2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons

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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

Working paper submitted by Australia, Austria, Canada, Denmark, Finland, Hungary, Ireland, the Netherlands, New Zealand, Norway and Sweden (the Vienna Group of Ten)

1. The Vienna Group of Ten reconfirms its full commitment to the Treaty on the Non-Proliferation of Nuclear Weapons. The Non-Proliferation Treaty is the cornerstone of the international nuclear disarmament and non-proliferation regime and fundamentally contributes to international peace, stability and security. Universalization of the Treaty is of utmost importance, and the Vienna Group of Ten encourages all States yet to accede to the Treaty to do so as soon as possible.

2. The Non-Proliferation Treaty is unique in providing a framework that fosters international confidence and cooperation in the peaceful uses of nuclear energy. The Treaty's objective of ensuring that nuclear materials, equipment, technology and facilities do not contribute to nuclear proliferation creates the necessary basis for peaceful nuclear cooperation and transfer. The full implementation of the Treaty also underpins the exchange and peaceful application of nuclear science and technology in a growing range of areas vital to human and animal health and environmental protection and supports attainment of the Sustainable Development Goals.

3. The three pillars of the Non-Proliferation Treaty are equally important and mutually reinforcing. The Vienna Group of Ten calls on all States, including those outside of the Treaty, to redouble their efforts to realize the fundamental goals of the Treaty, including full verifiable and irreversible nuclear disarmament.

4. A total of 146 International Atomic Energy Agency (IAEA) member States, including 35 least developed countries, have engaged in technical cooperation with IAEA, highlighting the ongoing relevance of peaceful uses of nuclear energy.

5. In addition, important efforts have been undertaken in the lead-up to, during and following the 2015 Review Conference of the Parties to the Treaty on the

Non-Proliferation of Nuclear Weapons, including the advancement of the Final Document of the 2000 Review Conference and the 64-point action plan from the 2010 Review Conference and continued high-level focus on nuclear testing, the peaceful uses of nuclear energy and nuclear safety and security.

6. In acknowledging the positive contribution of the Non-Proliferation Treaty to international security and development, limited progress on implementation of nuclear disarmament commitments, the lack of universality and non-compliance issues present challenges to confidence in the Non-Proliferation Treaty. Given these challenges, as well as the lack of a consensus outcome at the 2015 Review Conference, it is imperative that discussions at the tenth Review Conference be conducted in a spirit of cooperation, and support continued strengthening of the Treaty. The reflections of the Chairs of the 2017, 2018 and 2019 sessions of the Preparatory Committee can serve as a reference point in this regard.

7. We welcome the multilateral work at the United Nations of the Group of Governmental Experts on Nuclear Disarmament Verification, which considered how nuclear disarmament verification can advance nuclear disarmament. We also welcome the work of the International Partnership for Nuclear Disarmament Verification to develop credible measures and build global capacity for verifying nuclear disarmament.

8. We further highlight the important complementary roles of a fissile material cut-off treaty, inter alia, as a quantitative control on nuclear weapons proliferation, and the Comprehensive Nuclear-Test-Ban Treaty. The Vienna Group of Ten therefore strongly welcomes the 2018 consensus report of the high-level expert preparatory group of the treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices and notes that its content will be useful for treaty negotiations. As one of the 13 practical steps agreed in 2000 and reaffirmed in action 15 of the 2010 action plan, the conclusion of a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices is vital to the Non-Proliferation Treaty and would constitute a core element of the nuclear disarmament and non-proliferation regime. We call for the immediate commencement of negotiations on the fissile material cut-off treaty and urge all States that have not yet done so to implement a moratorium on fissile material production for nuclear weapons or other nuclear explosive purposes.

9. The Vienna Group of Ten emphasizes the importance of promoting the equal, full and effective participation of both women and men in nuclear non-proliferation, nuclear disarmament and the peaceful use of nuclear energy.

10. The Vienna Group of Ten also emphasizes the importance of promoting the meaningful and inclusive participation of young people in discussions in the field of disarmament, non-proliferation and peaceful uses.

11. The present working paper aims to ensure that the so-called “Vienna issues” listed in the title of the paper are given appropriate weight during the tenth Review Conference.

12. **The Vienna Group of Ten submits the following recommendations to the tenth Review Conference:**

On cross-cutting issues, that the Review Conference:

(1) *Affirm* its full commitment to the Non-Proliferation Treaty as the cornerstone of the international nuclear disarmament and non-proliferation regime;

(2) *Encourage* all States that are not parties to the Treaty to accede to it as soon as possible;

(3) *Reaffirm* that the three pillars of the Treaty are equally important and mutually reinforcing, and recall that all obligations and commitments under the Treaty and its Review Conferences remain valid;

(4) *Acknowledge* the fundamentally important role played by IAEA in contributing to the implementation of the Non-Proliferation Treaty;

(5) *Underline* the importance of gender mainstreaming and facilitating the pursuit of gender parity and workforce diversity in discussions and decisions across all three pillars of the Treaty;

(6) *Emphasize* the importance of regional cooperation in assisting States parties in obtaining the benefits of the Treaty.

On the Comprehensive Nuclear-Test-Ban Treaty, that the Review Conference:

(7) *Affirm* that the Comprehensive Nuclear-Test-Ban Treaty is vital to the Non-Proliferation Treaty and constitutes a core element of the nuclear disarmament and nuclear non-proliferation regime;

(8) *Underline* that the entry into force of the Comprehensive Nuclear-Test-Ban Treaty is of the utmost urgency as it will provide the global community with a permanent, non-discriminatory, verifiable and legally binding commitment to end any nuclear weapon test explosion or any other nuclear explosion, as a means to constrain the development and qualitative improvement of nuclear weapons, which combats both horizontal and vertical nuclear proliferation;

(9) *Urge* all States that have not yet done so to sign and/or ratify the Comprehensive Nuclear-Test-Ban Treaty without delay, in particular those remaining eight Annex 2 States necessary for the Comprehensive Nuclear-Test-Ban Treaty's entry into force;

(10) *Urge* States signatories to promote adherence to the Treaty through bilateral and joint outreach, seminars and other means;

(11) *Urge* all States to acknowledge the global de facto norm against nuclear testing and to maintain the moratorium on explosive nuclear tests, and refrain from any action that would defeat the object and purpose of the Comprehensive Nuclear-Test-Ban Treaty, pending its entry into force;

(12) *Urge* all States to support the development of the Comprehensive Nuclear-Test-Ban Treaty's verification regime, which is vital to the effectiveness of the Treaty and to maintaining the norm that existing signatures and ratifications establish against nuclear testing;

(13) *Urge* States signatories to support the work of the Provisional Technical Secretariat and its Executive Secretary to ensure that the technical aspects of the Comprehensive Nuclear-Test-Ban Treaty Organization's work continue to move ahead so that the verification regime shall be capable of monitoring compliance with the Treaty at its entry into force and to sustain political progress towards entry into force;

(14) *Urge* States signatories to support the work of the Provisional Technical Secretariat and its Executive Secretary to accelerate the completion and sustainment of the International Monitoring System.

