

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

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## 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

### Report submitted by Brazil

#### Implementation of the Treaty on the Non-Proliferation of Nuclear Weapons

1. Building on the two past editions submitted to the 2010 and 2015 Review Conferences of the Parties to the Treaty on Non-Proliferation of Nuclear Weapons, the present newest report is comprised of five sections. It starts with an introduction, which briefly examines the situation of the Treaty on the Non-Proliferation of Nuclear Weapons, drawing on the debates at the three Preparatory Committees for the 2020 Review Conference. It is followed by background information on Brazil's accession to the Non-Proliferation Treaty and, thereafter, three sections, corresponding to the Treaty's three pillars (nuclear disarmament, non-proliferation and peaceful uses of nuclear energy). Each of these sections includes specific topics, under which relevant information is reported.

2. The Brazilian Government submits the present report as a confidence-building measure, as well as an effort to implement action 20, as provided in the action plan of the 2010 Review Conference. That action states that: "States parties should submit regular reports, within the framework of the strengthened review process for the Treaty, on the implementation of the present action plan, as well as of article VI, paragraph 4 (c), of the 1995 decision entitled "Principles and objectives for nuclear non-proliferation and disarmament", and the practical steps agreed to in the Final Document of the 2000 Review Conference, and recalling the advisory opinion of the International Court of Justice of 8 July 1996".

#### Introduction

3. The Non-Proliferation Treaty is essential for the maintenance of international peace and security. It is predicated upon international cooperation across a broad range of issues pertaining to its three pillars. To function effectively, it requires concord among its States Parties, particularly among the nuclear-weapon States.



4. Since the 2015 Review Conference, the international security framework, of which the Non-Proliferation Treaty is a key component, has been under severe stress. Brazen power politics have whittled away at hard-won arms control and disarmament commitments. Worryingly, a qualitative global nuclear arms race is now under way while tensions between nuclear-armed States are on the rise. According to the Stockholm International Peace Research Institute 2019 Yearbook, all nine nuclear-armed States have ongoing programmes aimed at “developing or deploying new weapons systems or have announced their intention to do so”.<sup>1</sup>

5. While “nuclear modernization” may be a necessary task to make nuclear weapons more secure, the programmes of many nuclear possessor States go well beyond what can properly be described as modernization, introducing new capabilities and potentially increasing nuclear risk.

6. The use of nuclear weapons, including new “low yield”-type missiles, in a purportedly “limited scale” scenario elevates the potential for global catastrophe. Moreover, the so-called “emerging technologies”, such as hypersonic missiles, weaponized information and communications technologies, artificial intelligence and lethal weapons autonomous systems, dangerously heighten the escalatory potential of conflicts.

7. Nuclear sharing, which now seems to be further encouraged in some quarters, could tempt other nuclear powers to offer the same positive guarantees whose effect would be, in the end, a dangerous surge in vertical proliferation.

8. Against this backdrop, we welcome the decision by the United States and Russia to uphold and reaffirm the Gorbachev-Reagan formula adopted in the momentous 1985 bilateral Geneva Summit (“a nuclear war cannot be won and therefore must never be fought”). However, the reluctance of other nuclear-weapon States to do the same casts a highly disturbing light on their avowed nuclear doctrines.

9. This issue should be urgently dealt with by the so-called P5 Process. In fact, instead of simply explaining to the non-nuclear-weapon States why their continued possession of these weapons is justified, the so-called P5 Process could be instrumental in spearheading efforts to a coordinated implementation of article VI by the five nuclear-weapon States.

10. All the above developments show that practices reminiscent of the Cold War remain unabated. They also denote a perilous shift to a posture based on an offensive nuclear capability, as opposed to the usual posture based on deterring nuclear attack. This diagnosis was echoed by the Secretary-General, António Guterres, in *Securing Our Common Future: An Agenda for Disarmament*,<sup>2</sup> which aptly warned that the “nuclear agenda is now moving in the wrong direction”.<sup>3</sup>

11. The Non-Proliferation Treaty is believed to have curbed proliferation, and many have blithely taken this to be something of a badge of a merit. However, it is hardly reassuring that the number of States possessing nuclear weapons has almost doubled from the original five nuclear-weapon States recognized by the Treaty. The absence of real progress in nuclear disarmament – let alone the resumption of a nuclear arms race – only makes the nuclear-armed States outside the Treaty increasingly less prone to reconsider their options and join the Treaty as non-nuclear-weapon States. This state of affairs woefully breeds the perverse logic that the longer nuclear weapons exist, the harder it will be for their possessors to wean themselves off them.

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<sup>1</sup> [www.sipri.org/sites/default/files/2019-06/yb19\\_summary\\_eng\\_1.pdf](http://www.sipri.org/sites/default/files/2019-06/yb19_summary_eng_1.pdf).

