuclear-armed states oppose this initiative, arguing that solely relying on a humanitarian approach to disarmament cannot achieve tangible progress. This position was emphasised by Mr. Louis Riquet, France's representative to the UNGA First Committee on Disarmament and International Security.[20]

The United States and France, in particular, assert that the issue with the international disarmament framework lies not in a lack of instruments but in the need to consider the deteriorating security and geopolitical environment. These states prioritise the NPT as the cornerstone of a progressive, negotiated process over moralistic approaches that could destabilise international security. Article VI of the NPT commits its signatories to "pursue negotiations in good faith" for achieving, over time, "a treaty on general and complete disarmament." According to nuclear-weapon states, introducing a binding ban on nuclear weapons would undermine the current disarmament and non-proliferation regime, replacing it with a rigid framework that could exacerbate tensions. Therefore, they argue, the focus should remain on reducing arsenals and enhancing verification regimes within the NPT framework.

United Kingdom

[20] Sénat de France (2017), "Rapport d'information n° 560 (2016-2017) : Les Enjeux Géostratégiques des Proliférations Nucléaires," Sénat, Paris, p.101

The UK has been a nuclear weapon state since 1952. It is one of the five officially recognised nuclear states under the Nuclear Non-Proliferation Treaty.

The UK adopts a posture of minimal credible nuclear deterrence, assigned to the defence of NATO. The UK does not have a policy of 'no-first use'.[21]

As one of the recognised nuclear weapon states under the NPT, the UK has a legal obligation to pursue disarmament in good faith under Article VI of that treaty.

The latest nuclear policy states the following:

Nuclear stockpile – Prior to the 2021 Integrated Review, the UK had a stockpile of 225 warheads. Following the review, the cap on the UK's nuclear stockpile will increase to no more than 260 warheads. The Government has provided no timeframe for achieving this increase and no longer publishes transparency information, so the precise figure for the stockpile is unclear.[22]

[21] House of Commons Library (2021), "Hypersonic Weapons," House of Commons Library, London
[22] House of Commons Library (2021), "Hypersonic Weapons," House of Commons Library, London

Figure 1. Estimated United Kingdom nuclear weapons stockpile, 1953–2025.[23]

While Article VI of the NPT commits signatory states to eventual disarmament, the UK government argues that it contains no prohibition on updating existing weapons systems and gives no explicit timeframe for nuclear disarmament. And rightly so. Indeed, there is no such provision in the NPT.

The previously mentioned Mutual Defence Agreement, as acknowledged by the British government, may also be inconsistent with Article VI of the NPT. A legal opinion commissioned by BASIC, the Acronym Institute for Disarmament Diplomacy, and Peacerights, first published in 2004, argued that the renewal of the MDA may breach the NPT. The opinion asserted that the NPT holds precedence over the MDA under international law and cited the 2000 NPT Review Conference and the 1996 advisory opinion of the International Court of Justice as reinforcing the obligation to pursue nuclear disarmament. By contrast, the MDA was seen as promoting the continuation and enhancement of the UK's nuclear capabilities.

[23] Bulletin of the Atomic Scientists (2024), "United Kingdom Nuclear Weapons, 2024," Bulletin of the Atomic Scientists

Consequently, the opinion concluded that the renewal of the MDA "strongly arguable" conflicts with the obligations under Article VI and the commitments made at the 2000 Review Conference.[24]

In a July 2024 briefing, the Nuclear Information Service urged Parliament to thoroughly examine the amendments to the MDA, emphasising that any extension of the treaty should support both nations in meeting their disarmament commitments under the Nuclear Non-Proliferation Treaty, rather than circumventing them.

United States

In a transparency disclosure by the National Nuclear Security Administration in July 2024, the United States reported a military stockpile of 3,748 nuclear weapons as of September 2023. Additionally, around 2,000 warheads are retired and awaiting dismantlement—a significantly higher figure than the 1,300 previously estimated by independent experts, who had believed dismantlement had progressed further. This discrepancy highlighted a marked slowdown in dismantlement efforts, with only 122 warheads dismantled in 2022 and 69 in 2023. The stockpile size closely aligns with the Federation of American Scientists' April 2024 estimate of 3,708 warheads.[25]

Between 2010 and 2018, the U.S. government annually disclosed its nuclear stockpile size, but this practice was discontinued during the Trump administration. In 2021, the Biden administration provided a