On compliance and verification, that the Review Conference:

(15) *Underline* the importance of building and maintaining confidence in the peaceful nature of nuclear activities in non-nuclear-weapon States;

(16) *Call for* the universal application of IAEA safeguards, and call on all States to submit all relevant materials and activities, both current and future, to IAEA safeguards;

(17) *Urge* all States parties to the Non-Proliferation Treaty that have yet to bring into force comprehensive safeguards agreements to do so without delay;

(18) *Recognize* the Additional Protocol as a long-standing and integral part of the IAEA safeguards system, affirm that a comprehensive safeguards agreement, together with an additional protocol, represents the current verification standard pursuant to article III (1) of the Treaty, and urge all States parties that have not yet done so to conclude and bring into force additional protocols without further delay;

(19) *Urge* all States parties with unmodified small quantities protocols to rescind or amend them as soon as possible;

(20) *Encourage* States parties to continue to coordinate with IAEA in their efforts to promote the conclusion of comprehensive safeguards agreements and additional protocols and the amendment of small quantities protocols;

(21) *Urge* all States to cooperate fully and proactively with IAEA in implementing safeguards agreements and in expeditiously addressing anomalies, inconsistencies and questions identified by IAEA in order to assist it in drawing its safeguards conclusions with respect to the correctness and completeness of States' declarations, and urge all States to take all necessary steps to ensure that IAEA inspectors can discharge these duties without intimidation in line with privileges and immunities agreements;

(22) *Call on* all States currently in non-compliance with their Non-Proliferation Treaty safeguards obligations to remedy such non-compliance forthwith and move promptly to return to compliance with all of their safeguards obligations;

(23) *Stress* that, in order to draw credible safeguards conclusions, IAEA needs the full and timely cooperation of States in the implementation of their safeguards agreements, including through the provision by States of early design information;

(24) *Welcome* the efforts of IAEA to apply the State-level safeguards approach to all States with a safeguards agreement in force, as part of the continuing evolution of the safeguards system necessary to increasing its effectiveness and efficiency;

(25) *Recognize* the vital importance of IAEA verification and monitoring in building confidence in the exclusively peaceful nature of nuclear programmes.

On export controls, that the Review Conference:

(26) *Reaffirm* that each State party to the Non-Proliferation Treaty is responsible for ensuring that its nuclear-related exports do not directly or indirectly assist in the development of nuclear weapons or other nuclear explosive devices and that such exports are conducted in full conformity with the objectives and undertakings of the Treaty;

(27) *Urge* all States to apply in their export controls the Understandings of the Zangger Committee, which are designed to implement the obligations under

article III of the Treaty, and to further make use of current multilaterally agreed upon export control Guidelines and Understandings;

(28) *Stress* that effective export controls are central to enabling cooperation in the peaceful uses of nuclear energy;

(29) *Recognize* that sound domestic laws and regulations are a prerequisite to effective implementation of export controls;

(30) *Reaffirm* that the list of items triggering IAEA safeguards and the procedures for implementing control of these items, in accordance with article III (2) of the Treaty, should be reviewed regularly to take into account advances in technology, their proliferation sensitivity and changes in procurement practices;

(31) *Welcome* States parties' increasing adherence to the Understandings of the Zangger Committee and Guidelines of the Nuclear Suppliers Group, encourage further progress in this regard, and call on all States parties to examine opportunities offered by the increasing adherence to export control guidelines with a view to strengthening the global nuclear disarmament and non-proliferation regime;

(32) *Reaffirm* that new supply arrangements for the transfer of source or special fissionable material or equipment or material especially designed or prepared for the processing, use or production of special fissionable material to non-nuclear-weapon States should require, as a necessary precondition, acceptance of full-scope IAEA safeguards, and urge all States to require an additional protocol based on the model INFCIRC/540 (Corrected) as a condition for new supply arrangements.

On cooperation in the peaceful uses of nuclear energy, that the Review Conference:

(33) *Acknowledge* the inalienable right, under article IV of the Non-Proliferation Treaty, of all States parties to undertake research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with articles I, II and III, recognizing the benefits that can be obtained from the peaceful applications of nuclear energy and nuclear techniques;

(34) *Stress* that adherence to, and compliance with, the non-proliferation and verification requirements of the Treaty are preconditions for cooperation in this field;

(35) *Stress* the importance of implementing the highest levels of safety and security at all stages of the nuclear fuel cycle and in all peaceful uses of nuclear energy;

(36) *Underline* the essential role of IAEA, as highlighted by the 2018 Ministerial Conference on Nuclear Science and Technology: Addressing Current and Emerging Development Challenges, in assisting developing States parties in engaging in the peaceful applications of nuclear energy and nuclear techniques, including through its Technical Cooperation Programme, as well as the further development of instruments, standards and codes of conduct to ensure human safety and security and environmental protection;

(37) *Emphasize* the important role that nuclear applications can play in realizing the Sustainable Development Goals in the 2030 Agenda for Sustainable Development, and note that the sustainable development goals of States parties can provide a framework for tangible results to which the IAEA

Technical Cooperation Programme, as a useful vehicle for technology transfer, can make an important contribution;

(38) *Support* dialogue to foster, in a sustained manner, knowledge about the potential of nuclear applications to contribute to the Sustainable Development Goals.

On nuclear safety, that the Review Conference:

(39) *Emphasize* the importance for States and international organizations to continue to take active steps to enhance safety measures for all fuel cycle activities;

(40) *Underline* that measures to strengthen nuclear safety facilitate international cooperation in the field of peaceful nuclear activities and the production, transfer and use of nuclear and other radioactive material;

(41) *Encourage* all States to become parties to the Convention on Nuclear Safety, and encourage contracting parties to fulfil their obligations under the Convention;

(42) *Encourage* all States to become parties to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, and encourage contracting parties to fulfil their obligations under the Joint Convention;

(43) *Encourage* all States to implement the principles of the Vienna Declaration on Nuclear Safety to prevent accidents with radiological consequences and mitigate such consequences should they occur;

(44) *Underline* the central role of IAEA in enhancing the global nuclear safety regime, and in sharing and encouraging the application of lessons learned from the accident at the Fukushima Daiichi nuclear power plant;

(45) *Emphasize* the importance of States continuing to take active steps to respond to the observations and lessons contained in the report by the IAEA Director General on the Fukushima Daiichi accident to identify further scope for enhancing nuclear safety;

