



Nuclear Non-Proliferation Treaty Review Committee Background Guide 2022

Written by Natalie J. Keller and Takeo Hagi





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Dear Delegates,

Welcome to the 2022 National Model United Nations Japan Conference (NMUN • Japan)! We are pleased to introduce you to our committee, the Nuclear Non-Proliferation Treaty Review Conference (NPT). Natalie J. Keller is the Director and Takeo Hagi is the Assistant Director. Natalie studied law with a focus on international and business law and has been on staff for NMUN•NY for several years. Takeo studies International Relations at Kobe City University of Foreign Studies with a particular interest in international security.

The topics under discussion for the Nuclear Non-Proliferation Treaty Review Conference are:

1. Practical Measures to Implement Article VI
2. Strengthening Measures for Nuclear Security

The NPT Review Conference plays a unique role within the United Nations, as an opportunity for Member States to discuss disarmament, non-proliferation, and peaceful uses of nuclear technology. Its near-universal membership allows the Conference to promote consensus on key international issues related to both development and peace and security. This consensus usually leads to an outcome document, which consists of a summary of the work program discussed at the conference as well as a list of recommendations for action for the Member States and various international and civil society organizations. It is intended to strengthen the implementation of the NPT.

This Background Guide serves as an introduction to the topics for this committee. However, it is not intended to replace individual research. We encourage you to explore your Member State's policies in depth and use the Annotated Bibliography and Bibliography to further your knowledge on these topics. In preparation for the Conference, each delegation will submit a Position Paper by 11:59 p.m. (Eastern) on 1 November 2022 in accordance with the guidelines in the [Position Paper Guide](#) and the [NMUN • Japan Position Papers](#) page.

Two resources, available to download from the [NMUN website](#), serve as essential instruments in preparing for the Conference and as a reference during committee sessions:

1. [NMUN Delegate Preparation Guide](#) - explains each step in the delegate process, from pre-Conference research to the committee debate and resolution drafting processes. Please take note of the information on plagiarism, and the prohibition on pre-written working papers and resolutions. Delegates should not start discussion on the topics with other members of their committee until the first committee session.
2. [NMUN Rules of Procedure](#) - include the long and short form of the rules, as well as an explanatory narrative and example script of the flow of procedure.

In addition, please review the mandatory [NMUN Conduct Expectations](#) on the NMUN website. They include the Conference dress code and other expectations of all attendees. We want to emphasize that any instances of sexual harassment or discrimination based on race, gender, sexual orientation, national origin, religion, age, or disability will not be tolerated. If you have any questions concerning your preparation for the committee or the Conference itself, please contact Marleen Schreier at dsg.japan@nmun.org.

We wish you all the best in your preparations and look forward to seeing you at the Conference!

Sincerely,

Natalie J. Keller, Director
Takeo Hagi, Assistant Director

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Committee Overview

Introduction

The *Treaty on the Non-Proliferation of Nuclear Weapons* (NPT), which entered into force in 1970, is considered to be the cornerstone of the international nuclear non-proliferation regime.¹ In addition to preventing further spread of nuclear weapons and weapons technology, the treaty was designed to achieve the goal of nuclear disarmament and general and complete disarmament, and to foster the peaceful uses of nuclear energy.² To discuss the implementation of the three pillars of non-proliferation, disarmament, and peaceful uses of nuclear energy, the first Review Conference of the Parties to the Treaty (RevCon) took place in 1975 in Geneva, Switzerland.³ Despite disagreements regarding the lack of a concrete timeline for nuclear disarmament, the States parties adopted a Final Declaration by consensus, which set a precedent to work towards a final consensus-based outcome document at all future RevCons in the spirit of diplomacy.⁴ The 1975 Final Declaration document provided the foundation for recommendations made at future RevCons.⁵ Since the first meeting, the NPT RevCon was held every five years, with all States parties to the NPT invited to discuss the implementation of the treaty.⁶ Article X of the NPT included the provision that 20 years after the treaty enters into force, a conference would be held to decide if the NPT would be valid for a fixed number of years, or if it should remain in force indefinitely.⁷ Thus, States parties at the RevCon in 1995 decided that the NPT would be extended indefinitely.⁸

Mandate, Functions, and Powers

The RevCon serves as the primary forum for discussion of issues related to nuclear weapons and technology, including disarmament, non-proliferation, nuclear energy, and the establishment of Nuclear-Weapons-Free Zones (NWFZ).⁹ It was established by Article VIII of the NPT, which states that conferences of the States parties will be held every five years “in order to review the operation of this Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realized.”¹⁰ Every RevCon aims to produce a final outcome document, which outlines the current state of NPT implementation and lists action items for the following five years.¹¹ However, a consensus is not always reached, meaning that an outcome document is not always produced.¹² When there is an outcome document, it is sent to the Secretary-General of the UN and the Director General of the IAEA.¹³ Nevertheless, the final outcome documents are not legally binding and are therefore not always fully implemented.¹⁴ These recommended actions typically focus on the three pillars of the NPT but often address also other policy areas and concrete issues such as the role of gender in the NPT or the

¹ United Nations, Office for Disarmament Affairs. *Treaty on the Non-Proliferation of Nuclear Weapons (NPT)*. n.d.

² United Nations, General Assembly. *Treaty on the Non-Proliferation of Nuclear Weapons (A/RES/2345 (XXII))*. 1968.

³ *Ibid.* Art. 8.

⁴ Reaching Critical Will. Women's International League for Peace and Freedom. *History of the NPT 1975-1995*. 2022.

⁵ *Ibid.*

⁶ Reaching Critical Will. Women's International League for Peace and Freedom. *Nuclear Non-Proliferation Treaty*. 2022.

⁷ United Nations, General Assembly. *Treaty on the Non-Proliferation of Nuclear Weapons (A/RES/2345 (XXII))*. 1968. Art. 10.

⁸ Reaching Critical Will. Women's International League for Peace and Freedom. *History of the NPT 1975-1995*. 2022.

⁹ Reaching Critical Will. Women's International League for Peace and Freedom. *Nuclear Non-Proliferation Treaty*. 2022.

¹⁰ United Nations, General Assembly. *Treaty on the Non-Proliferation of Nuclear Weapons (A/RES/2345 (XXII))*. 1968. Art. 8.

¹¹ Reaching Critical Will. Women's International League for Peace and Freedom. *Nuclear Non-Proliferation Treaty*. 2022.

¹² *Ibid.*

¹³ International Atomic Energy Agency. *Key Roles*. n.d.

¹⁴ Reaching Critical Will. Women's International League for Peace and Freedom. *Nuclear Non-Proliferation Treaty*. 2022.

denuclearization of the Middle East.¹⁵ The NPT places no restrictions on the issues to be addressed in the outcome document or the types of recommendations made, and future RevCons therefore have the option to act on other issue areas, such as assistance in researching nuclear applications for medicine and agriculture.¹⁶

Broadly speaking, the following non-exhaustive list summarizes the NPT Review Conference's mandate:

- The NPT RevCon **will generally**: promote the adherence to the three pillars of the NPT and States parties obligations under NPT, including nuclear non-proliferation, nuclear disarmament, and peaceful uses of nuclear energy; encourage cooperation among relevant stakeholders of the international community; follow-up on past recommended actions of the RevCon and review progress towards implementing the NPT; provide policy recommendations on matters related to NPT's implementation.¹⁷
- The NPT RevCon **will not generally**: design and implement projects or programming on nuclear non-proliferation, nuclear disarmament, and peaceful uses of nuclear energy; direct UN specialized agencies or other stakeholders other than the States parties to develop or implement specific projects or programs.¹⁸

The RevCon does not have an operations arm and relies upon the States parties, the IAEA, the UN Office for Disarmament Affairs (UNODA), and other UN agencies to carry out the actions listed in its outcome documents.¹⁹ The IAEA is invited to attend the RevCon, primarily because it is the organization statutorily responsible for monitoring many aspects of NPT implementation through its safeguards system and focus on the peaceful uses of nuclear technology.²⁰ The States parties also work closely with UNODA, particularly with its Weapons of Mass Destruction branch, which provides both substantive and administrative support.²¹ UNODA utilizes the NPT to promote global disarmament and eliminate weapons of mass destruction.²² Several intergovernmental and non-governmental organizations focused on nuclear disarmament and the use of nuclear technology contribute to its implementation worldwide.²³

Governance, Structure, and Membership

With a total of 189 United Nations (UN) Member States and two Observer States having acceded to the NPT, the RevCon's attendance is near universal and attracts participation from civil society and other non- and intergovernmental organizations.²⁴ India, Israel, Pakistan, and South Sudan are the only states that have never acceded to the treaty, and the Democratic People's Republic of Korea (DPRK) acceded to it but withdrew in 2003.²⁵ These states do not participate in the RevCons.²⁶

Every RevCon is preceded by three two-week Preparatory Committee meetings, which outline the body of work to be discussed at the respective RevCon through generating statements and working papers,

¹⁵ Reaching Critical Will. Women's International League for Peace and Freedom. *2022 NPT Briefing Book*. 2022.

¹⁶ United Nations, General Assembly. *Treaty on the Non-Proliferation of Nuclear Weapons (A/RES/2345 (XXII))*. 1968. Art. 8.

¹⁷ 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Draft Final Document*. 2022.

¹⁸ Ibid.

¹⁹ Choubey. Carnegie Endowment for International Peace. *Understanding the 2010 NPT Review Conference*. 2010.

²⁰ International Atomic Energy Agency. *Key Roles*. n.d.; Reaching Critical Will. Women's International League for Peace and Freedom. *2022 NPT Briefing Book*. 2022.

²¹ Nuclear Threat Initiative. *United Nations Office of Disarmament Affairs*. 2022.

²² United Nations, Office for Disarmament Affairs. *Weapons of Mass Destruction*. n.d.

²³ Reaching Critical Will. Women's International League for Peace and Freedom. *Nuclear Non-Proliferation Treaty*. 2022.

²⁴ United Nations, Office for Disarmament Affairs. *Treaty on the Non-Proliferation of Nuclear Weapons (NPT)*. n.d.

²⁵ Miller et al. Arms Control Association. *Israel, India, and Pakistan: Engaging the Non-NPT States in the Nonproliferation Regime*. n.d.

²⁶ Ibid.

and addressing administrative matters such as the budget or the selection of the RevCon president.²⁷ The Preparatory Committee is also responsible for beginning the process of assessing the implementation of the NPT.²⁸ To this end, the Preparatory Committee serves as a forum for States parties to share their individual progress reports, outlining the steps they have taken to fulfill their treaty obligations.²⁹

Regional groups and organizations are also relevant within the NPT RevCon and typically serve as large negotiation blocs.³⁰ Prominent examples are the New Agenda Coalition and the Non-Aligned Movement (NAM), a regional group of 120 Member States that identify themselves as not being aligned to a major power.³¹ Both advocate for nuclear weapon states to commit to disarming their stockpiles, which has been viewed as a neglected issue by some Member States throughout the NPT review process.³² Because the final document is adopted by consensus, the success of the RevCon hinges on the ability of the States parties to compromise which has failed in the past to produce such document.³³

Annotated Bibliography

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The NPT itself is the foundational document that has largely structured and influenced the current global nuclear weapons control regime. Each article outlines key actions and information, such as verifying peaceful uses of nuclear energy, that has shaped many of the key bodies, laws, and instruments relevant today. Understanding the NPT, its pillars, and its provisions is crucial in knowing how the UN and the international community address issues related to nuclear energy and technology.

Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Final report of the Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT/CONF.2020/1)*. 2019. Retrieved 17 July 2022 from: <https://undocs.org/en/NPT/CONF.2020/1>

The Final Report of the Preparatory Committee for the 2020 Review Conference provides one of the most holistic overviews of information that is pertinent to the interests of States parties. It not only provides a substantive overview of themes discussed at meetings, but also outlines every document that was approved within the preparatory process. This is not only an effective source of information to understand the general substantive priorities of States parties, but also a strong retainer of all information relevant to the 2020 RevCon.

Reaching Critical Will. Women's International League for Peace and Freedom. *2022 NPT Briefing Book*. 2022. Retrieved 17 August 2022 from: <https://reachingcriticalwill.org/resources/publications-and-research/publications/15592-2022-npt-briefing-book>

The NPT Briefing Book published by Reaching Critical Will, a program of the Women's International League for Peace and Freedom, is one of the most comprehensive sources on the NPT process from a civil society perspective. In this document, delegates will find an overview of the current state of the NPT process and perspectives from disarmament

²⁷ United Nations. *Tenth Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)*. 2022.

²⁸ Ibid.

²⁹ Ibid; Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Final report of the Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT/CONF.2020/1)*. 2019.

³⁰ Nuclear Threat Initiative. *New Agenda Coalition*. 2022; Nuclear Threat Initiative. *Non-Aligned Movement*. 2022.

³¹ Ibid.

³² Ibid.

³³ Kimball et al. Arms Control Association. *NPT Conference Fails to Reach Consensus*. 2015; Rosa. Arms Control Association. *State Parties Fail to Achieve Consensus at The NPT Review Conference*. 2022.

activists and civil society of how the state of the nuclear control regime is progressing. Examples include outlines of which countries have and have not met commitments in areas of disarmament and article implementation. It also provides a list of policy recommendations in key areas related to the NPT.

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Choubey. Carnegie Endowment for International Peace. *Understanding the 2010 NPT Review Conference*. 2010. Retrieved 19 August 2022 from: <http://carnegieendowment.org/2010/06/03/understanding-2010-npt-review-conference>

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Kimball et al. Arms Control Association. *NPT Conference Fails to Reach Consensus*. 2015. Retrieved 8 August 2022 from: <https://www.armscontrol.org/act/2015-06/news/npt-conference-fails-reach-consensus>

Miller et al. Arms Control Association. *Israel, India, and Pakistan: Engaging the Non-NPT States in the Nonproliferation Regime*. n.d. Retrieved 14 August 2022 from: http://www.armscontrol.org/act/2003_12/MillerandScheinman

Nuclear Threat Initiative. New Agenda Coalition. 2022. Retrieved 23 August 2022 from: <https://www.nti.org/learn/treaties-and-regimes/new-agenda-coalition/>

Nuclear Threat Initiative. *Non-Aligned Movement*. 2022. Retrieved 23 August 2022 from: <https://www.nti.org/learn/treaties-and-regimes/non-aligned-movement-nam/>

Nuclear Threat Initiative. *United Nations Office of Disarmament Affairs*. 2022. Retrieved 19 August 2022 from: <https://www.nti.org/learn/treaties-and-regimes/un-office-of-disarmament-affairs/>

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Rosa. Arms Control Association. *State Parties Fail to Achieve Consensus at The NPT Review Conference*. 2022. Retrieved 27 August 2022 from: <https://www.armscontrol.org/blog/2022/updates-10th-NPT-RevCon>

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Reaching Critical Will. Women's International League for Peace and Freedom. *2022 NPT Briefing Book*. 2022. Retrieved 17 August 2022 from: <https://reachingcriticalwill.org/resources/publications-and-research/publications/15592-2022-npt-briefing-book>

Reaching Critical Will. Women's International League for Peace and Freedom. *Nuclear Non-Proliferation Treaty*. 2022. Retrieved 13 August 2022 from: <http://www.reachingcriticalwill.org/disarmament-fora/npt>

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1. Practical Measures to Implement Article VI

“The existential threat that nuclear weapons pose to humanity must motivate us to accomplish new and decisive action leading to their total elimination. We owe this to the Hibakusha—the survivors of nuclear war—and to our planet.”³⁴

Introduction

To this day, there have been two cases of nuclear weapons being used in warfare in the bombings of Hiroshima and Nagasaki in 1945.³⁵ These led to the United Nations (UN) General Assembly adopting resolution 1(I) in 1946 for the establishment of a commission to deal with the problems raised by the discovery of atomic energy.³⁶ The commission should inter alia make proposals “for the elimination from national armaments of atomic weapons and of all other major weapons adaptable to mass destruction.”³⁷ In light of the nuclear risks, the international community adopted the *Treaty on the Non-Proliferation of Nuclear Weapons* (NPT) which entered into force in 1970 as a landmark treaty addressing nuclear proliferation.³⁸

The basis of the NPT are three pillars: non-proliferation, disarmament, and peaceful use of nuclear energy.³⁹ Non-proliferation is regulated in Articles I, II, and III of the NPT and deals with reducing nuclear weapon stockpiles and the spread of nuclear weapons by prohibiting the acquisition and transfer of nuclear weapons.⁴⁰ The peaceful use of nuclear energy is the topic of Article IV and gives States parties the right to access nuclear energy but only for peaceful uses with regards to the development of research, the production, or the use.⁴¹ Disarmament is regulated in Article VI of the NPT which states that: “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.”⁴² It accordingly deals with the elimination of nuclear weapons including not producing them in the first place.⁴³ The NPT distinguishes between non-nuclear weapon states (NNWS) and nuclear weapon states (NWS), which are defined as: “one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January 1967.”⁴⁴

Within the UN system disarmament is acknowledged as an important step to maintaining international peace and security and preventing armed conflict.⁴⁵ However, up to now there has been a lack of progress on implementing disarmament under Article VI and the last two Review Conferences of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT RevCon) in 2015 and 2022 respectively were unable to find consensus and agree on the substantive part of their final outcome

³⁴ United Nations, Office for Disarmament Affairs. *Securing Our Common Future - An Agenda for Disarmament*. 2018. p. vii.

³⁵ United Nations, Office for Disarmament Affairs. *Nuclear Weapons*. n.d.

³⁶ United Nations, General Assembly. *Establishment of a Commission to Deal with the Problems Raised by the Discovery of Atomic Energy (A/RES/1(I))*. 1946. p. 9.

³⁷ Ibid.

³⁸ United Nations, Office for Disarmament Affairs. *Treaty on the Non-Proliferation of Nuclear Weapons (NPT)*. n.d.

³⁹ Kirsten et al. Non-Proliferation and Disarmament Papers. *Balancing the Three Pillars of the NPT: How Can Promoting Peaceful Uses Help?* 2022. p. 1.

⁴⁰ Nuclear Threat Initiative. *NPT*. 2022.

⁴¹ Kirsten et al. Non-Proliferation and Disarmament Papers. *Balancing the Three Pillars of the NPT: How Can Promoting Peaceful Uses Help?* 2022. p. 4.

⁴² United Nations, General Assembly. *Treaty on the Non-Proliferation of Nuclear Weapons (A/RES/2373 (XXII))*. 1968.

⁴³ Nuclear Threat Initiative. *NPT*. 2022.

⁴⁴ United Nations, General Assembly. *Treaty on the Non-Proliferation of Nuclear Weapons (A/RES/2373 (XXII))*. 1968.

⁴⁵ United Nations, Office for Disarmament Affairs. *Securing Our Common Future - An Agenda for Disarmament*. 2018. p. 6.

document, meaning there was also no progress on the implementation of Article VI.⁴⁶ Though Article VI remains largely unimplemented, disarmament under the NPT is still seen as crucial in implementing international peace and security.⁴⁷

Since the Cold War, the nuclear weapons arsenal has been reduced, but the number of nuclear warheads worldwide is still significant.⁴⁸ It is estimated that as of early 2022 there are 12,705 nuclear warheads globally, in the possession of nine countries.⁴⁹ While the nuclear weapons arsenal has been reduced, there has been a modernization of the nuclear arsenals leading to new military capabilities and increasing the nuclear risk posed by these weapons.⁵⁰ States parties to the NPT are concerned by “advanced new types of nuclear weapons” and are also concerned that the risk of nuclear weapons being used is today higher than it has been since the Cold War ended.⁵¹ There are many other threats such as regional instabilities and tensions, cyber-attacks, and terrorism increase the risk of a nuclear weapon being used on purpose or inadvertently.⁵²

International and Regional Framework

The UN has made the elimination of nuclear weapons a primary goal from the very beginning in 1945 and worked towards several multilateral treaties to support disarmament as well as the prevention of nuclear testing and proliferation.⁵³ The 1970 NPT is not only the earliest multilateral treaty on this issue but is also the only one with disarmament as a binding commitment by NWS.⁵⁴ The intention is to achieve general and complete nuclear disarmament as well as the prevention of the spread of nuclear weapons while ensuring that the peaceful use of nuclear energy remains possible.⁵⁵

In addition to the NPT, the *Comprehensive Nuclear-Test-Ban Treaty* (CTBT) (1996) is another effort to strengthen non-proliferation and disarmament.⁵⁶ The CTBT limits the development, manufacture, and acquisition of nuclear weapons.⁵⁷ While 174 States parties have ratified the treaty, there are eight States parties that are listed in the annex that still need to ratify it to enter into force, namely China, Democratic People’s Republic of Korea, Egypt, India, Iran, Israel, Pakistan, and the United States of America.⁵⁸ Though the treaty has not entered into force yet, meaning it is not yet legally binding, in reality it has led to the end of nuclear weapon test explosions, the last one being conducted in 2017.⁵⁹ A more recent effort to make progress on disarmament is the *Treaty on the Prohibition of Nuclear Weapons* (TPNW), which was adopted in 2017, entered into force on 22 January 2021, and “is the first multilateral legally

⁴⁶ Kirsten et al. Non-Proliferation and Disarmament Papers. *Balancing the Three Pillars of the NPT: How Can Promoting Peaceful Uses Help?* 2022. p. 15; 2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *2015 NPT Review Conference*. 2015; Rosa. Arms Control Association. *State Parties Fail to Achieve Consensus at The NPT Review Conference*. 2022.

⁴⁷ Erästö. Stockholm International Peace Research Institute. *The NPT and the TPNW: Compatible or Conflicting Nuclear Weapons Treaties?* 2019.

⁴⁸ Federation of American Scientists. *Status of World Nuclear Forces*. 2022.

⁴⁹ Ibid.

⁵⁰ United Nations, Office for Disarmament Affairs. *Securing Our Common Future - An Agenda for Disarmament*. 2018. p. 17.

⁵¹ 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Draft Final Document (NPT/CONF.2020/CRP.1/Rev.2)*. 2022. pp. 20, 23.

⁵² Nuclear Threat Initiative. *2018 Annual Report*. 2018. p. 9.

⁵³ United Nations, Office for Disarmament Affairs. *Nuclear Weapons*. n.d.