[24] House of Commons Library (2023), "Nuclear Weapons at a Glance," House of Commons Library, London
[25] Arms Control Association (n.d.), "Arms Control and Proliferation Profile: United States"

one-time disclosure reflecting September 2020 figures, revealing a stockpile of 3,750 warheads. However, further requests for transparency were denied until the 2024 disclosure.[2627]

Under the New START treaty, the United States reduced its deployed intercontinental ballistic missiles from 450 to 400. The 50 decommissioned silos were not destroyed but maintained in a "warm" operational status, allowing them to be reloaded with missiles quickly if needed.[28]

The United States is progressing with a comprehensive modernisation of its nuclear weapons enterprise. Over the next decade, nearly $350 billion is projected to be spent on upgrading and maintaining its nuclear forces and supporting infrastructure. This initiative includes developing a new class of SSBNs, a nuclear-capable long-range bomber, a next-generation air-launched cruise missile, an advanced land-based inter-continental ballistic missile, and a new nuclear-capable tactical fighter aircraft. Additionally, it involves full-scale production of the W76-1 warhead, the initiation of production on the B61-12 and W80-4 warheads, modernised nuclear command and control facilities, and upgraded nuclear weapon production and simulation infrastructure. The programme also encompasses plans to significantly redesign ballistic missile warheads.[29]

While there is no direct evidence of an increase in US nuclear stockpiles, the growing budget allocations and the lack of transparency in recent disclosures suggest that proliferation may indeed be occurring.

France

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[26] U.S. Department of Defense (2018), "Nuclear Posture Review: Final Report," U.S. Department of Defense, Washington, D.C.
[27] Arms Control Association (n.d.), "Arms Control and Proliferation Profile: United States"
[28] Federation of American Scientists (2021), "New START Treaty Aggregate Numbers of Strategic Offensive Arms," Federation of American Scientists
[29] Kristensen, H. M., & Norris, R. S. (2017), "United States Nuclear Forces, 2017," Bulletin of the Atomic Scientists, Vol. 73, No. 1, pp. 48–57

The 2008 and 2013 French White Papers underscored the growing complexity and intensity of global conflict, encapsulated in the framework of "threats from strength and risks from weakness." This dual perspective reflects the increasing challenges posed by powerful adversaries leveraging advanced capabilities and the vulnerabilities stemming from unstable or failing states. In this context, the White Papers emphasised the critical importance of modernising France's nuclear deterrence to address evolving strategic threats and maintain national security.

Key initiatives outlined include the development and deployment of a new generation of nuclear-powered ballistic missile submarines (SSBNs) by 2030, further enhancement of the M51 ballistic missile series to ensure they remain effective against advancing defence systems, and the creation of the next-generation air-to-ground missile system (ASN4G) by 2035. These measures aim to sustain the credibility and effectiveness of France's deterrence strategy by ensuring it remains responsive to technological and geopolitical changes.[30] In a joint venture, Airbus and Safran are also developing the M51.3 Submarine-Launched Ballistic Missiles, which is scheduled for completion by 2025.[31]

Subsequent analyses by French and international strategic bodies have largely validated these concerns, projecting that global instability will likely intensify over the next two decades. These studies highlight two significant expectations: the emergence of disruptive new technologies that could undermine traditional deterrence mechanisms and the proliferation of existing weapons. As the result, France, like the UK and the US, does not set a cap on its weapons or disclose their exact numbers anymore.

[30] Sénat de France (2017), "Les Enjeux Géostratégiques des Proliférations Nucléaires," Rapport d'information n° 560 (2016-2017), Sénat de France, Paris, p.71

[31] Arms Control Association (n.d.), "Arms Control and Proliferation Profile: France," Arms Control Association

In the 2017 « La modernisation de la dissuasion nucléaire » repport, issued by the ministry of foreign affairs of France, the government reiterated that international disarmament and non-proliferation efforts have traditionally followed a "step-by-step" approach, exemplified by the 2000 NPT Review Conference's 13 recommendations and the 2010 action plan with 64 measures, including bilateral agreements like the New START treaty. While this pragmatic strategy balances major powers' interests with reducing nuclear threats, some states view it as insufficient, citing the humanitarian consequences of nuclear conflict and advocating for a total ban. However, France, as many other nuclear-armed states warn that accelerating the disarmament agenda through a ban treaty could undermine existing frameworks like the NPT and CTBT, weaken international negotiating forums, and destabilise global security. They argue that nuclear deterrence has historically prevented high-intensity conflicts and remains a "second-best optimum" necessary for stability. France, for instance, defends nuclear weapons as essential to its collective security system and cautions that abandoning deterrence could increase vulnerability in a still-dangerous world.[32]