(46) *Encourage* all States to address regulatory effectiveness and transparency, operational safety, design safety and emergency preparedness and response by hosting IAEA review missions on a regular basis, and to share publicly the outcomes in order to further strengthen nuclear safety worldwide;

(47) *Emphasize* the need for States embarking on nuclear energy programmes to develop adequate national technical, human and regulatory infrastructure to ensure safety, security and safeguards for all fuel cycle activities in line with international conventions, standards, guidelines and recommendations, as appropriate, at a very early stage of the process;

(48) *Emphasize* also the importance for all States embarking on nuclear power programmes to plan in early stages for the safe, secure and safeguarded management of spent fuel and radioactive waste;

(49) *Highlight* the importance of environmental safety considerations in nuclear power programme design, construction, operation, decommissioning and disposal activities;

(50) *Emphasize* the importance for all States, in particular those with nuclear fuel cycle activities, of becoming parties to all conventions and agreements relevant to safety and security and support the further development, as

necessary, of legally binding instruments to ensure a better global safety and security framework;

(51) *Underline* the importance of international cooperation to enhance the safety and security of the transportation of nuclear and other radioactive material, including through the use of best practice guidelines for systematic communications in relation to the safe maritime and other transport of radioactive material, and in this regard commend the work of the informal dialogue of coastal and shipping States;

(52) *Underline* the importance of international cooperation in assessing and addressing, in a timely manner, any legal and regulatory challenges in connection with the deployment of new technologies, including, but not limited to, small modular reactors, advanced reactor technologies and transportable nuclear power plants;

(53) *Welcome* IAEA standards and guidance on the management of radioactive sources throughout their life cycle, including for disused sources, and encourage States to express their political commitment to implement the Code of Conduct on the Safety and Security of Radioactive Sources and its supplementary guidance documents.

On nuclear security, that the Review Conference:

(54) *Underline* the importance of effective nuclear security, including both physical protection and cybersecurity and computer security of all nuclear and other radioactive materials, including those materials used for military purposes and related facilities, and emphasize the need for all States to achieve and maintain the highest standards of such nuclear security;

(55) *Recognize* the constantly evolving threat of nuclear and radiological terrorism and the risk of acquisition of materials by non-State actors, and highlight the need to take measures to identify and address new and evolving challenges and threats to the security of nuclear and radioactive material and related facilities;

(56) *Note* with serious concern the threat posed by illicit trafficking and other unauthorized activities and events involving nuclear and other radioactive material, equipment and technology outside of regulatory control;

(57) *Call on* States that possess nuclear weapons to undertake voluntary measures to increase transparency and confidence in the effectiveness of security for military nuclear materials and related materials;

(58) *Affirm* the central role of IAEA in strengthening the nuclear security framework globally, in coordinating international nuclear security activities and in facilitating regional activities;

(59) *Welcome* the outcomes of the third IAEA International Conference on Nuclear Security, held from 10 to 14 February 2020, and the ministerial declaration adopted at the Conference that further enhances and strengthens international consensus on all substantive issues relevant to and required for a robust nuclear security framework worldwide;

(60) *Underline* that measures to strengthen nuclear security enhance public confidence and facilitate international cooperation in the field of peaceful nuclear activities and the promotion of peaceful uses of nuclear energy, as nuclear security is essential to the responsible production, storage, transfer and use of nuclear and other radioactive material;

(61) *Call on* States to ensure that IAEA has predictable, reliable and sufficient technical, financial and human resources in order to undertake its nuclear security-related activities in a sustainable way;

(62) *Call for* the acceleration of efforts to develop and implement an effective and comprehensive global nuclear security framework based on prevention, detection and response;

(63) *Encourage* States that have not yet done so to become parties to the Convention on the Physical Protection of Nuclear Material and Nuclear Facilities and the 2005 Amendment thereto as soon as possible, and encourage all parties to the Convention and the 2005 Amendment to fully implement their obligations thereunder, including in accordance with article 14.1;

(64) *Encourage* all relevant parties to participate actively in the 2022 conference to be held pursuant to article 16.1 of the Convention on the Physical Protection of Nuclear Material and Nuclear Facilities as amended to review the Convention's implementation and adequacy in the light of the situation then prevailing, as a key multilateral treaty in the area of nuclear security;

(65) *Urge* all States that have not yet done so to become parties to the International Convention for the Suppression of Acts of Nuclear Terrorism as soon as possible, and encourage all States parties to the Convention to fully implement their obligations thereunder;

(66) *Encourage* States to support the implementation of the essential elements and objectives of the global nuclear security framework through, inter alia, national implementation of IAEA guidance and recommendations, and to subscribe to the Joint Statement on Strengthening Nuclear Security Implementation (INFCIRC/869);

(67) *Call on* States to subscribe, where relevant, to joint commitments aimed at further strengthening the aspects of nuclear security identified therein;

(68) *Highlight* the importance of maintaining effective transport security;

(69) *Encourage* States to use IAEA guidance to expand efforts to strengthen preventive and protective measures against insider threats at nuclear facilities, including through the development and use of effective nuclear material accountancy and control systems;

(70) *Encourage* States to make use of and contribute to IAEA advisory services relevant to nuclear security on a recurrent basis and publish their recommendations to the extent possible without compromising sensitive information, and establish and implement with IAEA, as appropriate, Integrated Nuclear Security Support Plans in order to improve nuclear security at the national level and as a contribution to strengthening the global nuclear security framework. States are also encouraged to share experience gained in improving their nuclear security and to support IAEA in the implementation of its International Physical Protection Advisory Service missions by providing experts and/or financial support;

(71) *Recognize* the increased need for all States parties to reinforce their efforts on improving existing cooperation mechanisms, including through membership in and information-sharing through the IAEA Incident and Trafficking Database;

(72) *Recognize* the benefits of concluding safeguards agreements and additional protocols in terms of strengthening national control systems relevant to domestic and global nuclear security;

(73) *Encourage* States to further minimize highly enriched uranium stocks and to further minimize their use, including by converting radioisotope production to low-enriched uranium fuel and targets or by using other non-highly enriched uranium technologies, taking into account the need for an assured and reliable supply of medical isotopes and to implement the reporting mechanism in the Joint Statement on Minimising and Eliminating the Use of Highly Enriched Uranium in civilian applications (INFCIRC/912);

(74) *Encourage* States to keep their stockpiles of separated plutonium to the minimum amount possible consistent with their national requirements and to report stocks in line with the Guidelines for the Management of Plutonium (INFCIRC/549);

(75) *Highlight* the importance of nuclear forensics as an essential component of an effective nuclear security architecture, and encourage States to develop and enhance nuclear forensics capabilities;

(76) *Welcome* the work of IAEA in raising awareness of the potential impact on nuclear security of cyberattacks, and the provision of guidance and assistance to IAEA member States in enhancing computer security and information security;

(77) *Welcome* contributions by the United Nations and the International Criminal Police Organization (INTERPOL) to strengthening global nuclear security;

(78) *Welcome* nuclear security-related initiatives, such as the Nuclear Security Contact Group, the Global Initiative to Combat Nuclear Terrorism, the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, and the Proliferation Security Initiative, and encourage active participation in these initiatives;

(79) *Note* the outcomes of the 2016 comprehensive review conducted by the Security Council Committee established pursuant to resolution 1540 (2004) (S/2016/1038), and welcome efforts for the comprehensive implementation of Security Council resolution 1540 (2004);

(80) *Call on* States to establish competent and well-coordinated independent authorities to detect and respond to criminal or unauthorized acts involving any nuclear or other radioactive material that are out of regulatory control.