<sup>2</sup> New York, Office for Disarmament Affairs, 2018.

<sup>3</sup> [www.un.org/disarmament/sg-agenda/en/](http://www.un.org/disarmament/sg-agenda/en/).

12. Promising prospects of continuous reductions in the nuclear arsenals initiated in the 1990s turned out to be short-lived. What is also apparent is that those reductions were compensated with important qualitative improvements in the nuclear weapons systems. At any rate, the indisputable truth remains that the number of existing nuclear weapons continues to have the potential to destroy the planet several times over.

13. Worse still, many policymakers in the nuclear-weapon States obdurately assume that the world can continue indefinitely with thousands of nuclear weapons and huge quantities of weapon-usable fissile materials without a disaster occurring. It challenges odds, however, to believe that, only because nuclear weapons were not used against human beings since 1945 and because no unintentional explosion has thus far taken place, no grave incident of that sort will ever happen. At its own risk, the international community has grown much too accustomed to living with agents capable of unique destructiveness in terms of blast, heat, radiation and fallout.

14. In the opposite direction, the overwhelming majority of the international community has in the past years stood up to demand actions commensurate to the utter incompatibility of nuclear weapons with international humanitarian law and international human rights law. In the wake of the groundbreaking Conferences on Humanitarian Impact of Nuclear Weapons in Oslo (2013), Nayarit (2014) and Vienna (2014), the United Nations in 2017 adopted the Treaty on the Prohibition of Nuclear Weapons, an important complement to the Non-Proliferation Treaty.

15. Nuclear disarmament is a goal that has eluded the Non-Proliferation Treaty members since the Treaty entered into force 50 years ago. If this compliance gap is left unresolved, it can ultimately sap the Treaty's main asset: its capacity to sustain a sort of predictability in the nuclear order.

16. The Non-Proliferation Treaty has fortunately displayed remarkable resilience thus far. This must be by no means understood as a licence for complacency in achieving its goals.

17. The tenth Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons should give room for a radical rethinking that should align the resolve to implement the Treaty's obligations with a renewed realization of the importance of the Non-Proliferation Treaty as a vehicle for the elimination of nuclear weapons and not for perpetuating the division between the nuclear-weapon States and the non-nuclear-weapon States.

## **Brazil and the Non-Proliferation Treaty**

18. Brazil has a long engagement with international initiatives aimed at eliminating nuclear weapons and securing the inalienable rights to the peaceful uses of nuclear energy. As a member of the Eighteen-Nation Committee on Disarmament, Brazil actively participated in the discussions on the Non-Proliferation Treaty, as well as, in the years before it, in the negotiations related to the Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean, also known as the Treaty of Tlatelolco.

19. Brazil's decision to accede to the Non-Proliferation Treaty in 1998<sup>4</sup> was taken after a long process which took into account its responsibilities as well as its historical stance on the Treaty. In this respect, it is worth mentioning that, in 1968, Brazil was one of the 21 States that abstained in the vote at the General Assembly on resolution [2373 \(XXII\)](#), in which it adopted the Non-Proliferation Treaty, on the grounds that the Treaty text failed to comply with the five principles set forth in Assembly

<sup>4</sup> Law 2864 of 7 December 1998.

resolution 2028, in which it mandated the Eighteen-Nation Committee on Disarmament to negotiate the Treaty.

20. More specifically, Brazil looked askance at the fact that the Non-Proliferation Treaty does not impose restrictions on the nuclear-weapon States' leeway to carry on with their own vertical proliferation and that they are also exempted from the application of safeguards on their nuclear activities, whether peaceful or military, although all of them subsequently agreed to voluntarily submit some of their peaceful nuclear activities to International Atomic Energy Agency (IAEA) safeguards. Brazil also expressed concern that the provisions of articles IV, V and VI depend almost entirely in their implementation on the good faith and cooperation of the nuclear-weapon States Parties to the Treaty.

21. Still within the Eighteen-Nation Committee on Disarmament debates, Brazil associated itself with those States which hold the belief that nuclear weapons shore up an unjust and discriminatory order, which spawns instability and insecurity, and that the financial resources devoted to maintaining (and modernizing) nuclear weaponry sit ill with global economic imbalances.

22. While this reasoning still holds true today, Brazil's decision to accede to the Treaty took into consideration, inter alia, its potential to help achieve the goal of a world free of nuclear weapons after the Cold War.

23. The gradual consolidation of the Non-Proliferation Treaty as the cornerstone of the nuclear non-proliferation and disarmament regime and the adoption of a strengthened, forward-looking review process at the 1995 Review and Extension Conference also buttressed Brazil's decision to withdraw its reservations to the Treaty.

24. In so doing, Brazil sought to join other parties to the Treaty in focusing its efforts on the complete elimination of nuclear arsenals as the only means of correcting the built-in asymmetry between States Parties and the full and definitive achievement of the Treaty's goals.