⁵⁴ United Nations, Office for Disarmament Affairs. *Treaty on the Non-Proliferation of Nuclear Weapons (NPT)*. n.d.

⁵⁵ Ibid.

⁵⁶ United Nations, Office for Disarmament Affairs. *Comprehensive Nuclear-Test-Ban Treaty (CTBT)*. n.d.; United Nations, Office for Disarmament Affairs. *Securing Our Common Future - An Agenda for Disarmament*. 2018. p. 21.

⁵⁷ Ibid. p. 21.

⁵⁸ United Nations, Office for Disarmament Affairs. *Comprehensive Nuclear-Test-Ban Treaty (CTBT)*. n.d.

⁵⁹ Kimball. Arms Control Association. *Comprehensive Test Ban Treaty at a Glance*. 2022.

binding instrument for nuclear disarmament to have been negotiated in 20 years.”⁶⁰ The overall goal of the TPNW is the total elimination of nuclear weapons which complements and strengthens the NPT disarmament pillar.⁶¹ There are several prohibitions in the TPNW forming a comprehensive approach to the elimination of nuclear weapons, requesting inter alia “not to develop, test, produce, acquire, possess, stockpile, use or threaten to use nuclear weapons.”⁶² The TPNW explicitly mentions the implementation of the NPT as a goal and could be an effective measure in implementing Article VI as the TPNW builds on it.⁶³ It also goes further than the NPT by delegitimizing the nuclear weapon possession of all countries, including the NWS.⁶⁴ However, it has not been signed and ratified by the NWS.⁶⁵

A regional approach towards disarmament is the establishment of Nuclear-Weapon-Free Zones (NWFZs).⁶⁶ NWFZs are defined as “a specified region in which countries commit themselves not to manufacture, acquire, test, or possess nuclear weapons.”⁶⁷ There are currently five treaties establishing NWFZs: the *Treaty of Tlatelolco* (1967) for Latin America and the Caribbean, the *Treaty of Rarotonga* (1985) for the South Pacific, the *Treaty of Bangkok* (1995) for Southeast Asia, the *Treaty of Pelindaba* (1996) for Africa, and the *Treaty of Semipalatinsk* (2006) for Central Asia.⁶⁸ One of the objectives for these treaties is to prevent the deployment and testing of nuclear weapons on or near the territories of States parties, which previously was a risk with NWS stationing nuclear weapons on other territories.⁶⁹ Another regional framework was the 2015 *Joint Comprehensive Plan of Action* (JCPOA) containing assurances regarding the solely peaceful nature of the Islamic Republic of Iran’s nuclear program, which was reached between the EU+3 (China, France, Germany, Russia, the United Kingdom and the United States of America) and Iran, but in 2018 the United States of America withdrew from the JCPOA.⁷⁰ While the parties are negotiating again, it is not yet certain if the JCPOA will be reinstated.⁷¹

Role of the International System

The NPT RevCon is held every five years since 1975 where the operation and implementation of the NPT are assessed and reviewed.⁷² Leading up to the RevCon, preparatory committees meet to prepare working papers and drafts which are used at the RevCon as assessment tools based on which a consensus document is drafted by States parties to be adopted and implement the following years.⁷³ Due to the pandemic the 10th RevCon scheduled for 2020 was postponed and took place in August 2022.⁷⁴ Concerning the matter of Article VI and disarmament, many of the steps and actions outlined in the draft

⁶⁰ United Nations, Office for Disarmament Affairs. *Treaty on the Non-Proliferation of Nuclear Weapons (NPT)*. n.d.; United Nations. *International Day for the Total Elimination of Nuclear Weapons 26 September*. n.d.

⁶¹ United Nations, Office for Disarmament Affairs. *Treaty on the Prohibition of Nuclear Weapons*. n.d.; Erästö. Stockholm International Peace Research Institute. *The NPT and the TPNW: Compatible or Conflicting Nuclear Weapons Treaties?* 2019.

⁶² Ibid.

⁶³ Ibid.

⁶⁴ Erästö. Stockholm International Peace Research Institute. *The NPT and the TPNW: Compatible or Conflicting Nuclear Weapons Treaties?* 2019.

⁶⁵ United Nations, Office for Disarmament Affairs. *Treaty on the Prohibition of Nuclear Weapons*. n.d.

⁶⁶ United Nations, Office for Disarmament Affairs. *Nuclear-Weapon-Free Zones*. n.d.

⁶⁷ Davenport. Arms Control Association. *Nuclear-Weapon-Free Zones (NWFZ) at a Glance*. 2022.

⁶⁸ United Nations, Office for Disarmament Affairs. *Nuclear-Weapon-Free Zones*. n.d.

⁶⁹ United Nations Institute for Disarmament Research. *The ways and means in which nuclear-weapon-free zones contribute to regional peace, stability and other political objectives*. 2020.

⁷⁰ Kirsten et al. Non-Proliferation and Disarmament Papers. *Balancing the Three Pillars of the NPT: How Can Promoting Peaceful Uses Help?* 2022. p. 4; United Nations, Office for Disarmament Affairs. *Securing Our Common Future - An Agenda for Disarmament*. 2018. p. 15.

⁷¹ Kirsten et al. Non-Proliferation and Disarmament Papers. *Balancing the Three Pillars of the NPT: How Can Promoting Peaceful Uses Help?* 2022. p. 4.

⁷² United Nations, Office for Disarmament Affairs. *Treaty on the Non-Proliferation of Nuclear Weapons (NPT)*. n.d.

⁷³ Ibid.

⁷⁴ United Nations. *Tenth Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)*. 2022.

final document focus on the responsibilities of NWS.⁷⁵ NWS are called upon to pursue an immediate reduction of all types of nuclear weapons reiterating the need for them to comply with disarmament obligations.⁷⁶ Until the total elimination of nuclear weapons is achieved, NWS commit to upholding the existing security assurances undertaken by them.⁷⁷ In addition, they commit not to use nuclear weapons or threaten to use them against NNWS that are parties to the treaty.⁷⁸ The 2020 RevCon was however not able to achieve consensus in order to adopt the final outcome document.⁷⁹ This was due to Russia's objection to paragraph 34 of the document which expressed concern about the situation at nuclear power plants in the Ukraine.⁸⁰

The 2015 NPT RevCon was also unable to find consensus on the substantive part of the outcome document as it contained information about a conference to be pursued concerning a zone free of weapons of mass destructions in the Middle East.⁸¹ This was not supported by Canada, the United States of America, and the United Kingdom.⁸² The 2010 NPT RevCon was the last review conference able to achieve consensus on an outcome document that also included recommendations on actions to follow.⁸³ The *2010 NPT Review Conference Action Plan* outlines 64 such actions focusing on the three NPT pillars of non-proliferation, disarmament, and peaceful uses of nuclear energy.⁸⁴ While the 2010 RevCon was able to agree on this Action Plan its implementation is still pending.⁸⁵ The stagnation of progress in disarmament and the 2010 Action Plan can in part be traced back to a downturn of the relations between Russia and the United States of America and the fact that key actors have not yet ratified the CTBT as asked for in action 10.⁸⁶

Within the framework of the NPT, the *New Agenda Coalition (NAC)* was established in 1998.⁸⁷ It consists of Egypt, Brazil, Ireland, South Africa, and New Zealand.⁸⁸ Among the priorities of the NAC is that states that have not yet done so adhere to the NPT and sign and ratify the CTBT.⁸⁹ It advocates for complete nuclear disarmament under Article VI of the NPT and supports the TPNW, especially as it sees the modernization of nuclear weapons as a risk to nuclear security.⁹⁰

The first meeting of the States parties to the TPNW took place from 21 to 23 June 2022.⁹¹ A declaration entitled "Our commitment to a world free of nuclear weapons" was adopted as well as the Vienna Action Plan.⁹² The declaration reiterates the reasons for the creation of the TPNW and that it is not only complementary to the NPT but a means to implement Article VI of the NPT through the legal prohibition of

⁷⁵ 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Draft Final Document (NPT/CONF.2020/CRP.1/Rev.2)*. 2022.

⁷⁶ Ibid. p. 26.

⁷⁷ Ibid. p. 27.

⁷⁸ Ibid. p. 27.

⁷⁹ Rosa. Arms Control Association. *State Parties Fail to Achieve Consensus at The NPT Review Conference*. 2022.

⁸⁰ Ibid.

⁸¹ United Nations, Office for Disarmament Affairs. *Treaty on the Non-Proliferation of Nuclear Weapons (NPT)*. n.d.; Kimball et al. Arms Control Association. *NPT Conference Fails to Reach Consensus*. 2015.

⁸² Kimball et al. Arms Control Association. *NPT Conference Fails to Reach Consensus*. 2015.

⁸³ United Nations, Office for Disarmament Affairs. *Treaty on the Non-Proliferation of Nuclear Weapons (NPT)*. n.d.

⁸⁴ 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *2010 NPT Review Conference Action Plan*. 2010.

⁸⁵ Duarte. Arms Control Association. *Unmet Promise: The Challenges Awaiting the 2020 NPT Review Conference*. 2018.

⁸⁶ Kimball et al. Arms Control Association. *NPT Conference Fails to Reach Consensus*. 2015.

⁸⁷ Nuclear Threat Initiative. *New Agenda Coalition*. 2022.

⁸⁸ Ibid.

⁸⁹ Ibid.

⁹⁰ Ibid.

⁹¹ United Nations, Office for Disarmament Affairs. *Treaty on the Prohibition of Nuclear Weapons - Meeting of States Parties Overview*. 2022.

⁹² First Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons. *Report of the first Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons*. 2022.

nuclear weapons.⁹³ The Vienna Action Plan sets out steps and actions to implement the TPNW such as promoting the signing and ratification of the treaty and the active promotion of its norms.⁹⁴ The meeting of States parties furthermore decided to adopt a deadline for nuclear weapons destruction with a maximum upper limit of ten years, extendable by up to five years.⁹⁵

The UN General Assembly also focuses on strengthening the NPT and efforts on disarmament, not only with resolution 1(I) in 1946.⁹⁶ It adopted resolution 14/1378 (1959), calling for general and complete disarmament, and resolution 70/40 (2015), reaffirming the commitment to nuclear disarmament under Article VI.⁹⁷ More recent UN General Assembly resolutions include 76/54 (2021) on “Joint courses of action and future-oriented dialogue towards a world without nuclear weapons”, 76/46 (2021) on nuclear disarmament, 76/48 (2021) calling for a “Universal Declaration on the Achievement of a Nuclear-Weapon-Free World”, and 76/49 (2021) “Towards a nuclear-weapon-free world: accelerating the implementation of nuclear disarmament commitments,” showing the continuing commitment to general and complete disarmament.⁹⁸

The United Nations Office on Disarmament Affairs (UNODA), established in 1998, is another UN institution promoting multilateral efforts to address disarmament under strict and effective international control.⁹⁹ UNODA cooperates with the UN General Assembly, the Conference of Disarmament (CD), and the Disarmament Commission.¹⁰⁰ Especially noteworthy is the UNODA landmark report *Securing Our Common Future - An Agenda for Disarmament* of 2018, which explains why we still need to strengthen measures towards disarmament and its implications, and outlines what UNODA’s role is in disarmament efforts such as offering support in developing nuclear disarmament verification standards.¹⁰¹

The CD is an annual multilateral effort bringing together 65 Member States which also include the NWS to negotiate disarmament and report the results to the UN General Assembly.¹⁰² Part of its focus is the prevention of a nuclear war, the cessation of the nuclear arms race and nuclear disarmament, and a comprehensive program of disarmament.¹⁰³ Most notably in this regard the CD negotiated multilateral agreements and treaties such as the NPT and the CTBT.¹⁰⁴

The International Atomic Energy Agency (IAEA), established in 1957 and called the “world’s Atoms for Peace” organization, aims “to promote safe, secure and peaceful nuclear technologies.”¹⁰⁵ IAEA has key roles and responsibilities under the NPT, specifically in relation to Article III and IV.¹⁰⁶ IAEA international

⁹³ Ibid.