On discouraging withdrawal from the Non-Proliferation Treaty, that the Review Conference:

(81) *Affirm* the unique role that the Non-Proliferation Treaty plays in providing a framework that fosters international confidence and cooperation in the peaceful uses of nuclear energy;

(82) *Note* that withdrawal from the Treaty carries inherent risks to non-proliferation efforts and could constitute a threat to international peace and security;

(83) *Agree* that exercise of the right of withdrawal under article X of the Treaty be governed by the following principles:

(a) Withdrawal from the Treaty is a right for States parties governed by article X of the Treaty, which sets out that the right can only be exercised in the face of extraordinary events related to the subject matter of the Treaty, can only be exercised following notice to all other States parties and the Security Council three months in advance, and that such notice must include a statement of the

extraordinary events that the withdrawing State regards as having jeopardized its supreme interest;

(b) This right is governed by international law; the withdrawing State is still liable for violations of the Treaty perpetrated prior to withdrawal;

(c) Withdrawal should not affect any right, obligation or legal situation between the withdrawing State and each of the other States parties created through implementation of the Treaty prior to withdrawal, including those related to IAEA safeguards;

(d) Every diplomatic effort should be made to persuade the withdrawing State to reconsider its decision, including by addressing its legitimate security needs and encouraging regional diplomatic initiatives;

(e) All nuclear materials, equipment and technology acquired by a State party under article IV prior to withdrawal must remain under IAEA safeguards or fallback safeguards even after withdrawal;

(f) Nuclear-supplying States should be encouraged to exercise their right – in accordance with international law and their national legislation – to incorporate dismantling and/or return clauses or fallback safeguards in the event of withdrawal into contracts or other arrangements concluded with the withdrawing State, and to adopt standard clauses for this purpose.

Background note 1: the Comprehensive Nuclear-Test-Ban Treaty

1. The Comprehensive Nuclear-Test-Ban Treaty was an integral part of the 1995 decision to indefinitely extend the Non-Proliferation Treaty and constitutes a core element of the nuclear disarmament and nuclear non-proliferation regime. Once in effect, it will provide the global community with a permanent, non-discriminatory, verifiable and legally binding commitment to end any nuclear weapon test explosion or any other nuclear explosions. It constrains the development of nuclear weapons and their qualitative improvement, which combats both horizontal and vertical nuclear proliferation. The provisions of article V of the Non-Proliferation Treaty should be interpreted in this light.

2. Two and a half decades have passed since the Comprehensive Nuclear-Test-Ban Treaty was opened for signature. Although the Treaty has yet to come into force, the nuclear test moratorium has become a de facto international norm. However, as was recognized in the ninth Joint Ministerial Statement on the Comprehensive Nuclear-Test-Ban Treaty, entry into force of the Treaty remains our urgent goal due to its permanent and legally binding effect. Progress has been made towards ratification, and continued efforts are under way to that end: the Treaty has now been signed by 185 States, and of those 170 have ratified it, including 36 whose ratification is necessary for entry into force. The entry into force of the Comprehensive Nuclear-Test-Ban Treaty remains of the utmost urgency.

3. The international community has repeatedly reaffirmed its commitment to the Comprehensive Nuclear-Test-Ban Treaty and highlighted the importance of its earliest possible entry into force, most recently in the final declaration adopted at the twelfth Conference on Facilitating the Entry into Force of the Comprehensive Nuclear-Test-Ban Treaty (Article XIV Conference), held virtually in September 2021. At the Conference States signatories reaffirmed their determination to take concrete and actionable steps towards early entry into force and universalization of the Treaty. The Security Council, in its resolution 2310 (2016), as well as the General Assembly, most recently in its resolution 76/66, also recognized that early entry into force of the Treaty would constitute an effective nuclear disarmament and non-proliferation measure that would contribute to the achievement of a world without nuclear weapons. In its resolution, the Council urged all States that had either not signed or not ratified the Treaty, particularly the eight remaining Annex 2 States, to do so without further delay.

4. Pending the Comprehensive Nuclear-Test-Ban Treaty's entry into force, States should refrain from any action that would defeat its object and purpose. Development of new types of nuclear weapons, for example, may result in the resumption of tests and a lowering of the nuclear threshold. The existing moratorium on nuclear weapon test explosions and any other nuclear explosions must be maintained, but cannot serve as a substitute for ratifying the Treaty.

5. Only the Democratic People's Republic of Korea has acted contrary to the moratorium in the twenty-first century, by conducting nuclear tests in 2006, 2009, 2013, twice in 2016 and on 3 September 2017. These deplorable tests, in violation of relevant Security Council resolutions, undermine the international non-proliferation regime and the object and purpose of the Comprehensive Nuclear-Test-Ban Treaty. The events further underlined the urgent need for entry into force of the Treaty and the relevance and effectiveness of a universal and effective international monitoring and verification system for detecting nuclear explosions.

6. The Comprehensive Nuclear-Test-Ban Treaty Organization Preparatory Commission is making good progress towards finalizing the system to verify compliance with the Treaty at its entry into force and undertakes efforts towards its

sustainment and recapitalization. The goal of this work is an effective, reliable, participatory and non-discriminatory verification system with global reach. All major components of the verification system, including the capability to conduct an on-site inspection, should be ready to meet the verification requirements of the Treaty by the time of its entry into force. Data from the international monitoring system should also continue to be available and be used for civil and scientific purposes, especially in the context of natural disasters and other emergency situations, as well as climate change, including further cooperation with other international organizations in this regard.