Moreover, The National Strategic Review 2022 emphasizes the necessity for France to adapt its defense capabilities in response to evolving global threats and allocates €413 billion over seven years (2024-2030) to bolster France's defense capabilities, compared to the previous programming period's €295 billion (2019-2025).[33][34]

China

[32] Sénat de France (2017), "Les Enjeux Géostratégiques des Proliférations Nucléaires," Rapport d'information n° 560 (2016-2017), Sénat de France, Paris, p.102-103
[33] Secrétariat Général de la Défense et de la Sécurité Nationale (SGDSN) (2022), "National Strategy for the Security of Digital Systems," SGDSN, Paris
[34] Ministère des Armées (2023), "Livret de Présentation de la Loi de Programmation Militaire 2024-2030," Ministère des Armées, Paris

China, unlike any other nuclear-weapon state, has four nuclear neighbours: Russia, North Korea, India, and Pakistan, as well as one neighbouring "hegemonic power": Japan.[35] Without addressing whether these concerns are justified, China's "perceived threats" drive its efforts to expand its nuclear stockpile. China remains reluctant to engage in arms control initiatives and advocates for India and Pakistan to join the NPT.

One of the four general trends in the 2013 edition of *Science of Military Strategy*—the most recent officially published source on China's nuclear strategy—is "outside pressure [waibu yali] for China to participate in arms limitations or reductions while it remains greatly inferior to the United States and Russia in nuclear capabilities."[36]

The China Strategic Missile Force Encyclopaedia and defence white paper assess the nuclear nonproliferation regime as "shaken" by the nuclear tests of India and Pakistan. "Going forward, persuading India and Pakistan to join the NPT will be necessary for the legitimacy of the nonproliferation regime."[37]

Chinese strategic documents suggest a strong likelihood that more-limited conflicts may occur. Credible nuclear deterrent is viewed as uniquely important to Chinese security. Any sense that US or other countries' capabilities could jeopardize China's secure second-strike capability would almost certainly prompt greater nuclear efforts. [38]

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[35] State Council Information Office, 2013. The authors accused Japan of "making trouble" [zhizao shiduan] over the issue of the Senkaku Islands; and named the US and Japan as "hegemonic powers"
[36] Shou Xiaosong, 2013, pp. 170–171
[37] China Strategic Missile Force Encyclopedia, 2012, pp. 42–44
[38] DoD Office of Net Assessment and RAND Corporation (2017), China's Evolving Nuclear Deterrent: Major Drivers and Issues for the United States, RAND Corporation, Santa Monica, CA

China's nuclear arsenal has grown significantly in recent years, with the US Department of Defense estimating as of May 2023 that it possesses over 500 operational nuclear warheads, a number projected to exceed 1,000 by 2030. Although China acceded to the Nuclear Non-Proliferation Treaty in 1992 and officially committed to non-proliferation efforts, concerns persist regarding its historical and ongoing role in the proliferation of nuclear and missile-related technologies to other countries. For decades, the US government has expressed apprehension about China's proliferation activities, underscoring the complexities and challenges of global non-proliferation efforts.[39][40]