⁹⁴ Ibid.

⁹⁵ Ibid.

⁹⁶ United Nations, General Assembly. *Establishment of a Commission to Deal with the Problems Raised by the Discovery of Atomic Energy (A/RES/1(I))*. 1946.

⁹⁷ United Nations, General Assembly. *General and Complete Disarmament (A/RES/14/1378 (XIV))*. 1959; United Nations, General Assembly. *United Action With Renewed Determination Towards the Elimination of Nuclear Weapons (A/RES/70/40)*. 2015.

⁹⁸ United Nations, General Assembly. *Joint courses of action and future-oriented dialogue towards a world without nuclear weapons (A/RES/76/54)*. 2021; United Nations, General Assembly. *Nuclear Disarmament (A/RES/76/46)*. 2021; United Nations, General Assembly. *Universal Declaration on the Achievement of a Nuclear-Weapon-Free World (A/RES/76/48)*. 2021; United Nations, General Assembly. *Towards a nuclear-weapon-free world: accelerating the implementation of nuclear disarmament commitments (A/RES/76/49)*. 2021.

⁹⁹ United Nations, Office for Disarmament Affairs. *About Us*. n.d.

¹⁰⁰ Ibid.

¹⁰¹ United Nations, Office for Disarmament Affairs. *Securing Our Common Future - An Agenda for Disarmament*. 2018. pp. 17, 23.

¹⁰² United Nations, Office for Disarmament Affairs. *Conference on Disarmament*. n.d.

¹⁰³ Ibid.

¹⁰⁴ Ibid.

¹⁰⁵ International Atomic Energy Agency. *History*. 2022.

¹⁰⁶ International Atomic Energy Agency. *Key Roles*. 2022.

safeguards are used to ensure the peaceful use of nuclear energy and nuclear activities.¹⁰⁷ IAEA furthermore provides expertise on safety standards, to ensure safety and security concerning nuclear activities.¹⁰⁸ There is a close cooperation between IAEA and UNODA with the goal of strengthening any measures for the non-proliferation of weapons of mass destruction and disarmament.¹⁰⁹

Implementation of the Action Plan of the 2010 Review Conference of the Parties to NPT

The Action Plan of the 2010 NPT RevCon is the last document to be adopted by consensus.¹¹⁰ There are 64 actions listed, with actions 1-22 dealing with nuclear disarmament in general.¹¹¹ Only for five of those 22 actions has there been some progress.¹¹² Specifically actions 3-6 deal with the disarmament of nuclear weapons, while actions 7-9 discuss security assurances.¹¹³ Pursuant to action 3 NWS commit to further reducing and ultimately eliminating all types of nuclear weapons with different measures on regional to multilateral levels.¹¹⁴ Action 4 focuses specifically on the reduction of the nuclear arsenal of the United States of America and the Russian Federation.¹¹⁵ Action 5 lists comprehensive approaches as NWS commit to advance efforts for nuclear disarmament through which they also promote international peace and stability as well as increase security.¹¹⁶ Action 5 calls for the “reduction in the global stockpile of all types of nuclear weapons” to minimize the risk of accidental use of nuclear weapons and the enhancement of transparency.¹¹⁷ The 2015 NPT RevCon was supposed to take stock regarding action 5 and “consider the next steps for the full implementation of article VI.”¹¹⁸ However, without an adopted outcome document at the 2015 NPT RevCon nor the 2022 NPT RevCon no next steps have been formally taken.¹¹⁹ The implementation of the 2010 Action Plan was also placed on the agenda of the now 2022 NPT RevCon by the Preparatory Committee.¹²⁰ In preparation of the 2022 NPT RevCon several national reports were submitted, many focusing on the implementation of the Action Plan of the 2010 NPT RevCon as a whole or on the implementation of specific actions thereof, pursuant to action 20 of the plan, according to which States parties are to submit regular reports on the implementation of the actions.¹²¹ These national reports offer guidance regarding steps towards disarmament such as the national report by Sweden, which elaborates on the Stockholm Initiative on Nuclear Disarmament, established in 2019 and made up of 16 NNWS offering measures and ways to implement the commitments under the NPT.¹²² Throughout several national reports the importance of the work of the UN General Assembly, in particular

¹⁰⁷ Ibid.

¹⁰⁸ International Atomic Energy Agency. *Road to Disarmament: IAEA Safeguards: A Fundamental Pillar of the NPT Regime*. 2009. pp. 8-9.

¹⁰⁹ United Nations, Office for Disarmament Affairs. *UNODA Structure*. n.d.

¹¹⁰ Reaching Critical Will. Women's International League for Peace and Freedom. *2022 NPT Briefing Book*. 2022. p. 3.

¹¹¹ Ibid. p. 3.

¹¹² Ibid. p. 3.

¹¹³ 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *2010 NPT Review Conference Action Plan*. 2010.

¹¹⁴ Ibid.

¹¹⁵ Ibid.

¹¹⁶ Ibid.

¹¹⁷ Ibid.

¹¹⁸ Ibid.

¹¹⁹ Kimball et al. Arms Control Association. *NPT Conference Fails to Reach Consensus*. 2015; Rosa. Arms Control Association. *State Parties Fail to Achieve Consensus at The NPT Review Conference*. 2022.

¹²⁰ Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Final report of the Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT/CONF.2020/1)*. 2019. p. 43.

¹²¹ Reaching Critical Will. Women's International League for Peace and Freedom. *National reports submitted to the 2022 NPT Review Conference*. 2022; 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *2010 NPT Review Conference Action Plan*. 2010.

¹²² 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *National report pursuant to action 20 of the action plan of the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT/CONF.2020/5)*. 2021. p. 2.

the First Committee and resolutions on disarmament, is highlighted.¹²³ The national report of Austria recognizes the significance of the TPNW for the fulfillment of the 2010 Action Plan, showing how throughout time new measures and treaties that came into existence can be used for its implementation.¹²⁴

Establishing a Nuclear-Weapons-Free Zone in the Middle East

One step towards nuclear disarmament is the establishment of NWFZs according to action 9 of the 2010 Action Plan.¹²⁵ The establishment of a NWFZ in the Middle East has been a goal for almost 50 years, with the UN General Assembly calling for such a NWFZ in 1974 already.¹²⁶ The IAEA General Conference has also called for measures to be adopted in order to establish such a zone in the Middle East since 1991, as has the UN Security Council.¹²⁷ The 1995 NPT RevCon adopted a resolution promoting the establishment of a zone free of weapons of mass destruction in the Middle East.¹²⁸ According to the resolution a NWFZ is to be created in the Middle East and to support this any state in the region that has not yet done so should accede to the NPT.¹²⁹ Furthermore, IAEA safeguards are to be applied fully to all nuclear facilities in the region.¹³⁰ In fact, many Arab states have since then acceded to the NPT, but the establishment of a NWFZ in the region has not been successful.¹³¹ Israel has neither acceded to the NPT nor signed an IAEA comprehensive safeguards agreement.¹³² At the 2010 NPT RevCon the States parties were able to agree on five steps towards promoting the establishment of the NWFZ.¹³³ The 2015 RevCon would have included a proposal to hold a meeting in the Middle East on this topic within 180 days of its adoption after a conference in the Middle East suggested by the 2010 NPT RevCon and scheduled in 2012 was postponed indefinitely.¹³⁴ The 2020 RevCon in its draft final document, though not adopted, reaffirmed the need for NWFZs in general and in the Middle East in particular.¹³⁵

In several resolutions the UN General Assembly confirmed the need for the establishment of a NWFZ in the Middle East, such as in resolution 72/24 on “The Establishment of a NWFZ in the Region of the Middle East” which asks countries of the region to declare their support for the establishment of the zone.¹³⁶ Following a proposal by the Arab states, the UN General Assembly First Committee adopted a decision in 2018 to schedule a conference in 2019 dealing with the establishment of a NWFZ in the

¹²³ Reaching Critical Will. Women's International League for Peace and Freedom. *National reports submitted to the 2022 NPT Review Conference*. 2022.

¹²⁴ 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Implementation of the conclusions and recommendations for follow-on actions of the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT/CONF.2020/8)*. 2021. p. 2.

¹²⁵ 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *2010 NPT Review Conference Action Plan*, 2010.

¹²⁶ Davenport. Arms Control Association. *WMD-Free Middle East Proposal at a Glance*. 2018.

¹²⁷ Ibid.

¹²⁸ Ibid.

¹²⁹ Federation of American Scientists. *Middle East Nuclear-Weapon-Free Zone*. 2013.

¹³⁰ Ibid.

¹³¹ Erästö. Stockholm International Peace Research Institute. *The Lack of Disarmament in the Middle East: A Thorn in the Side of the NPT*. 2019. p. 3; Davenport. Arms Control Association. *WMD-Free Middle East Proposal at a Glance*. 2018.

¹³² Erästö. Stockholm International Peace Research Institute. *The Lack of Disarmament in the Middle East: A Thorn in the Side of the NPT*. 2019. p. 1.

¹³³ Davenport. Arms Control Association. *WMD-Free Middle East Proposal at a Glance*. 2018.

¹³⁴ Davenport. Arms Control Association. *WMD-Free Middle East Proposal at a Glance*. 2018; Erästö. Stockholm International Peace Research Institute. *The Lack of Disarmament in the Middle East: A Thorn in the Side of the NPT*. 2019. p. 5.

¹³⁵ 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Draft Final Document (NPT/CONF.2020/CRP.1/Rev.2)*. 2022. p. 22.

¹³⁶ United Nations, General Assembly. *Establishment of a Nuclear-Weapon-Free Zone in the Region of the Middle East (A/RES/72/24)*. 2017.