7. There are a number of outreach activities that promote the signature and ratification of the Treaty, including the biennial Article XIV Conference, the ministerial meeting of the Friends of the Comprehensive Nuclear-Test-Ban Treaty, the Group of Eminent Persons and the Comprehensive Nuclear-Test-Ban Treaty Organization Youth Group, as well as bilateral and regional outreach activities undertaken by States signatories. Extensive training courses and conferences also contribute to enhanced awareness of the Treaty, help enable States signatories to fulfil their verification responsibilities and address possible technical, scientific and legal challenges. Focused activities are undertaken to build the capacity of experts from developing countries and to expand the roster of qualified inspectors and surrogate inspectors.

Background note 2: compliance and verification

1. Full compliance with all the provisions of the Non-Proliferation Treaty, including with relevant safeguards agreements, underpins the integrity of the Treaty. IAEA safeguards are fundamental to the nuclear non-proliferation regime and help create an environment conducive to nuclear cooperation.

2. Article III (1) of the Treaty requires non-nuclear-weapon States parties to accept safeguards on all source and special fissionable material in all peaceful nuclear activities.

3. A State's comprehensive safeguards agreement, based on IAEA document INFCIRC/153 (Corrected), requires the State to account for and control all nuclear material subject to safeguards and to provide the required design information and reports to IAEA. IAEA, as the competent authority designated under article III, verifies the correctness and completeness of a State's declarations in order to provide assurances of the non-diversion of nuclear material from declared activities and of the absence of undeclared nuclear material and activities.

4. Credible assurances regarding the absence of undeclared nuclear material and activities require that a comprehensive safeguards agreement be complemented by an additional protocol based on IAEA document INFCIRC/540 (Corrected). Implementation of an additional protocol provides increased confidence about a State's compliance with its Treaty obligations and is an integral part of the IAEA safeguards system, as it grants IAEA the tools needed to draw credible conclusions on the absence of undeclared nuclear materials and activities.

5. The combination of a comprehensive safeguards agreement and an additional protocol represents the current verification standard pursuant to article III (1) of the Treaty. The implementation of a comprehensive safeguards agreement and additional protocol together allows for IAEA to draw the broader conclusion that all nuclear material in a State remained in peaceful activities. It also allows for the application of a State-level safeguards approach, that is, the implementation of efficiency measures without compromising safeguards effectiveness in States where IAEA is confident there is an absence of undeclared nuclear materials and activities.

6. All States parties that have yet to do so should bring into force and implement comprehensive safeguards agreements without delay. A total of 151 States have signed an additional protocol, and such protocols are in force for 137 States. Those States that have not yet done so should bring into force additional protocols without further delay, and all States should submit all nuclear material and activities, both current and future, to IAEA safeguards. States parties with unmodified small quantities protocols should, as soon as possible, rescind or amend them. Under the modified small quantities protocol, States parties are required, inter alia, to submit an initial inventory report on all nuclear material to IAEA and to facilitate IAEA inspections. All States parties in a position to do so should continue to coordinate with the in their efforts to promote the conclusion of comprehensive safeguards agreements and additional protocols, and the amendment of small quantities protocols.

7. As confirmed by the 1995 Review and Extension Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons and the 2000 and 2010 Review Conferences, IAEA safeguards should be assessed and evaluated regularly. Decisions adopted by IAEA policymaking organs aimed at further strengthening the effectiveness and improving the efficiency of IAEA safeguards should be supported and implemented.

8. The IAEA State-level safeguards approach represents progress towards a more effective and efficient safeguards system that adheres fully to the principles of non-discriminatory, technical, objectives-based safeguards implementation.

9. All States should cooperate fully and proactively with IAEA in implementing safeguards agreements and in expeditiously addressing anomalies, inconsistencies and questions identified by IAEA in order to assist it in reaching its annual safeguards conclusions, which are of critical importance in assessing States' compliance with their Non-Proliferation Treaty obligations. IAEA should continue to make full use of all tools at its disposal to draw conclusions and resolve safeguards issues.

10. In order to draw well-founded safeguards conclusions, IAEA needs to receive early design information, in accordance with the 1992 decision of the IAEA Board of Governors (IAEA document GOV/2554/Attachment 2/Rev.2), which outlines the need for all non-nuclear-weapon States parties to provide this information to IAEA on a timely basis. Early design information is also a requirement pursuant to the revised small quantities protocol and relevant provisions of the subsidiary arrangements.

11. States should undertake consultations with IAEA early in the design process for new nuclear facilities to ensure that aspects relevant to safeguards are taken into consideration in order to facilitate future safeguards implementation, from their initial planning stage through design, construction, operation and decommissioning.

12. Any State party that does not comply with its safeguards obligations under the Non-Proliferation Treaty isolates itself from the benefits of constructive international relationships and from the benefits that accrue from adherence to the Treaty, including from cooperation in the peaceful uses of nuclear energy, until it enters into full compliance. The Group of Ten calls on those States that are currently non-compliant to move promptly to full compliance with their obligations, in particular:

- The Democratic People's Republic of Korea. The nuclear weapons programme of the Democratic People's Republic of Korea, including nuclear tests in 2006, 2009, 2013, 2016 and 2017, remains a serious challenge to the international nuclear non-proliferation regime. The Democratic People's Republic of Korea must comply with its Non-Proliferation Treaty obligations and allow for the return of IAEA inspectors and the reintroduction of IAEA safeguards.
- The Syrian Arab Republic. The finding by the IAEA Board of Governors in 2011, that the country's undeclared construction of a nuclear reactor at Dair Alzour and its failure to provide design information for this facility constitutes non-compliance with obligations under its safeguards agreement, remains a concern. The Syrian Arab Republic must remedy its non-compliance by cooperating fully with IAEA, including by providing full access to all sites and locations IAEA has requested.

13. Full and continued implementation by the Islamic Republic of Iran of its safeguards agreement pursuant to the Non-Proliferation Treaty is key to regaining confidence that the nature of the nuclear activities of the Islamic Republic of Iran is exclusively peaceful. This includes its interactions with IAEA in relation to ongoing safeguards issues and, specifically, its interactions with the Agency to address outstanding safeguards issues related to four previously undeclared nuclear locations further to the resolution of the IAEA Board of Governors of 19 June 2020 on this matter (IAEA document GOV/2020/34). There is also a need to ensure that the Islamic Republic of Iran, and all States parties to the Non-Proliferation Treaty, treat IAEA inspectors with respect and without intimidation, and comply with privileges and immunities agreements. The reapplication and early ratification by the Islamic

Republic of Iran of the additional protocol to its safeguards agreement with IAEA is also a key measure.