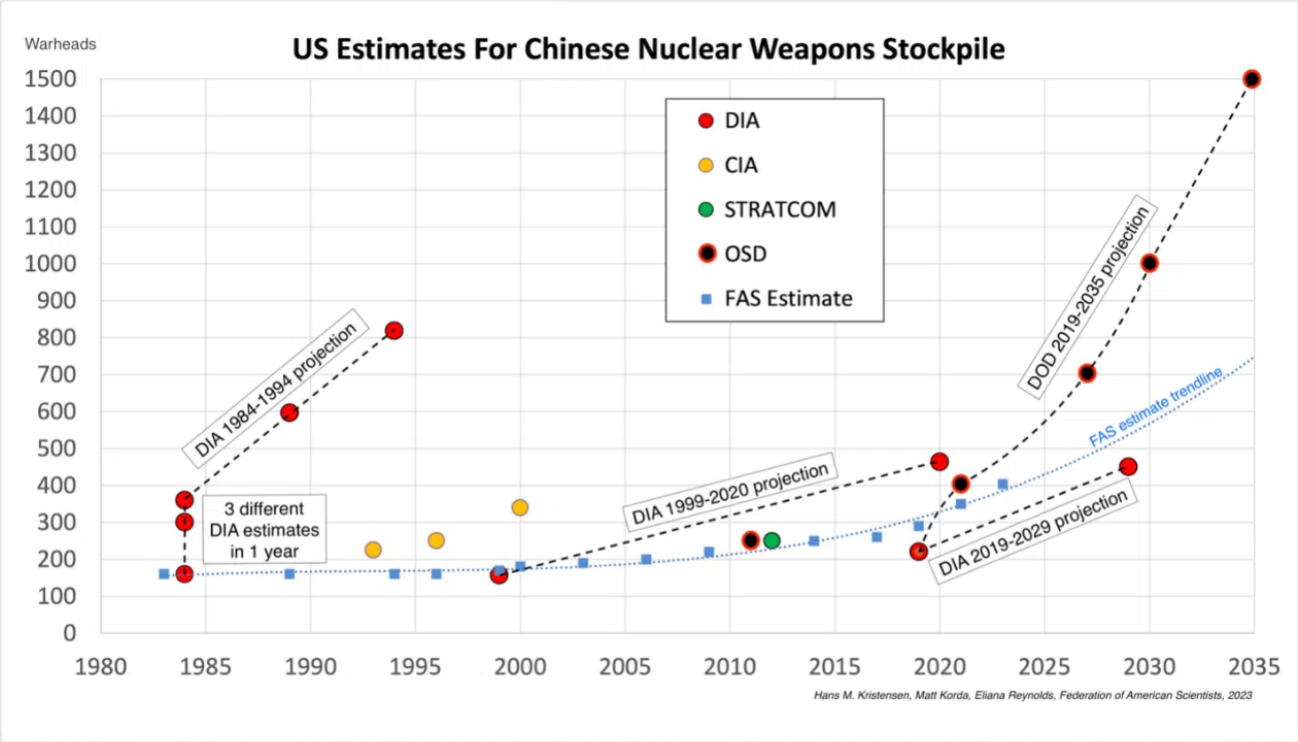

Figure 2. US organizations' estimate of China's nuclear weapons stockpile. Abbreviations used: CIA, Central Intelligence Agency; DIA, Defense Intelligence Agency; DOD, US Department of Defense; FAS,

[39] Carnegie Endowment for International Peace (2023), "China More Than Doubled Its Nuclear Arsenal Since 2020, Pentagon Says," Carnegie Endowment for International Peace

[40] Congressional Research Service (2023), "U.S. Nuclear Weapons Policy: Considerations for Congress," Congressional Research Service, Washington, D.C.

Federation of American Scientists; OSD, Office of the Secretary of Defense; STRATCOM, US Strategic Command.[41]

Russia

As of early 2024, the Federation of American Scientists estimated that Russia's nuclear arsenal totals 5,580 warheads. This includes approximately 1,112 strategic and 1,558 non-strategic warheads in storage, along with 1,200 retired warheads awaiting dismantlement. Under the New START treaty, which expires in February 2026, Russia is limited to deploying no more than 1,550 treaty-accountable warheads. As of early 2024, Russia had 1,710 deployed strategic warheads and 588 deployed strategic delivery systems. The Pentagon reports that Russia maintains an active stockpile of up to 2,000 tactical (non-strategic) nuclear warheads, significantly exceeding the United States' 100 tactical nuclear weapons deployed in Europe. However, the two nations possess comparable numbers of strategic nuclear weapons.[42]

Russia's violation of the Intermediate-Range Nuclear Forces Treaty (INF), signed in 1987, centred on its development and deployment of the 9M729 missile system, which the United States and NATO allies argued breached the treaty's ban on ground-launched missiles with ranges between 500 and 5,500 kilometres. Despite repeated US efforts to address the issue diplomatically, Russia denied the allegations and continued its activities, ultimately leading to the United States formally withdrawing from the treaty in August 2019. This collapse has raised concerns about a renewed arms race and increased instability in Europe.