Middle East.¹³⁷ The conference was held in November 2019 and with the exception of Israel all Middle Eastern states and four of the five NWS participated.¹³⁸ The last conference in November 2021 ended with the outcome document being adopted by consensus, agreeing to continue the discussion also through intersessional meetings.¹³⁹ The conference is set to take place annually until a NWFZ in the Middle East is established, with the next session scheduled to take place in November 2022.¹⁴⁰ Most recently the UN General Assembly adopted resolution 76/20 on the “Establishment of a nuclear-weapon-free zone in the region of the Middle East.”¹⁴¹ The resolution reaffirms the call for all countries of the region to place their nuclear activities under IAEA safeguards if they have not done so and invites all NWS and all other states to render assistance and consider appropriate means with regards to a NWFZ.¹⁴² There could be two other approaches to a NWFZ in the Middle East, the first approach being a process on establishing the zone without Israel.¹⁴³ While potentially easier to implement, this would be an approach without the regions only NWS.¹⁴⁴ Another approach would be to not focus on the establishment of a NWFZ on its own but to make it part of a bigger or broader regional security framework.¹⁴⁵ However while the establishment of a NWFZ in the Middle East could not be implemented yet, this approach would be even more challenging as it would be on a bigger scale by also addressing causes for instabilities in the region in general.¹⁴⁶

Conclusion

While the global nuclear weapon arsenal has been reduced, the remaining nuclear weapons still pose a threat to nuclear safety and are an obstacle to the implementation of Article VI of the NPT and the achievement of complete disarmament.¹⁴⁷ The entry into force of the TPNW can be seen as a step forward, however other international frameworks, such as the CTBT, as well as other internationally agreed commitments and actions have yet to enter into force or be fully implemented.¹⁴⁸ The establishment of a NWFZ in the Middle East as a regional framework as called for by the UN General Assembly, IAEA, the 2010 NPT RevCon and others, is vital in not only bringing stability to the region but also achieving the goal of fulfilling the disarmament pillar of the NPT.¹⁴⁹ Without an agreed upon final document from 2015 NPT RevCon and 2022 NPT RevCon, the international community is called upon to find new common ground for furthering measures for the implementation of a NWFZ in the Middle East and the implementation of the Action Plan of the 2010 NPT RevCon in order to assure progress in strengthening and fulfilling Article VI.¹⁵⁰

¹³⁷ Vienna Center for Disarmament and Non-Proliferation. *Establishing a WMD-Free Zone in the Middle East: Current Status and Prospects*. 2019.

¹³⁸ Reaching Critical Will. Women's International League for Peace and Freedom. *Conference on Nuclear- and WMD-Free Zone in the Middle East Adopts Political Declaration*. 2022.

¹³⁹ Reaching Critical Will. Women's International League for Peace and Freedom. *2022 NPT Briefing Book*. 2022. p. 23.

¹⁴⁰ Reaching Critical Will. Women's International League for Peace and Freedom. *Conference on Nuclear- and WMD-Free Zone in the Middle East Adopts Political Declaration*. 2022.

¹⁴¹ United Nations, General Assembly. *Establishment of a Nuclear-Weapon-Free Zone in the Region of the Middle East (A/RES/76/20)*. 2021.

¹⁴² *Ibid.*

¹⁴³ Erästö. Stockholm International Peace Research Institute. *The Lack of Disarmament in the Middle East: A Thorn in the Side of the NPT*. 2019. p. 1.

¹⁴⁴ *Ibid.* p. 21.

¹⁴⁵ *Ibid.* p. 21.

¹⁴⁶ *Ibid.* p. 21.

¹⁴⁷ Federation of American Scientists. *Status of World Nuclear Forces*. 2022.

¹⁴⁸ United Nations, Office for Disarmament Affairs. *Comprehensive Nuclear-Test-Ban Treaty (CTBT)*. n.d.; United Nations, Office for Disarmament Affairs. *Treaty on the Prohibition of Nuclear Weapons*. n.d.

¹⁴⁹ Davenport. Arms Control Association. *WMD-Free Middle East Proposal at a Glance*. 2018.

¹⁵⁰ Rosa. Arms Control Association. *State Parties Fail to Achieve Consensus at The NPT Review Conference*. 2022.

Further Research

Given the lack of implementation efforts for disarmament under Article VI, delegates should consider the following questions in researching the topic: What are the obstacles to overcome for States parties to accede to the NPT, TPNW, and CTBT? What approaches can be taken towards the establishment of a NWFZ in the Middle East as well as in other regions? What measures can be taken to implement Article VI and the actions concerning disarmament of the 2010 NPT RevCon Action Plan? Looking at the national reports in preparation of the 2020 NPT RevCon, are there any approaches that can be used universally or regionally to implement Article VI? What regional disagreements exist that hinder the establishment of NWFZs and how can they be solved? How can the TPNW complementing the provisions of the NPT be used as an effective and practical measure?

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<http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/npt/revcon2010/2010NPTActionPlan.pdf>

This Action Plan is based on the goals of the NPT. It is a helpful source to all the actions that were adopted as part of the final document of the 2010 NPT Review Conference by consensus. Actions 1-22 deal with issues concerning nuclear disarmament, including objectives and principles as well as security assurances. It is a great starting point to look at measures that could be effective in achieving nuclear disarmament, how they could be improved, and which actions may have been implemented at least partially.

Erästö. Stockholm International Peace Research Institute. *The NPT and the TPNW: Compatible or Conflicting Nuclear Weapons Treaties?* 2019. Retrieved 3 July 2022 from:

<https://www.sipri.org/commentary/blog/2019/npt-and-tpnw-compatible-or-conflicting-nuclear-weapons-treaties>

The TPNW as well as the NPT have the goal of promoting nuclear disarmament. The purpose of the TPNW is to further support the disarmament pillar of the NPT, which is Article VI. This commentary gives a great overview concerning both treaties and how the TPNW is based on the NPT. It shows the connection between the two treaties and how the TPNW could potentially be the effective measure needed for the implementation of Article VI.

Federation of American Scientists. *Status of World Nuclear Forces*. 2022. Retrieved 3 July 2022 from:

<https://fas.org/issues/nuclear-weapons/status-world-nuclear-forces/>

This website is a good source to get an understanding of what the status of the nuclear forces is estimated to be now in 2022. It shows that while the nuclear weapons arsenal has declined there is still a significant number of nuclear warheads, making the topic of disarmament as important as it has previously been. This website contains very clear and descriptive graphs and figures, making it easy to understand the distribution of nuclear weapons worldwide as well as for specific countries.

Kirsten et al. Non-Proliferation and Disarmament Papers. *Balancing the Three Pillars of the NPT: How Can Promoting Peaceful Uses Help?* 2022. Retrieved 3 July 2022 from: <https://vcdnp.org/balancing-the-three-pillars-of-the-npt/>

This paper gives an extensive introduction to the peaceful use of nuclear energy but also discusses all three pillars of the NPT: non-proliferation, disarmament, and peaceful use of nuclear energy. This helps in gaining an understanding of the overall goal of the NPT, the involvement of international actors, what has been done in the past, and what challenges we are facing now. It also touches on current obstacles to nuclear disarmament and the implementation of Article VI which can be helpful for delegates when thinking about what effective measures would need to look like nowadays.

United Nations, Office for Disarmament Affairs. *Nuclear-Weapon-Free Zones*. n.d. Retrieved 3 July 2022 from: <https://www.un.org/disarmament/wmd/nuclear/nwzf/>

One measure in implementing nuclear disarmament are Nuclear-Weapon-Free Zones as regional approaches. This source gives a general overview over how Nuclear-Weapon-Free Zones are defined according to the UN General Assembly and how they can be an effective measure concerning disarmament. The website names the five treaties on such zones that are currently in effect and links their text. In addition, there is information on a potential Nuclear-Weapon-Free Zone in the Middle East.

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2. Strengthening Measures for Nuclear Security

“The primary responsibility for nuclear security lies with each individual country. But the threat is global and requires a global response.”¹⁵¹

Introduction

Nuclear security is pivotal in protecting people, property, society, and the environment from effects of radiation.¹⁵² The *Treaty on the Non-Proliferation of Nuclear Weapons* (NPT) does not include a definition of nuclear security, but according to the International Atomic Energy Agency (IAEA), nuclear security is defined as “the prevention of, detection of, and response to, criminal or intentional unauthorized acts involving or directed at nuclear material, other radioactive material, associated facilities, or associated activities.”¹⁵³ This definition of nuclear security provided by the IAEA includes measures against theft, sabotage, unauthorized access, illegal transfer, or other malicious acts involving nuclear and radioactive substances or related facilities.¹⁵⁴

In the past, there have been two major nuclear accidents, one of which happened in Chernobyl in 1986, where the explosion and fires in the nuclear reactor discharged radioactive materials into the air, which also spread into other countries.¹⁵⁵ Two plant workers died in the explosion and 28 people died within three months after the accident due to acute radiation syndrome.¹⁵⁶ This accident also caused over 1,800 documented cases of children between the age 0 to 12 developing thyroid cancer.¹⁵⁷ Another nuclear accident happened at Fukushima Daiichi in 2011.¹⁵⁸ Although there was no report of deaths or sickness caused by radiation, a large number of people was forced to evacuate due to land contamination.¹⁵⁹ While the prevention of and response to such accidental incidents are not part of the IAEA’s definition of nuclear security, these nuclear accidents show the potential harmful effects from nuclear incidents.¹⁶⁰ It further shows the imperative to inhibit any unauthorized use and activity by malicious non-State actors and terrorist groups in order to prevent harmful effects of radiation resulting from a release of radioactive materials.¹⁶¹

Today, the Russian invasion of Ukraine can also be seen as a threat in the context of nuclear security.¹⁶² The security of some nuclear power plants in Ukraine is in question including the Zaporizhzhia nuclear power plant, the Chernobyl nuclear plant and South Ukraine nuclear power plants.¹⁶³ Especially, the seizure of the Chernobyl nuclear power plant is critiqued by the IAEA Board of Governors, as this can induce threats not just to safety and security of nuclear materials and facilities and personnel, but also to the people in the Ukraine because of the raised risks of nuclear accidents.¹⁶⁴ Moreover, in the Security Council 8986th meeting held in March 2022, Rosemary Dicarolo, the United Nations Under-Secretary-General for Political and Peacebuilding Affairs, described the fighting at the Zaporizhzhia Nuclear Power

¹⁵¹ Grossi. International Atomic Energy Agency. *Securing our nuclear world*. 2020.

¹⁵² International Atomic Energy Agency. *Nuclear Security Series*. n.d.

¹⁵³ International Atomic Energy Agency. *IAEA Nuclear Security Glossary Terminology Used in IAEA Nuclear Security Guidance*. 2020. p. 24.

¹⁵⁴ *Ibid.* p. 24.

¹⁵⁵ World Nuclear Association. *Chernobyl Accident 1986*. 2022.

¹⁵⁶ *Ibid.*

¹⁵⁷ International Atomic Energy Agency. *Frequently Asked Chernobyl Questions*. n.d.

¹⁵⁸ World Nuclear Association. *Fukushima Daiichi Accident*. 2022.

¹⁵⁹ *Ibid.*

¹⁶⁰ International Atomic Energy Agency. *IAEA Nuclear Security Glossary Terminology Used in IAEA Nuclear Security Guidance*. 2020. p. 24.

¹⁶¹ Bowen et al. King’s College London. *Nuclear Security Briefing Book 2020 Edition*. 2020. p. 6.

¹⁶² United Nations, Department of Global Communications. *Fighting at Ukraine Nuclear Power Site Irresponsible, against Geneva Conventions, Under-Secretary-General Tells Security Council Delegate Calls on Russian Federation to Protect Civilians, Stresses That International Humanitarian Law Is Not Optional*. 2022.

¹⁶³ World Nuclear Association. *Ukraine: Russia-Ukraine War and Nuclear Energy*. 2022.