14. In July 2015, the E3/EU+3 reached agreement with the Islamic Republic of Iran on the Joint Comprehensive Plan of Action (JCPOA), which was subsequently endorsed by the Security Council in its resolution 2231 (2015). The United States withdrew from the Plan in May 2018 and, in August 2018, reimposed sanctions that had been lifted under JCPOA. In May 2019, the Islamic Republic of Iran took the decision to cease full compliance with its commitments under JCPOA and has increasingly taken action inconsistent with it, including action that has undermined IAEA verification and monitoring. The full implementation of JCPOA, in which the Islamic Republic of Iran reaffirmed that it will under no circumstances ever seek, develop or acquire any nuclear weapons, would contribute to building confidence in the exclusively peaceful nature of that country's nuclear programme. Verification is fundamental to JCPOA, and IAEA is responsible for monitoring and verifying Iranian implementation of its nuclear commitments under JCPOA and must be provided with the necessary verification authority to fulfil this task. IAEA will continue to need significant extrabudgetary contributions over the lifetime of JCPOA in order to fulfil this role, and member States should consider making voluntary contributions to support IAEA efforts in this area.

Background note 3: export controls

1. Export controls aim to ensure that nuclear trade for peaceful purposes does not contribute to the proliferation of nuclear weapons or other nuclear explosive devices, an unsafeguarded nuclear fuel cycle activity or acts of nuclear terrorism, and that international trade and cooperation in the nuclear field, under article IV of the Non-Proliferation Treaty, is not hindered unduly in the process. Nuclear export controls are a legitimate, necessary and desirable means of implementing the obligations of States parties under article III of the Treaty. Effective export controls are central to enabling cooperation in the peaceful uses of nuclear energy;

2. The existence of extensive covert networks for the procurement and the supply of sensitive nuclear equipment and technology underlines the need for all States to exercise vigilance in countering nuclear proliferation, including through the strict implementation of national nuclear export control policies. States should have in place adequate laws and regulations so that they can effectively implement export controls.

3. There is a clear relationship between the non-proliferation obligations as set out in articles I, II and III of the Non-Proliferation Treaty and the objectives for peaceful uses set out in article IV of the Treaty. Nothing in the Treaty should be interpreted as affecting the inalienable right of all States parties to the Treaty to undertake research, production and use of nuclear energy for peaceful purposes, without discrimination and in conformity with articles I, II and III of the Treaty. Recipient States have an obligation to exercise appropriately stringent controls to prevent nuclear proliferation.

4. The Understandings of the Zangger Committee (INFCIRC/209, as amended) provide important guidance to States parties in meeting their obligation under article III (2) of the Non-Proliferation Treaty. They include a list of items triggering IAEA safeguards for exports to non-nuclear-weapon States, including States that are not parties to the Treaty.

5. The Nuclear Suppliers Group Guidelines (INFCIRC/254, as amended) play an important and useful role in the development of national export control policies and contribute to the international non-proliferation regime. The Guidelines complement the Understandings of the Zangger Committee by adding controls over nuclear technology, as well as nuclear-related dual-use items that can make a contribution to nuclear weapons programmes.

6. The list of items triggering IAEA safeguards and the procedures for implementing control of these items, in accordance with article III (2) of the Non-Proliferation Treaty, should be reviewed regularly to take into account advances in technology, proliferation sensitivity and changes in procurement practices.

7. Guidelines from export control regimes are finding increasing acceptance and application by national authorities and the number of States participating in these regimes continues to grow. All States parties should consider the opportunities offered by the increasing adherence to export control guidelines with a view to strengthening the global nuclear disarmament and non-proliferation regime.

8. In September 2008, a number of States parties participating in the Nuclear Suppliers Group granted an exception specific to India to the full-scope safeguards requirement in the Nuclear Suppliers Group’s export control guidelines. This exemption was based on certain non-proliferation commitments and actions by India (INFCIRC/734 (Corrected)). Notwithstanding this decision, continuing importance is attached to the principle that new supply arrangements for the transfer of source or special fissionable material, or equipment or material especially designed or prepared

for the processing, use or production of special fissionable material, to non-nuclear-weapon States should require, as a necessary precondition, the acceptance of full-scope IAEA safeguards and internationally legally binding commitments not to acquire nuclear weapons or other nuclear explosive devices.

9. All non-nuclear-weapon States parties to the Non-Proliferation Treaty have a legal obligation under article III of the Treaty to accept IAEA safeguards. As a comprehensive safeguards agreement, together with an additional protocol, represents the verification standard for the fulfilment of this obligation, this verification standard should be acknowledged and applied as a condition for all new supply arrangements to non-nuclear-weapon States. The additional protocol further contains important provisions related to reporting to IAEA on the export and import of nuclear-related equipment.

10. Before supplying nuclear material, sensitive equipment or technology, States parties have the responsibility to seek assurance that the recipient State has in place Non-Proliferation Treaty-related IAEA safeguards, an adequate nuclear security regime, a minimum set of measures to combat illicit trafficking and rules and regulations for appropriate export controls in cases of retransfer.

Background note 4: cooperation in the peaceful uses of nuclear energy

1. Pursuant to article IV of the Non-Proliferation Treaty, all States parties have an inalienable right to undertake research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with articles I, II and III of the Treaty. For the purposes of article IV of Treaty, “nuclear energy” encompasses both power and non-power applications.

2. All States parties to the Non-Proliferation Treaty have undertaken to facilitate, and have the right to participate in, the fullest possible exchange of equipment, material, services and scientific and technological information for the peaceful uses of nuclear energy in a safe and secure environment.

3. Nuclear applications play an essential role in areas such as human health, water management, agriculture, food safety and nutrition, energy and environmental protection. For all States parties, nuclear applications can contribute to realizing the Sustainable Development Goals in the 2030 Agenda. The IAEA Peaceful Uses Initiative is a flexible and efficient instrument which provides additional support for IAEA in nuclear applications. In addition, dialogue to foster, in a sustained manner, knowledge about the potential of nuclear applications among relevant stakeholders can be helpful in realizing their advantages.

4. IAEA plays an essential role, including through its Technical Cooperation Programme, in assisting States to build human and institutional capacities, including regulatory capabilities, for the safe, secure and peaceful application of nuclear science and technology. The IAEA motto, “Atoms for Peace and Development”, reflects its broad contribution in this regard. More than 145 countries take part in the IAEA Technical Cooperation Programme in pursuit of socioeconomic development. We welcome IAEA efforts to enhance the effectiveness and efficiency of these activities. Close cooperation among States parties, IAEA and other international organizations, in particular those of the United Nations family, facilitates synergies and minimizes overlap. Therefore, each recipient State should have in place an IAEA country programme framework coordinated with United Nations Sustainable Development Cooperation Framework workplans, and cooperation should take place with United Nations country teams. The Technical Cooperation Programme, in conjunction with other IAEA programmes can help States to realize the goals of the 2030 Agenda for Sustainable Development. The use of nuclear techniques contributes directly to the achievement of at least 9 of the 17 Goals.[1] In addition, IAEA, through all its programmes and activities, should strive to contribute to Goal 5 on gender equality, including through gender mainstreaming and the pursuit of gender parity. The IAEA Ministerial Conference on Nuclear Science and Technology: Addressing Current and Emerging Development Challenges, held in 2018, highlighted the contribution that IAEA makes in the delivery and promotion of peaceful nuclear science and technology, illustrating its important contribution to the implementation of the Non-Proliferation Treaty in this area.