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[41] Kristensen, H. M., & Korda, M. (2023), "Nuclear Notebook: Chinese Nuclear Weapons, 2023," Bulletin of the Atomic Scientists

[42] Arms Control Association (n.d.), "Arms Control and Proliferation Profile: Russia," Arms Control Association

In addition to the INF Treaty, Russia has violated the Budapest Memorandum (1994), the New START Treaty (2010), and revoked its ratification of the CTBT in 2023. Furthermore, it has likely violated Article 1 of the NPT. These actions highlight a clear trajectory for the state and significantly influence how other nuclear-weapon states perceive their security.

Other challenges

In light of the failures of the 2010 and 2015 Nuclear Non-Proliferation Treaty review conferences, concerns about proliferation have been exacerbated by the development of small-yield tactical nuclear weapons. This development, while marked by relative freedom in research and innovation, heightens the risk of scientists and engineers involved in these programmes becoming potential proliferation threats themselves.[43]

Low-yield—or tactical nuclear weapons—have recently become a focal point in debates surrounding nuclear strategy. Kissinger, a key advocate of the doctrine of limited war and later a flexible response approach, argued for a clear distinction between the limited use of tactical nuclear weapons and a general nuclear exchange. The doctrine gained momentum in the United States during the 1960s, however the Soviet Union began incorporating the concept of limited nuclear war into its military doctrine only in the 1970s, after NPT had already been formulated and signed. By the time the Nixon Doctrine NSDM-242 was issued in 1974, the concept of massive retaliation (which resonated with NPT much more) had long been abandoned. This document refined nuclear strategy by focusing on more detailed planning and

[43] Sands, T., Mihalik, R., & Camacho, H. (2018), "Theoretical Context of the Nuclear Posture Review," Journal of Social Sciences, pp. 124–128

necessitated a clear legal distinction between tactical and strategic nuclear weapons—a requirement that was already evident in the 1970s and has become even more critical today.

International legislation on nuclear weapons has historically been deliberately vague to ensure states' willingness to sign. However, those times are behind us, and today, clearer language paired with transparency may be needed to draw states into agreement.

The NPT does not specifically address tactical nuclear weapons. Instead, it broadly regulates nuclear weapons by aiming to prevent their proliferation and promote disarmament. Thus, all nuclear weapons, regardless of yield or intended use, fall under the treaty's overarching goal. The challenge lies in the evolving security landscape and nuclear doctrines of the two states and, more broadly, the global context, where the vague language may no longer adequately address the concerns of certain states.

Review Conferences are held every five years, with Preparatory Committees meeting in the interim to set the agenda. These conferences provide a forum for states to discuss compliance, address emerging challenges, and strengthen global commitments. The 2010 and 2015 conferences are regarded as among the most challenging as the following things were identified: failure to advance disarmament commitments, inability to establish a Middle East WMD-Free Zone, absence of a consensus final document and concern over modernisation of nuclear arsenals.

Withdrawal – Article X

When a Party seeks to withdraw from the NPT in violation of the treaty, the Security Council should immediately review the matter and consult with NPT Parties as needed to explore ways to address the

issues raised by the withdrawal notice. Upon receiving notice of withdrawal from a violating Party, the Security Council should assess the potential impacts on international peace and security and meet promptly to examine the 'extraordinary events related to the Treaty' cited as reasons for withdrawal, as well as consider alternative measures to address and resolve these circumstances. A Party's intention to withdraw in violation of the NPT is likely aligned with intentions to acquire nuclear weapons. Therefore, the Council should consider actions consistent with the UN Charter, which may include holding the withdrawing Party accountable for past noncompliance, addressing any threats to peace and security, or both.

The International Atomic Energy Agency and its Board of Governors should take measures to ensure that safeguards continue if a Party in violation of the NPT completes withdrawal procedures under Article X. They should keep the Security Council fully informed of relevant information and take steps to prevent a State violating its NPT or IAEA obligations from benefiting through its association with the Agency, such as by suspending supply agreements, ceasing technical assistance, or withdrawing nuclear material and equipment. Given that a State's withdrawal from the Treaty risks leaving nuclear materials and technology unsafeguarded, the Security Council should promptly convene when notified of a violator's intent to withdraw and ensure that steps are taken to maintain safeguards until past violations are fully addressed. Withdrawing states should also be encouraged to establish IAEA safeguards agreements that function independently of NPT adherence, such as those under INFCIRC 66.