¹⁶⁴ International Atomic Energy Agency, Board of Governors. *The safety, security and safeguards implications of the situation in Ukraine (GOV/2022/17)*. 2022. p. 1.

Station in Ukraine, which caused a fire, as unacceptable.¹⁶⁵ While the delegate from the Russian Federation stressed that the fire was ignited in the fighting between Russian troop and Ukrainian saboteurs at a training building near the nuclear power plant, the delegate of Ukraine stated that Russia bombarded the Zaporizhzhia Nuclear Power Station and alleged that this was an act of nuclear terrorism.¹⁶⁶

Nuclear security is also a crucial aspect across all three pillars of the NPT: non-proliferation (Article I and II), peaceful uses of nuclear energy (Article III and IV), and disarmament (Article VI).¹⁶⁷ Since 1993, a total of 3,686 nuclear unauthorized activities such as illegal trafficking and thefts of nuclear and radioactive materials were reported by 139 States parties in the Incident and Trafficking Database (ITDB).¹⁶⁸ Proliferation of those materials to any person and group who may use them for malicious purposes including crimes and terrorism must be prevented.¹⁶⁹ Nuclear security is further threatened by the deployment and potential use of existing nuclear weapons, which is why the majority of the international community calls for complete and general disarmament.¹⁷⁰ The scope of nuclear disarmament also includes ensuring non-use of nuclear weapons to save humanity.¹⁷¹ In order to prevent catastrophic ramifications of those weapons, Nuclear Weapons States (NWS) have made negative security assurance, where they declare non-use of nuclear weapons in conflicts against non-Nuclear Weapons States (NNWS).¹⁷² This, however, does not reduce the risk of nuclear incidents, and in the case of the current war in Ukraine, mistrust with regards to security assurances has shown their shortcomings in guaranteeing nuclear security.¹⁷³

International and Regional Framework

In 1968, the UN General Assembly adopted resolution 2373 (XXII) on the “Urgent need for suspension of nuclear and thermonuclear tests”, which presents the NPT in the Annex.¹⁷⁴ In 1970, the NPT entered into force with 46 State parties signing the Treaty.¹⁷⁵ Currently the NPT has 191 State parties.¹⁷⁶ Its main aims are to prevent the spread of nuclear weapons and weapon technologies and to foster international cooperation in the field of peaceful uses of nuclear technologies and nuclear energy, with the ultimate objective of general and complete nuclear disarmament.¹⁷⁷ In the NPT, whilst Article I and II set the obligations that all the State parties should commit to non-proliferation of nuclear weapons and nuclear explosive devices, each State party has the inalienable right to develop, conduct research, produce, and use nuclear energy for peaceful purposes as written in the first paragraph of Article IV.¹⁷⁸ Article III of the NPT also stipulates that each NNWS is required to accept IAEA safeguards in order to verify no diversion of nuclear energy from peaceful uses to any nuclear related weapon.¹⁷⁹

¹⁶⁵ United Nations, Department of Global Communications. *Fighting at Ukraine Nuclear Power Site Irresponsible, against Geneva Conventions, Under-Secretary-General Tells Security Council Delegate Calls on Russian Federation to Protect Civilians, Stresses That International Humanitarian Law Is Not Optional*. 2022.

¹⁶⁶ Ibid.

¹⁶⁷ United Nations, General Assembly. *Treaty of Non-Proliferation of Nuclear Weapons (A/RES/2345(XXII))*. 1968.

¹⁶⁸ International Atomic Energy Agency. *IAEA Incident and Trafficking Database (ITDB) Incidents of nuclear and other radioactive material out of regulatory control 2020 Fact Sheet*. 2020. p. 2.

¹⁶⁹ International Atomic Energy Agency. *Building Capacity for Nuclear Security Implementing Guide*. 2018. p. 1.

¹⁷⁰ Non-Aligned Movement. *Recommendations for achieving the objective of nuclear disarmament and non-proliferation of nuclear weapons Working paper submitted by the Non-Aligned Movement*. 2018. p. 1.

¹⁷¹ United Nations, Office for Disarmament Affairs. *Securing Our Common Future - An Agenda for Disarmament*. 2018.

¹⁷² Giovannini. Arms Control Association. *Negative Security Assurances After Russia’s Invasion of Ukraine*. 2022.

¹⁷³ Ibid.

¹⁷⁴ Kimball. Arms Control Association. *The NPT at 50: A Historical Timeline*. 2018.

¹⁷⁵ Ibid.

¹⁷⁶ United Nations, Office for Disarmament Affairs. *Treaty on the Non-Proliferation of Nuclear Weapons (NPT)*. n.d.

¹⁷⁷ Ibid.

¹⁷⁸ United Nations, General Assembly. *Treaty of Non-Proliferation of Nuclear Weapons (A/RES/2345(XXII))*. 1968.

¹⁷⁹ Ibid.

One of the key international documents for strengthening measures for nuclear security is the *Convention on the Physical Protection of Nuclear Material* (CPPNM), adopted in 1979.¹⁸⁰ The CPPNM is a legally-binding convention, which calls upon States parties to undertake measures including: to protect nuclear materials used for peaceful purposes while in domestic use, storage, and in transport; to criminalize offences such as unauthorized possession, theft, and robbery of nuclear materials which can result in death or serious injury to people; to cooperate amongst State parties in the case of any unlawful taking of nuclear material.¹⁸¹ In 2003, an amendment to the CPPNM was adopted broadening the scope of the Convention to also protect nuclear materials and facilities against sabotage and mitigate and minimize the harmful consequences of radioactive materials in the event of sabotage through establishing a legislative and regulatory framework of physical protection of nuclear material and nuclear facilities.¹⁸² Currently, 176 countries have ratified the CPPNM, whereas 110 out of 176 ratified its amendment as well.¹⁸³ Following the ratification of the Convention and its amendment, most State parties established national regulatory authorities that implement the Convention and set obligations in national nuclear frameworks for effective implementation.¹⁸⁴

Also in 2003, the UN General Assembly adopted the *International Convention for the Suppression of Acts of Nuclear Terrorism* (ICSANT) with resolution 59/290.¹⁸⁵ Under the ICSANT, State parties are required to criminalize the use and possession of radioactive materials or damaging nuclear facilities with the clear intent to release radioactive materials from those facilities.¹⁸⁶ The purpose of this Convention is to prevent the occurrence of nuclear terrorism and develop a criminal justice system that obligates States to prosecute perpetrators.¹⁸⁷

The Security Council adopted resolution 1373 (2001) on “Threats to international peace and security caused by terrorist acts” and 1540 (2004) on “Non-proliferation of weapons of mass destruction” to address countering measures of nuclear terrorism.¹⁸⁸ Security Council resolution 1373 calls for coordinated actions on national, regional, and international levels against illegal trafficking and movement of weapons of mass destruction (WMD), including nuclear weapons.¹⁸⁹ Pursuant to this resolution, the Counter-Terrorism Committee was established in order to monitor and facilitate the implementation of the resolution through assessment visits to Member States and analyzing the challenges in Member States against terrorism.¹⁹⁰ Security Council resolution 1540 calls on Member States to enforce national legislation against terrorism involving WMD and establish domestic controls to prevent non-State actors from gaining access to WMD including nuclear weapons.¹⁹¹ The resolution also established the 1540 Committee to oversee the implementation of the resolution by Member States.¹⁹² Under the 1540 Committee, comprehensive reviews take place every five years to review the status of the implementation.¹⁹³ At the comprehensive review held in 2016, the committee report showed an increase

¹⁸⁰ International Atomic Energy Agency. *Convention on the Physical Protection of Nuclear Material and its Amendment*. 1980.

¹⁸¹ Ibid.

¹⁸² International Atomic Energy Agency. *Amendment to the Convention on the Physical Protection of Nuclear Material*. 2021. pp. 4-5.

¹⁸³ Nuclear Threat Initiative. Nuclear Security Index. *The Amended CPPNM: A Vehicle for Renewed Focus on Nuclear Security*. 2022.

¹⁸⁴ Ibid.

¹⁸⁵ United Nations, General Assembly. *International Convention for the Suppression of Acts of Nuclear Terrorism (A/RES/59/290(2005))*. 2005.

¹⁸⁶ Ibid.

¹⁸⁷ Ibid.

¹⁸⁸ International Atomic Energy Agency. *IAEA Brief the Legal Framework for Nuclear Security*. 2020.

¹⁸⁹ United Nations, Security Council. *Threats to international peace and security caused by terrorist acts (S/RES/1373(2001))*. 2001.

¹⁹⁰ United Nations, Security Council. *Letter dated 21 July 2020 from the Chair of the Security Council Committee established pursuant to resolution 1373 (2001) concerning counter-terrorism addressed to the President of the Security Council (S/2020/731)*. 2020.

¹⁹¹ United Nations, Security Council. *Non-proliferation of weapons of mass destruction (S/RES/1540 (2004))*. 2004.

¹⁹² Davenport. Arms Control Association. *UN Security Council Resolution 1540 At a Glance*. 2021.

¹⁹³ Ibid.

in the number of States which have adopted laws that ban non-State actors from acquiring nuclear materials and have enforced them while also highlighting the areas of improvement such as national legislations for the physical protection of nuclear facilities, nuclear materials, and its transport.¹⁹⁴

Role of the International System

The Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (RevCon) is held every five years to review the operation of the NPT and adopt a final document through consensus to set forth recommendations and follow-up actions that State parties should take for the next five years.¹⁹⁵ The NPT RevCon in 2010 was the last conference successful in reaching a consensus and adopting 64 actions that should be implemented by NPT State parties, so as to pursue the full implementation of the NPT.¹⁹⁶ Recommended actions, especially actions 23 to 64 on nuclear non-proliferation and peaceful uses of nuclear energy, relate to nuclear security.¹⁹⁷ These include: ratification of all international relevant treaties to nuclear security; wider application of IAEA safeguards; and international partnerships in improving nuclear security.¹⁹⁸

Whilst the latest NPT RevCon held in August 2022 failed to adopt any final documents, the draft outcome document called for the promotion of international nuclear security frameworks, including: strengthening physical protection of and cybersecurity for all nuclear and other radioactive materials and associated facilities; utilizing IAEA's assistance in the field of nuclear security; and promoting international cooperation for information sharing and capacity-building.¹⁹⁹ The failure to adopt a final document was caused by an argument over maintaining safety and security of nuclear facilities in Ukraine.²⁰⁰

The IAEA, created in 1957 as the world's "Atoms for Peace" organization, has worked to bolster contribution of atomic energy to peace, health, and prosperity throughout the world.²⁰¹ Since 1959, IAEA safeguards have aimed to confirm if Member States comply with IAEA obligations and deter any diversion of nuclear materials to nuclear weapons.²⁰² Also, in accordance with the NPT, NNWS are required to conclude Comprehensive Safeguards Agreements with the IAEA to verify that the nuclear material within a country is not diverted to nuclear weapons or nuclear explosive devices for a robust nuclear non-proliferation framework.²⁰³

On top of safeguards activities, the IAEA has played a vital role in developing nuclear security guidance documents and providing Member States with international support in the field of nuclear security.²⁰⁴ It published the Nuclear Security Plan 2022-2025, which clarifies the functions of the IAEA including training and education.²⁰⁵ This plan also emphasizes the work of advisory services in the areas of improving computer security, promoting information sharing mechanisms, and assisting Member States in

¹⁹⁴ United Nations, Security Council. *Letter dated 9 December 2016 from the Chair of the Security Council Committee established pursuant to resolution 1540 (2004) addressed to the President of the Security Council*. 2016. p. 15.