5. IAEA should assign greater priority to the needs of developing countries, and in particular those of the least developed countries, when planning its future activities. The implementation of the 2030 Agenda for Sustainable Development should serve as a guide for defining priority activities.

6. Nuclear safety and nuclear security aim at preventing or mitigating accidental or deliberate harmful effects of radiation on people and the environment. They enable access to the peaceful uses of nuclear energy and are essential for maintaining public support for peaceful uses. When developing nuclear energy, including nuclear power,

[1] See http://www.iaea.org/about/overview/sustainable-development-goals.

it remains important to ensure that its use is accompanied by commitments to and ongoing implementation of safeguards as well as the highest levels of safety and security, including at all stages of the nuclear fuel cycle. We support implementation of standards, guidance and codes of conduct developed within the framework of IAEA, as well as relevant international legal instruments. The technical and appropriate regulatory infrastructure and a skilled workforce, as well as legislative frameworks and independent regulatory bodies, have to be in place when developing nuclear energy. It is important that States consider ways of achieving gender equality in their national regulatory bodies and within their national nuclear fields and industries, including by ensuring that gender considerations are taken into account in building a skilled workforce.

Background note 5: nuclear safety

1. Safety in all activities throughout the nuclear fuel cycle is a prerequisite for the peaceful uses of nuclear energy. Protection of the people and the environment can be achieved by ensuring the highest levels of nuclear and radiation safety, security and safeguards, including management of their interfaces. This requires continuous efforts to prevent complacency and ensure all elements of safety culture are maintained at the optimal level. Primary responsibility for the safety of nuclear installations rests with the operators. Individual States are responsible for establishing frameworks for safety, including ensuring that necessary national technical, human and regulatory infrastructure are in place. This may require States to invest in education and training programmes and seek technical cooperation and assistance.

2. Although responsibility for the nuclear safety framework rests with individual States, international cooperation, especially that led by IAEA, is vital for the exchange of knowledge and learning from best practices and experience. The international community has strengthened its focus on nuclear safety since the Fukushima Daiichi nuclear accident in 2011, including through: the adoption of the Declaration of the IAEA Ministerial Conference on Nuclear Safety; the High-level Meeting on Nuclear Safety and Security (hosted by the Secretary-General); the Action Plan on Nuclear Safety endorsed by the General Conference of IAEA in 2011; the Vienna Declaration on Nuclear Safety adopted by consensus in February 2015; the report of the IAEA Director General on the Fukushima Daiichi accident published in August 2015; and the International Conference on a Decade of Progress after Fukushima-Daiichi: Building on the Lessons Learned to Further Strengthen Nuclear Safety, held in Vienna, from 8 to 12 November 2021. The report by the Director General on the Fukushima Daiichi accident highlighted 45 observations and lessons aimed at strengthening nuclear safety worldwide. All States with nuclear facilities are encouraged to host IAEA peer review missions on a regular basis and publicly share the outcomes in order to further strengthen nuclear safety worldwide.

3. It is also important for States that have nuclear fuel cycle activities and radioactive material to become parties to all relevant conventions and to make the political commitments necessary to ensure a better global safety framework, including:

- The Convention on Nuclear Safety, which is of central importance for States operating, constructing or planning nuclear power reactors.
- The Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management, which allows for the peer review of efforts to develop and implement disposal and long-term storage solutions for spent fuel and waste.
- The Convention on Early Notification of a Nuclear Accident, and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, which sets out a framework for international cooperation and response, involving IAEA, should such an event occur.
- The Code of Conduct on the Safety of Research Reactors, which establishes best practice guidelines for the licensing, construction and operation of research reactors.
- The Code of Conduct on the Safety and Security of Radioactive Sources and its associated Guidance, which provide international requirements for the regulatory control of radioactive sources.

- The Regulations for the Safe Transport of Radioactive Material, which establish transport standards relating to the safety of persons, property and the environment.
- By taking advantage of the IAEA Incident and Emergency Centre, which serves as a focal point for international emergency preparedness, communication and response to nuclear or radiological incidents and emergencies and for promoting improvement in emergency response and preparedness.
- By taking full advantage of IAEA advisory services, including the IAEA Integrated Regulatory Review Service, to implement global best practice in nuclear safety regulation.

4. International cooperation is important in order to enhance the safety and security of international transportation of radioactive materials while respecting maritime and air navigation rights and freedoms under international law. It is in the interests of all States that maritime and other transportation of nuclear and radioactive materials continue to be conducted in compliance with international standards of safety, security and environmental protection.

5. States, in coordination with IAEA and other international organizations, must assess and address, in a timely manner, any legal and regulatory challenges in connection with the deployment of new technologies, including, but not limited to, small modular reactors, advanced reactor technologies and transportable nuclear power.

6. A positive example of international cooperation in action is the practice of some shipping States and operators by which timely information and responses are provided to relevant coastal States to address safety and security concerns, including in the event of an accident, through the use of agreed best practice guidelines for systematic communications.

7. Implementation by the IAEA secretariat of the Plan of Activities on the Radiation Protection of the Environment remains important. There should be further cooperation between IAEA and relevant international organizations and stakeholders in promoting a coherent international policy regarding the radiological protection of the environment. The United Nations Scientific Committee on the Effects of Atomic Radiation continues to provide a valuable contribution by assessing and reporting levels and effects of exposure to ionizing radiation. Many States rely on the Committee's estimates as the scientific basis for evaluating radiation risk and for establishing protective measures.

8. The IAEA International Expert Group on Nuclear Liability continues to undertake valuable work in examining the application and scope of the international nuclear liability regime and considering further specific actions to address any gaps in scope and coverage of the regime. The International Expert Group should continue to address outstanding issues as provided for in the Action Plan on Nuclear Safety and in the recommendations of the 2011 IAEA International Conference on the Safe and Secure Transport of Radioactive Material.

Background note 6: nuclear security

1. Since the last Non-Proliferation Treaty Review Conference, States have continued to stress the vital importance of nuclear security and the responsibility of States to maintain, at all times, effective security of all nuclear and other radioactive materials, including nuclear materials used in nuclear weapons, and nuclear facilities under their control.