States and their entities should not continue nuclear supply or cooperation with a country that was in violation of the NPT at the time of its withdrawal, unless such actions are endorsed by the U.N. Security Council. Additionally, a withdrawing Party should not be permitted to benefit from nuclear materials and equipment it imported while an NPT Party. Accordingly, NPT nuclear supplier states should take

appropriate steps to halt the use of previously supplied nuclear materials and equipment in the withdrawing state and seek the elimination or return of these items to the original supplier. NPT nuclear suppliers should include such rights in their bilateral nuclear supply agreements and exercise them as needed. They should also reserve the right to terminate supply agreements with any NPT Party that violates its commitments and subsequently withdraws from the Treaty.

NPT Parties should take effective measures to dissuade a state from withdrawing while in violation of the Treaty. They should express their opposition to this action before, during, and after the Article X notice period. For instance, Parties might consider convening an extraordinary meeting to address such a case of withdrawal.

“Extraordinary events” that compromise the “supreme interests of the country”

The text of the NPT specifies that a state may only consider withdrawal if events have already compromised or altered its security, not merely if such events are likely or threatening to do so. However, the assessment of what constitutes a qualifying event is left to the withdrawing state, with no established NPT procedure to verify the legitimacy of this claim. This subjective criterion has often been cited as a weakness of the NPT regime, as interpretations can vary widely on what qualifies as an exceptional event. According to customary international law, the only factor that can potentially limit the state’s subjective assessment is the requirement to act in good faith in treaty implementation—a fragile safeguard at best.

Historical records of the NPT negotiations indicate that negotiators did not provide explicit guidance on how to interpret the withdrawal clause in Article X. Instead, the language in Article X closely resembles the text agreed upon in the 1963 Partial Test Ban Treaty. In the context of that earlier treaty, potential

grounds for withdrawal included a treaty violation by another party or nuclear detonations by a non-party that could endanger a state party's security. These scenarios may have been considered by the NPT drafters as primary justifications for withdrawal.

However, in crafting the NPT, negotiators seemed to favour a degree of flexibility, especially to encourage countries like the Federal Republic of Germany and Italy to join. Both states wanted the option to reconsider their non-nuclear-weapon status if significant geopolitical changes occurred, such as a breakdown of NATO. Additionally, negotiators sought to permit withdrawal in other circumstances, such as if a non-signatory state acquired nuclear weapons. Records suggest that the US delegation also viewed the outbreak of a major conflict as a potentially legitimate basis for withdrawal.

Among the non-nuclear-weapon states, there have been varying perspectives on the right of withdrawal: some have advocated for restricting it, others (like Brazil and Nigeria) support a broader interpretation, and a few (such as the United Arab Republic and Burma) have suggested making withdrawal conditional on the full implementation of Article VI on disarmament. Recently, analysts have revisited this interpretation, proposing a broad reading of what constitutes an “extraordinary event.”

The NPT’s wording permits some “creativity” in defining events that might justify withdrawal, while emphasising that such events must be of an “extraordinary” nature. Additionally, the circumstances should ideally relate to the Treaty’s core purpose, namely, preventing nuclear proliferation. However, given the high stakes for state security, related issues, such as arms control or broader aspects of international security, could also be considered relevant grounds for withdrawal.

The mechanism for imposing sanctions in response to NPT violations

When a country is suspected of violating the NPT, the response mechanism involves a coordinated process led by the International Atomic Energy Agency (IAEA) and the United Nations Security Council (UNSC). The IAEA is responsible for verifying that non-nuclear-weapon states comply with their NPT obligations through a system of safeguards and inspections. If the IAEA detects any suspicious activities or a potential violation—such as undeclared nuclear material or a failure to adhere to safeguards—it investigates and may report its findings to its Board of Governors. Should the violation be severe or remain unresolved, the IAEA can refer the case to the UNSC for further action. Article III.B.4 of the IAEA Statute grants the agency the authority to submit reports to the United Nations if there is a situation that might "jeopardize the peace, security or welfare of any nation or group of nations." This establishes the IAEA's role in reporting to the UN Security Council if it believes a state's nuclear activities pose a significant threat to peace and security.

Once the UNSC receives the IAEA's report, it deliberates on how to address the breach, considering the nature of the violation, the intent of the offending state, and the risks posed to regional and global security. In cases of significant non-compliance, the UNSC may issue resolutions demanding that the state return to compliance, typically specifying conditions, timelines, and a call for greater cooperation with the IAEA.