¹⁹⁵ Einhorn. United Nations Institute for Disarmament Research. *The 2020 NPT Review Conference: Prepare for Plan B*. 2020.

¹⁹⁶ 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Final Document (NPT/CONF.2010/50.Vol.I)*. 2010.

¹⁹⁷ 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *2010 NPT Review Conference Action Plan*. 2010.

¹⁹⁸ *Ibid.*

¹⁹⁹ 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Draft Final Document*. 2022.

²⁰⁰ Rosa. Arms Control Association. *Updates from the 10th NPT Review Conference*. 2022.

²⁰¹ International Atomic Energy Agency. *The Statute of the IAEA*. 1989.

²⁰² International Atomic Energy Agency. *The Evolution of IAEA Safeguards*. 1998. pp. 9, 32.

²⁰³ International Atomic Energy Agency. *More on safeguards agreements*. n.d.

²⁰⁴ International Atomic Energy Agency, General Conference. *Nuclear Security (GC(65)/RES/9)*. 2021.

²⁰⁵ International Atomic Energy Agency, General Conference. *Nuclear Security Plan 2022-2025 Report by the Director General*. 2021.

conducting self-assessments in the area of nuclear security.²⁰⁶ One of the IAEA's key activities is the Nuclear Security Series, which provides guidance in all aspects of nuclear security to help Member States meet their responsibilities.²⁰⁷ The latest issue was published in 2022 and explores security management regarding radioactive material in use and storage and facilities, in order to establish sustainable but robust nuclear security systems.²⁰⁸ The final document of the NPT Preparatory Committee (PrepCom) adopted in 2020, stresses that the IAEA's activity is critical for strengthening nuclear security, calling for cooperation with the IAEA and utilizing the IAEA's assistance in developing measures for nuclear security.²⁰⁹ Also, the NPT RevCon can recommend and request the IAEA to address nuclear security issues.²¹⁰

To strengthen nuclear security, the IAEA operates advisory services such as the International Physical Protection Advisory Service (IPPAS) and the International Nuclear Security Advisory Service (INSServ).²¹¹ These services review national nuclear regimes from legal and institutional perspectives and provide peer review on the implementation of relevant international conventions and the IAEA's publications such as the Nuclear Security Series.²¹² In addition, as a platform for exchanging expertise regarding nuclear security among the international community, the IAEA holds the International Conference on Nuclear Security (ICONS) every four years.²¹³ The most recent ICONS, held in 2020, adopted a Ministerial Declaration which calls for the reaffirmation of adequate protection of high enriched uranium (HEU) and separated plutonium, upgrading computer security systems to protect sensitive information, and utilizing the IAEA's advisory services.²¹⁴

The UN Office for Disarmament Affairs (UNODA), established in 1998, provides organizational support for norm-setting concerning disarmament of WMD.²¹⁵ UNODA, in cooperation with the IAEA, held a webinar ahead of the tenth RevCon in 2022 where experts underscored that an essential component for improving nuclear security is sharing best practices and communication amongst State parties.²¹⁶ In addition, the UN Office on Drugs and Crime (UNODC) addresses risks of chemical, biological, radiological, or nuclear (CBRN) weapons which can be misused by non-State actors.²¹⁷ UNODC further supports Member States by assisting to develop nuclear security legislations and offering trainings while emphasizing the importance of adherence to international nuclear security instruments, and setting and reviewing national legislation.²¹⁸ The International Criminal Police Organization (INTERPOL) offers training, expertise, and

²⁰⁶ Ibid.

²⁰⁷ International Atomic Energy Agency. *Nuclear Security Series*. n.d.

²⁰⁸ International Atomic Energy Agency. *Security Management of Radioactive Material in Use and Storage and of Associated Facilities*. 2022.

²⁰⁹ Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Addressing "Vienna issues": the Comprehensive Nuclear-Test-Ban Treaty; compliance and verification; export controls; cooperation in the peaceful uses of nuclear energy; nuclear safety; nuclear security; and discouraging withdrawal from the Treaty on the Non-Proliferation of Nuclear Weapons (NPT/CONF.2020/PC.III/WP.5)*. 2019.

²¹⁰ 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Draft Final Document*. 2022. p. 8.

²¹¹ International Atomic Energy Agency. *Promoting Nuclear Security: What the IAEA is doing*. n.d. p. 3.

²¹² International Atomic Energy Agency. *IPPAS | International Physical Protection Advisory Service*. n.d.

²¹³ International Atomic Energy Agency. *International Conference on Nuclear Security: Sustaining and Strengthening Efforts*. 2020.

²¹⁴ International Atomic Energy Agency. *International Conference on Nuclear Security: Sustaining and Strengthening Efforts, 10–14 February 2020 Ministerial Declaration*. 2020.

²¹⁵ United Nations, Office for Disarmament Affairs. *About Us*. n.d.

²¹⁶ United Nations, Office for Disarmament Affairs. *UNODA and IAEA host webinar on non-proliferation and nuclear security ahead of the 10th Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons*. 2022.

²¹⁷ United Nations, Office on Drugs and Crime. *Countering Chemical, Biological, Radiological and Nuclear Terrorism*. n.d.

²¹⁸ Ibid.

operational support to Member States for better detection of and response to nuclear incidents and to strengthen border controls.²¹⁹

Further commitments to elevate existing nuclear security structures against nuclear terrorism led to the initiation of the Nuclear Security Summit (NSS) in 2009 by former United States President Barack Obama.²²⁰ During the NSS, participating countries were encouraged to submit voluntary reports about their progress on strengthening nuclear security and make pledges on national commitments regarding nuclear security.²²¹ The final NSS was held in 2016, and adopted five action plans that the international community should take action on, in support of international organizations and initiatives including the UN, IAEA, INTERPOL, the Global Initiative to Combat Nuclear Terrorism (GICNT) and the Global Partnership against the Spread of Weapons and Materials of Mass Destruction (GPWMD).²²² GICNT builds Member States' capacity to prevent, detect, and respond to nuclear terrorism, and was established by the United States and the Russian Federation at the G8 Summit in 2006.²²³ At the first GICNT meeting in 2006, a Statement of Principles was adopted calling for a legal framework that thwarts nuclear terrorism and its facilitation, upgrading the abilities to detect nuclear and other radioactive materials, and bolstering information sharing.²²⁴ Under the GICNT framework, the Nuclear Detection Working Group, the Nuclear Forensics Working Group, and the Response and Mitigation Working Group were established, which are designed to create documents for policymakers, in order to help establish policy frameworks to respond to nuclear incidents and support capacity-building.²²⁵ The Proliferation Security Initiative (PSI), launched in 2003 is another international coalition, which focuses on countering the threat of proliferation of WMD mainly in international trades and their delivery system.²²⁶ Under the PSI, two region-specific activities in the Mediterranean and Asia-Pacific region have been put in place to build capacity and share best practices in addressing counter-proliferation measures in the respective regions.²²⁷ The GPWMD, created at the G8 Summit held in Kananaskis in 2002, works to thwart terrorism involving CBRN materials, promoting their destruction, and solving vulnerabilities of relevant facilities.²²⁸ On the thematic topics under nuclear and radioactive security including physical protection measures, information and computer security, and international legal frameworks of nuclear security, the GPWMD complements the work of other international organizations and initiatives such as the IAEA, INTERPOL and GICNT.²²⁹

The Potential Threat of Nuclear Terrorism and Cyber-Attacks

While there have not been any instances of nuclear terrorism yet, the concerns and risks, that non-State actors would conduct nuclear terrorism, have been rising especially since the terrorist attack in the United States on September 11th in 2001.²³⁰ Globally recognized terrorist groups, including Al-Qaeda, show interests in procuring nuclear capabilities.²³¹ Non-State actors could gain access to nuclear capabilities by building an improvised nuclear device (IND), which requires fissile materials such as HEU or plutonium.²³² Construction and use of radiological weapons, most notably radiological dispersal devices for terrorism is another salient threat.²³³ Those weapons would be deployed in order to disperse radiological materials in the air which could result in not just contaminating land, food, and water, but also severely harm human

²¹⁹ International Criminal Police Organization. *Our response to radiological and nuclear terrorism*. n.d.

²²⁰ Nuclear Security Summit. *History*. n.d.

²²¹ Cann et al. Arms Control Association. *The Nuclear Security Summit: Accomplishments of the Process*. 2016.

²²² Davenport. Arms Control Association. *Nuclear Security Summit at a Glance*. 2018.

²²³ Nuclear Threat Initiative. *Global Initiative to Combat Nuclear Terrorism (GICNT)*. n.d.

²²⁴ Ibid.

²²⁵ Global Initiative to Combat Nuclear Terrorism. *Working Groups*. 2022.

²²⁶ Proliferation Security Initiative. *Proliferation Security Initiative: Statement of Interdiction Principles*. 2018.

²²⁷ Davenport. Arms Control Association. *The Proliferation Security Initiative (PSI) At a Glance*. 2022.

²²⁸ Global Partnership against the Spread of Weapons and Materials of Mass Destruction. *Why we work*. 2017.

²²⁹ Global Partnership against the Spread of Weapons and Materials of Mass Destruction. *Nuclear & Radiological Security*. 2017.

²³⁰ Bowen et al. King's College London. *Nuclear Security Briefing Book 2020 Edition*. 2020. p. 22.

²³¹ Gordon-Hagerty. International Atomic Energy Agency. *The enduring imperative of nuclear security*. 2020.

²³² Bowen et al. King's College London. *Nuclear Security Briefing Book 2020 Edition*. 2020. p. 11.

²³³ Ibid. p. 24.

health and induce social panic and political and economic instability.²³⁴ For non-proliferation of those devices, the Nuclear Suppliers Group (NSG) called for strict export controls for nuclear materials and technology since its establishment in 1986 despite its non-legally-binding nature.²³⁵ However, such export controls have shown weaknesses, limitations and failures in the past and requires continued efforts to adhere to the established guidelines by supplier states.²³⁶

Cyber-threats against nuclear facilities have also been escalating.²³⁷ Nuclear and radioactive materials and associated facilities are all dependent on computer-based systems.²³⁸ Addressing vulnerabilities to theft or illegal access to sensitive information becomes critical as technology advances.²³⁹ In the past, the malware Stuxnet attacked nuclear enrichment facilities in Iran to nullify plutonium centrifuge processes.²⁴⁰ Some experts fear that this attack paved the way for more destructive cyber-attacks on nuclear facilities.²⁴¹ The perpetrators of cyber-attacks on nuclear facilities may get access to expertise, classified information, technology, and nuclear materials.²⁴² Potential consequences of such attacks include: the disruption of power production, release of radiological materials, and heightened threats of nuclear proliferation.²⁴³ According to the Nuclear Threat Initiative's survey on national cybersecurity regimes, almost a quarter of countries that have weapons-usable nuclear material do not have sufficient regulations for cybersecurity at nuclear facilities, which reveals the necessity of strengthening cybersecurity in line with physical protection and building awareness of latent threats among facility personnel.²⁴⁴ The draft outcome document of the tenth NPT RevCon, though not adopted, mentioned the IAEA's contribution including guidance and assistance to Member States to addressing the potential implication of nuclear cyber-threats as one of the vital measure to strengthen nuclear security worldwide.²⁴⁵

Fortifying Global Nuclear Security Regimes

Risk Assessment

To counter the multi-faceted threats including illegal acquisition and malicious use involving nuclear and radioactive materials, each Member State has a responsibility to improve measures for nuclear security.²⁴⁶ The IAEA clarified that each state's responsibility within a physical protection regime includes the protection against unauthorized removal, locating and recovering missing nuclear materials, protection against sabotage, and mitigating and minimizing the consequences of radiological incidents.²⁴⁷ In order to ensure sufficient protection for nuclear and radioactive materials from internal and external threats and to spot any vulnerabilities, it is imperative to conduct nuclear security threat assessments including for both physical and computer-based security.²⁴⁸ To assist Member States in fulfilling their responsibility, IPPAS, upon Member States' request, assesses national nuclear security regimes

²³⁴ International Criminal Police Organization. *Radiological and Nuclear terrorism*. n.d.