2. The strong international commitment to strengthening nuclear security worldwide has been demonstrated by a number of important events and initiatives, such as:

- The Ministerial Declarations at the International Conferences on Nuclear Security convened by IAEA in 2013, 2016 and 2020.
- The Nuclear Security Summits held from 2010 to 2016, including their action plans and gift baskets.
- The Nuclear Security Contact Group, the Global Partnership against the Spread of Weapons and Materials of Mass Destruction and the Global Initiative to Combat Nuclear Terrorism.
- The International Conference on the Security of Radioactive Material: The Way Forward for Prevention and Detection convened by IAEA in 2018.
- The Conference of the Parties to the Amendment to the Convention on the Physical Protection of Nuclear Material 2022, to be held in Vienna from 28 March to 1 April 2022.

3. IAEA has a central and essential role in strengthening the global nuclear security framework and in facilitating effective cooperation and coordination at the international and regional levels. States should ensure that it has predictable, reliable and sufficient technical, financial and human resources to undertake its nuclear security-related activities in a sustainable manner. In implementing its Nuclear Security Plan for 2022–2025, IAEA can rely on the strong commitment of member States to enable it to implement its nuclear security work. The important role of nuclear industry in implementing and enhancing nuclear security is increasingly recognized.

4. In order to further strengthen nuclear security worldwide, the following concrete measures are of vital importance:

- In line with the *Nuclear Security Fundamentals* adopted by the IAEA Board of Governors, IAEA should continue to develop guidance through its Nuclear Security Series publications.
- Without altering the non-binding status of the IAEA Nuclear Security Series documents, States may commit themselves voluntarily and publicly to embed IAEA recommendations into domestic rules and regulations by signing onto INFCIRC/869.
- States can also choose to commit to a number of initiatives that have been opened to the full IAEA membership through other information circulars (INFCIRCs), aimed at further strengthening aspects of nuclear security, including certified training for nuclear security management, supporting nuclear and radiological terrorism preparedness and response capabilities, developing national nuclear detection architectures, ensuring transport security of nuclear materials, mitigating insider threats, strengthening the security of high activity sealed radioactive sources, using forensics in nuclear security and minimizing and eliminating the use of highly enriched uranium in civilian applications.

- States should make use of and contribute to the relevant IAEA advisory services, including the IAEA International Physical Protection Advisory Service and the International Nuclear Security Advisory Service, and establish and implement Integrated Nuclear Security Support Plans.
- Greater transparency on the part of States with military materials on the security of those materials would demonstrate their commitment to nuclear security and contribute to greater domestic and international confidence. Sharing information and lessons learned can improve security. States that possess nuclear weapons are called on to undertake such confidence-building measures, which might include voluntary declarations, reporting in national progress reports or within the framework of Security Council resolution 1540 (2004), applying, where feasible and appropriate, best practices for civilian materials and military materials, or considering bilateral or internal peer reviews without jeopardizing sensitive information.
- States that have not yet done so should become parties to the Convention on the Physical Protection of Nuclear Material and Nuclear Facilities and its 2005 Amendment, and to the International Convention for the Suppression of Acts of Nuclear Terrorism. All States parties to the Convention on the Physical Protection of Nuclear Material and Nuclear Facilities and its 2005 Amendment and the International Convention for the Suppression of Acts of Nuclear Terrorism should fully implement their obligations thereunder. All relevant parties should actively participate in the 2022 conference to be held pursuant to article 16.1 of the Convention on the Physical Protection of Nuclear material and Nuclear Facilities as amended to review the implementation of the Convention and its adequacy as concerns the preamble, the whole of the operative part and the annexes in the light of the prevailing situation at that time.
- States concerned should further minimize highly enriched uranium stocks and further minimize their use, including by converting radioisotope production to low-enriched uranium fuel and targets or by using other non-highly enriched uranium technologies, while taking into account the need for an assured and reliable supply of medical isotopes.
- States concerned should keep their stockpiles of separated plutonium to the minimum consistent with their national requirements.
- States should reinforce their efforts to locate and secure nuclear and other radioactive material out of regulatory control and to improve existing control and cooperation mechanisms with a view to curbing illicit trafficking in nuclear and other radioactive materials. They should consider supporting the work of IAEA regarding the prevention, detection and response to illicit trafficking.
- States should develop and enhance nuclear forensics capabilities and utilize, as appropriate, the support by IAEA, the Global Initiative to Combat Nuclear Terrorism and the Nuclear Forensics International Technical Working Group in areas such as enhancing traditional and nuclear forensics capabilities and providing relevant training assistance to States.
- The work of IAEA in raising awareness of the potential impact on nuclear security of cyberattacks, and the provision of guidance and assistance to its member States in this regard, should be strengthened and sustained in view of the growing threat of such attacks.
- Fostering a culture of nuclear security through nuclear security education, training and proper certification of nuclear security managers should be a priority for States and the nuclear industry. Cooperation with IAEA to establish

centres of excellence and other nuclear security training and support centres, as well as international nuclear security education networks, is essential.

- States not already doing so are encouraged to consider participating in the Global Initiative to Combat Nuclear Terrorism and the Nuclear Security Contact Group.

5. In line with IAEA Nuclear Security Series No. 15, States should establish and maintain effective executive, legislative and regulatory frameworks to detect and respond to criminal or unauthorized acts involving nuclear or other radioactive material that is outside of regulatory control. Establishing and maintaining such frameworks help to ensure that assigned roles and responsibilities are carried out and powers are exercised according to law, cooperatively and in a coordinated manner within a State and, where necessary, between States.

Background note 7: discouraging withdrawal from the Non-Proliferation Treaty

1. Article X of the Non-Proliferation Treaty confers on States parties the right of withdrawal from the Treaty. It sets out the reasons for which the right of withdrawal can be exercised, and the process for exercising it. But this right cannot be considered in isolation. It should be considered in the context of the integrity of the Treaty and the broader framework of international law, including the principle of customary international law that says that a State continues to be responsible for violations of legal obligations committed prior to its withdrawal from a treaty. Abuse of article X would undermine the integrity of the Treaty and the objective of its universality.

2. Withdrawal from the Non-Proliferation Treaty carries inherent risks to non-proliferation and could constitute a threat to international peace and security. Withdrawal is a significant political event and should be given urgent political attention by States parties. States parties held useful discussions on the issue of withdrawal at the 2015 Review Conference, which should be taken forward during the 2020 review cycle, including by developing and agreeing on principles for exercising the right of withdrawal.

3. All nuclear materials, equipment, technology and facilities acquired and developed for peaceful purposes by a State during the time it was a party to the Non-Proliferation Treaty should, in the case of withdrawal, be restricted to peaceful uses only. As a consequence, they should remain subject to IAEA or fallback safeguards.