If the violating state does not comply with these demands, the UNSC can impose sanctions under Chapter VII of the UN Charter, treating the violation as a threat to international peace and security. These sanctions can include economic and financial restrictions, arms embargoes, travel bans, asset freezes, and restrictions on specific imports and exports, particularly those related to nuclear and dual-use technology. Sanctions aim to pressure the state to fulfill its NPT obligations and return to peaceful nuclear activities.

The IAEA continues monitoring the state's nuclear activities to assess compliance. If the state shows genuine cooperation and meets compliance benchmarks, the UNSC can vote to ease or lift sanctions. Conversely, if the violation persists, the UNSC may intensify sanctions or consider additional political or diplomatic actions. This response mechanism enables the international community to collectively address NPT violations, working to ensure states adhere to nonproliferation commitments and maintain the stability of the global nonproliferation regime.

Individual states or groups of states can respond directly to perceived NPT violations or nuclear proliferation risks, especially when they feel multilateral mechanisms are insufficient. The United States, in particular, has frequently used unilateral sanctions to address nuclear non-compliance.

Most notable cases of violation of NPT

North Korea joined the NPT as a non-nuclear-weapon state in 1985 but was suspected of secretly developing nuclear weapons. After withdrawing from the treaty in 2003, it conducted its first nuclear test in 2006. In response, the US, South Korea, and Japan imposed sanctions beyond UN mandates, targeting North Korea's exports, banking systems, and international trade, particularly coal, textiles, and labour exports. These measures, coupled with severed diplomatic ties, have politically and economically isolated North Korea. Its actions have heightened tensions in East Asia, prompting South Korea and Japan to bolster their defence capabilities.

Iran's nuclear programme, initially for civilian purposes under the NPT, raised suspicions due to undeclared activities and IAEA-reported non-compliance. In response, the US and EU imposed sanctions

targeting Iran’s oil exports, banking, and trade, intensifying in the 2000s and early 2010s. These measures pressured Iran into the 2015 Joint Comprehensive Plan of Action (JCPOA), though the US reimposed sanctions after withdrawing in 2018.

Iraq, an NPT signatory, violated its commitments by pursuing a covert nuclear weapons programme in the 1980s. After the 1991 Gulf War, evidence of this programme emerged, prompting UN Security Council sanctions and rigorous IAEA inspections, which dismantled Iraq's nuclear capabilities. Persistent suspicions of weapons development contributed to the 2003 US-led invasion, although no active nuclear weapons programme was found.

Libya, an NPT member, conducted a covert nuclear weapons programme in the 1980s and 1990s, importing nuclear technology in violation of the NPT. In the 1980s and 1990s, the US imposed unilateral sanctions on Libya, which included measures against its oil exports, financial transactions, and key industries. Libya ultimately dismantled its nuclear programme in 2003.

Comprehensive Nuclear-Test-Ban Treaty

The Comprehensive Nuclear-Test-Ban Treaty (CTBT) was negotiated in the Conference on Disarmament in Geneva during 1995 and 1996, reflecting extensive international efforts to curb nuclear testing. It was adopted by the United Nations General Assembly on 10 September 1996 through Resolution 50/245 and subsequently opened for signature on 24 September 1996. This milestone treaty aims to establish a comprehensive prohibition on nuclear explosions for both military and civilian purposes, contributing to global non-proliferation and disarmament objectives.

The progression of international agreements from the 1959 Antarctic Treaty to the 1979 Moon Treaty highlights a global commitment to regulating the use of shared spaces and controlling the proliferation of nuclear weapons. The Antarctic Treaty set a precedent by designating Antarctica as a demilitarised and scientific zone, paving the way for treaties such as the 1963 Partial Test Ban Treaty, which restricted nuclear testing, and the 1967 Outer Space Treaty, which established outer space as a realm free from national appropriation and nuclear armament. Similarly, the 1968 Nuclear Non-Proliferation Treaty aimed to curb the spread of nuclear weapons, while the 1971 Seabed Treaty extended this prohibition to the ocean floor. The 1979 Moon Treaty further reinforced the principles of peaceful exploration and shared stewardship of extraterrestrial resources, reflecting an evolving vision of cooperative governance over global commons.