²³⁵ McGoldrick. Center for Strategic and International Studies. *Nuclear Trade Controls minding the gaps*. 2013.

²³⁶ Ibid.

²³⁷ Nuclear Threat Initiative. *Addressing Cyber-Nuclear Security Threats*. 2022.

²³⁸ International Atomic Energy Agency. *International Conference on Computer Security in the Nuclear World: Security for Safety*. n.d.

²³⁹ Ibid.

²⁴⁰ Council on Foreign Relations. *Stuxnet*. 2010.

²⁴¹ Ibid.

²⁴² Pickering et al. Georgetown Journal of International Affairs. *Cyber Security of Nuclear Power Plants: US and Global Perspectives*. 2021.

²⁴³ Ibid.

²⁴⁴ Mancuso. Nuclear Threat Initiative. *Nuclear Security is Only as Strong as the Weakest Link: 2020 NTI Index Highlights Cybersecurity and Insider Threat Prevention*. 2020.

²⁴⁵ 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Draft Final Document*. 2022.

²⁴⁶ Grossi. International Atomic Energy Agency. *Securing our nuclear world*. 2020.

²⁴⁷ International Atomic Energy Agency. *Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities (INFCIRC/225/Revision 5)*. 2011. p. 4.

²⁴⁸ International Atomic Energy Agency. *National Nuclear Security Threat Assessment, Design Basis Threats and Representative Threat Statements*. 2021. pp. 4-5.

including the legal and regulatory framework and implementation measures.²⁴⁹ As of 2021, IPPAS has completed 96 reviews in 57 Member States, having done this work for 25 years already.²⁵⁰ It aims to provide expert advice to national competent authorities and other relevant regulating stakeholders, based on the assessment of national nuclear security regimes and physical protection conditions.²⁵¹ This process can directly contribute to specific goals addressed in actions 40 and 44 of the 2010 NPT Action Plan adopted at the eighth RevCon to improve capacity to thwart and detect nuclear security incidents, although the final document adopted in 2010 did not explicitly mention this IAEA contribution.²⁵²

Developing HEU and Plutonium Reduction Frameworks

Nuclear material used for nuclear weapons such as HEU and plutonium, has also been used for peaceful purposes including for nuclear reactors, medical use, and submarine propulsion systems.²⁵³ However, because of the dual-use nature of nuclear material especially HEU, there is a long-standing concern that they can be used for crimes or terrorism, which would victimize thousands of people.²⁵⁴ In order to alleviate this risk, the United States, one of the largest countries that possess HEU, launched the Global Threat Reduction Initiative to dispose HEU from facilities and adapting nuclear reactors for low-enriched uranium (LEU).²⁵⁵ With LEU, there is a lower risk of constructing nuclear weapons out of it than with HEU.²⁵⁶ Yet, the HEU elimination task is yet to be entirely completed as there are tons of HEU in 25 countries despite the fact that almost all of HEU-driven facilities can be converted to LEU.²⁵⁷ Concerning plutonium, global civil stockpiles have exponentially risen.²⁵⁸ Thus, international consensus should be reached to reduce inventories of HEU and plutonium.²⁵⁹ These efforts lead to the contribution of action 61 set in the 2010 NPT Action Plan, minimizing the amount of weapons-usable nuclear materials.²⁶⁰

Conclusion

Although nuclear materials have great potential when used peacefully for electricity or medical treatment, these materials might cause destructive consequences in the context of not just security, but also social stability.²⁶¹ Especially after the 9/11 terrorist attack in the United States in 2001, State parties became more concerned about the existence of terrorists who could acquire and use nuclear materials with malicious intents in order to meet their goals.²⁶² Hence, the international community including the NPT RevCon in line with the IAEA and other international initiatives have contributed to strengthening the global nuclear security regime through adopting several conventions and UN resolutions, capacity-building, and evaluating each Member State's national regime on nuclear security.²⁶³

Further Research

Given the problems surrounding the topic, the following questions may guide delegates when conducting research on strengthening measures for nuclear security: How do Member States develop their measures

²⁴⁹ International Atomic Energy Agency. *International Physical Protection Advisory Service (IPPAS) Guidelines*. 2014.

²⁵⁰ Daya. International Atomic Energy Agency. *25 Years of Strengthening Nuclear Security with Physical Protection Peer Advice*. 2021.

²⁵¹ International Atomic Energy Agency. *IPPAS | International Physical Protection Advisory Service*. n.d.

²⁵² 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Final Document (NPT/CONF.2010/50.Vol.I)*. 2010.

²⁵³ Bufford et al. Nuclear Threat Initiative. *HEU Minimization*. 2022.

²⁵⁴ Bieniawski et al. Nuclear Threat Initiative. *A Roadmap to Minimize and Eliminate Highly Enriched Uranium*. 2015.

²⁵⁵ Roth. Belfer Center for Science and International Affairs, Harvard Kennedy School. *Tenth Anniversary of Global Threat Reduction Initiative*. 2014.

²⁵⁶ Ibid.

²⁵⁷ Bieniawski et al. Nuclear Threat Initiative. *A Roadmap to Minimize and Eliminate Highly Enriched Uranium*. 2015.

²⁵⁸ Malcolm H. Kerr Carnegie Middle East Center. *New Trends in Nuclear Safety and Nuclear Security*. 2012.

²⁵⁹ Ibid.

²⁶⁰ 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *2010 NPT Review Conference Action Plan*. 2010.

²⁶¹ International Criminal Police Organization. *Radiological and Nuclear terrorism*. n.d.

²⁶² Bowen et al. King's College London. *Nuclear Security Briefing Book 2020 Edition*. 2020.

²⁶³ International Atomic Energy Agency. *Promoting Nuclear Security: What the IAEA is doing*. n.d.

to protect nuclear materials from any unauthorized actions? How can the NPT RevCon address nuclear security? What kind of measures are effective to deter non-State actors from acquiring nuclear weapons illicitly? How can the nuclear security regime be strengthened in conjunction with multilateral initiatives which also work for nuclear security?

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<https://www.reachingcriticalwill.org/images/documents/Disarmament-fora/npt/revcon2010/2010NPTActionPlan.pdf>

This final document, adopted at the NPT RevCon in 2010, is the latest consensus reached by the States parties which aimed for the full and effective implementation of the NPT. While nuclear security is not always a direct thematic topic in the NPT RevCon, this NPT Action Plan mentions the need for strengthened measures concerning nuclear security in actions 23 to 64 in the section of nuclear non-proliferation and peaceful uses of nuclear energy. This document should be highly noted not only because this sets forth elements relevant to measures of nuclear security, but this can also help delegates get a better understanding of how the NPT RevCon addresses it.

2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Draft Final Document*. 2022. Retrieved 27 August 2022 from:

https://reachingcriticalwill.org/images/documents/Disarmament-fora/npt/revcon2022/documents/CRP1_Rev2.pdf

Although the NPT RevCon did not adopt the outcome document, this draft outcome document is the latest revised draft. Delegates may find this document helpful as this reflects priorities in the field of nuclear security today including unauthorized access to nuclear materials, theft and sabotage, and cybersecurity. It also stresses the central role of the IAEA for nuclear security including through advisory services and nuclear security guidance.

Bowen et al. King's College London. *Nuclear Security Briefing Book 2020 Edition*. 2020. Retrieved 14 July 2022 from: <https://www.kcl.ac.uk/csss/assets/nuclear-security-briefing-book-2020.pdf>

This report represents an overview of the nuclear security landscape with detailed components including international actors striving for nuclear security, prominent events and meetings in the past regarding the topic, and addresses the aspects which can degrade the standard of nuclear security systems. Delegates may find this document helpful to understand the whole view of the nuclear security regimes and the methods and impacts of potential terrorist use of nuclear and radioactive materials in each supposed scenario.

International Atomic Energy Agency. *Nuclear Security Series*. n.d. Retrieved 2 July 2022 from:

<https://www.iaea.org/resources/nuclear-security-series#:~:text=The%20IAEA%20establishes%20and%20maintains,harmful%20effects%20of%20ionizing%20radiation>

This website introduces one of the key aspects of the IAEA's work for nuclear security, the Nuclear Security Series. This series of publications works as the international consensus guidance in any area relating to nuclear security. It assists Member States through recommendation and detailed guidance to counter nuclear-related threats and develop effective measures for the nuclear security regime. Delegates may find this series helpful in grasping how the IAEA advises Member States to implement measures as the operational organ of nuclear security.

International Atomic Energy Agency, General Conference. *Nuclear Security Plan 2022-2025 Report by the Director General*. 2021. Retrieved 2 July 2022 from: <https://www.iaea.org/sites/default/files/gc/gc65-24.pdf>

This plan illustrates the areas that the IAEA has set forth to work on in the context of nuclear security for the next four years. Delegates may find this document helpful because this document outlines the IAEA's key focus and priorities as one of the main organs responsible for the topic of nuclear security. Specifically, the focus includes improving computer security, promoting information sharing mechanism, and assisting Member States in conducting self-assessments in the area of nuclear security.

Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. *Addressing "Vienna issues": the Comprehensive Nuclear-Test-Ban Treaty; compliance and verification; export controls; cooperation in the peaceful uses of nuclear energy; nuclear safety; nuclear security; and discouraging withdrawal from the Treaty on the Non-Proliferation of Nuclear Weapons (NPT/CONF.2020/PC.III/WP.5)*. 2019. Retrieved 13 July 2022 from:

<https://undocs.org/en/NPT/CONF.2020/PC.III/WP.5>

The document adopted at the PrepCom served as a recommendation for the tenth RevCon and addresses some areas necessary to promote for peace and security in all aspects related to nuclear non-proliferation. This PrepCom document presents essential areas including physical protection and cybersecurity of nuclear materials, threats of nuclear terrorism, ratification to relevant conventions, and cooperation with the IAEA. Although the recent RevCon did not adopt a final outcome document, the recommendation outlined in this preparatory document can be still insightful for delegates, since this may guide them to understand urgent steps that each Member States need to take to strengthen nuclear security.

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