Between 1945 and 1996, over 2,000 nuclear explosions were conducted by six states, averaging approximately one detonation every nine days, reflecting the intense nuclear arms race of the Cold War. However, since 1996, only eight nuclear tests have occurred, carried out by three states outside the Nuclear Non-Proliferation Treaty. India and Pakistan each conducted two tests in 1998, while the Democratic People's Republic of Korea has carried out six tests, spanning 2006 to 2017 (although, neither of them is a party to CTBT). This dramatic reduction underscores the impact of global non-proliferation efforts, though challenges persist with non-NPT states continuing testing.

The CTBT was negotiated at the Conference on Disarmament in Geneva during 1995 and 1996. It was adopted by the United Nations General Assembly on 10 September 1996 through Resolution 50/245 and subsequently opened for signature on 24 September 1996, marking a critical step toward the global prohibition of nuclear testing.

The Comprehensive Nuclear-Test-Ban Treaty imposes a comprehensive ban on all nuclear weapon test explosions and any other nuclear explosions. It establishes a unique global verification regime, including an International Monitoring System, to ensure compliance. The treaty also creates a dedicated organisation, the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), to oversee its implementation and operations. By prohibiting nuclear tests, the CTBT strengthens disarmament and non-proliferation frameworks, addressing critical gaps in global efforts to prevent the development and proliferation of nuclear weapons.

The CTBT operates by imposing fundamental obligations on each member state, as outlined in Article I. Member states are required not to conduct any nuclear explosions and must also prohibit and prevent such explosions within their jurisdiction or control. Furthermore, states are obligated to refrain from causing, encouraging, or participating in any activities involving nuclear explosions. These commitments ensure comprehensive compliance, supporting the treaty's goal of eliminating nuclear tests worldwide.

The CTBT requires member states to adopt specific national implementation measures under Article III. These include prohibiting nuclear weapon test explosions within their jurisdiction, cooperating with other States Parties in investigations and prosecutions of treaty violations, and establishing a National Authority to oversee compliance and coordinate with the treaty's international structures. These measures ensure the treaty's effectiveness at both national and global levels.

Although the CTBT is not as widely violated as the NPT, in 1996 Russia signed the Comprehensive CTBT prohibiting nuclear explosive testing, and in November 2023 Moscow revoked its ratification of the treaty.[44] The UK signed the Comprehensive Test Ban Treaty in 1996 and ratified it in 1998. Although

[44] Nuclear Threat Initiative (NTI) (n.d.), "Russia: Nuclear Disarmament," Nuclear Threat Initiative

the CTBT is yet to enter force, the UK abides by its commitments and has maintained a moratorium on nuclear testing.[45]

Conclusion

Although the NPT has served as a cornerstone for nuclear non-proliferation, its relevance in addressing modern challenges has diminished. The treaty's language, shaped by the geopolitical context of the 1960s, no longer aligns with contemporary threats and technologies. Unified definitions of nuclear weapons bring clarity, particularly in the context of advancements in dual-use technologies and tactical nuclear arms. Revisiting the treaty's moral and ethical framework introduces perspectives that resonate with current global disarmament efforts and address the humanitarian consequences of nuclear weapons. Without updates, the NPT faces a declining role in an evolving international landscape. As the French Ministry of Foreign Affairs emphasised, while the moral argument for a ban is recognised, critics stress the need to reconcile ethical aspirations with strategic realities, warning that a premature ban could weaken public support for deterrence policies and destabilize international security.[46]

The war in Ukraine has led many countries to reassess their nuclear and defence strategies, with numerous new military strategy reports already underway. This makes it an ideal moment to revisit the NPT. A key advantage of the treaty lies in the strong incentive for states to remain parties to it, as withdrawing would risk damaging their international prestige. However, to maintain its credibility, the treaty's existing challenges require attention. Modernising its framework and addressing outdated

[45] House of Commons Library (2021), "Hypersonic Weapons," House of Commons Library, London
[46] Sénat de France (2017), "Les Enjeux Géostratégiques des Proliférations Nucléaires," Rapport d'information n° 560 (2016-2017), Sénat de France, Paris

provisions are essential to ensuring its relevance and effectiveness amid shifting global security dynamics. Ignoring these issues risks undermining the trust it has cultivated over decades.

Despite the fact that nuclear weapons serve as a guarantor of global stability, treaties like the NPT and CTBT are essential for amplifying the fear of their use and reinforcing the nuclear taboo.

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