25. The decision by the National Congress of Brazil to approve the country's accession to the Treaty was predicated upon the understanding that effective measures would be taken with a view to the cessation of the nuclear arms race at an early date and the total elimination of nuclear weapons, as stated in the Legislative Decree<sup>5</sup> that approved the Treaty in 1998.

26. Underlying Brazil's positions on the three pillars of the Non-Proliferation Treaty and corresponding national policies is the basic assumption that the peaceful uses of nuclear energy are a force for development, to which all countries have an equal, inalienable and sovereign right, while the continued existence of nuclear weapons represents, in Niels Bohr's words, a "perpetual menace" for humankind that must be confronted with the utmost resolve by all countries and peoples.

## **Section I**

### **Reporting on measures relating to nuclear disarmament**

27. As highlighted in the preamble to the Non-Proliferation Treaty, in considering the devastation that would be visited upon all humankind by a nuclear war, States Parties need to make every effort to avert the danger of such a war.

28. Fifty years after the Non-Proliferation Treaty's entry into force, around 15,000 nuclear weapons still exist, while security doctrines based on their use continue to

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<sup>5</sup> Legislative Decree 65 of 2 July 1998.

play a pivotal role in nuclear-weapon States defence strategies. This throws into relief a clear compliance deficit on the part of the five nuclear-weapon States, which have not fulfilled their commitment under article VI of the Non-Proliferation Treaty of pursuing negotiations in good faith on nuclear disarmament – which the International Court of Justice, in its 1996 advisory opinion, recognized as an obligation. Nor do they seem to be willing to give any concreteness to the unequivocal undertaking given in 2000 by the nuclear-weapon States to accomplish the total elimination of their nuclear arsenals or to the majority of measures provided for in the action plan of the 2010 Review Conference.

29. Although some worthy initiatives have been undertaken, including nuclear arsenal reductions and confidence-building measures, meaningful progress on nuclear disarmament – transparent, verifiable and irreversible – has been elusive.

30. The results of the so-called “step-by-step” approach have fallen short of the initial expectations. Brazil made efforts, including with innovative contributions, to push forward this approach, albeit with an increasingly jaundiced perception. In fact, a dispassionate assessment of its potential to realize the Treaty’s objectives clearly demonstrates that the “step-by-step” method has hitherto yielded very meagre results, thereby precluding meaningful spin-offs, which would give credence to vows of adherence to article VI.

31. The prohibition of nuclear testing, intended to be the first step, is likely to remain on the foreseeable horizon as a norm deprived of legal recognition. Despite having been adopted a quarter of a century ago, the Comprehensive Nuclear-Test-Ban Treaty’s protracted entry into force has the stamp of inertia. Worryingly, an influential nuclear-weapon State has unambiguously stated in its current nuclear doctrine that it will not seek the ratification of the Treaty.

32. Likewise, the beginning of negotiations on a fissile material treaty has been stalled for over two decades, making it hard to predict when it will be concluded, let alone when it might enter into force.

33. Brazil acknowledges the steps taken by the nuclear-weapon States to increase transparency regarding their nuclear arsenals. Increased transparency, however, should not be understood as an end unto itself, but rather as a means to advance towards effective and complete nuclear disarmament.

34. The “unequivocal undertaking” by the nuclear-weapon States to accomplish the total elimination of nuclear arsenals, adopted and reaffirmed at the 2000 and 2010 Review Conferences, must be taken in all seriousness. Nuclear-weapon States are called upon to demonstrate an unflinching commitment to the speedy implementation of the agreed path towards a nuclear-weapon-free world. Although unilateral and bilateral reductions are an indispensable part of the overall nuclear disarmament effort, they cannot substitute for a framework of multilaterally agreed measures.

35. Complete, verifiable and irreversible nuclear disarmament must remain a global priority, and this should be reflected in concrete, decisive steps towards it.

36. The strengthened review process agreed in 1995 ascribed a forward-looking role to the review conferences. Among other significant achievements of that process was the adoption of the 13 practical steps leading to nuclear disarmament in 2000 and of the 2010 action plan, which reaffirmed and deepened those commitments.

37. The decision taken at the 1995 Review and Extension Conference to extend the Treaty indefinitely does not signify that nuclear weapons are to be retained indefinitely. Such a misconception would in fact encourage further nuclear proliferation and defeat the Treaty’s goal of achieving a nuclear-weapon-free world.

38. At the 2000 Review Conference, Brazil and its partners in the New Agenda Coalition (Egypt, Ireland, Mexico, New Zealand, South Africa and Sweden) worked closely on the elaboration and discussion of the 13 practical steps for systematic and progressive efforts on nuclear disarmament, which came to be the most important achievement of that Conference.

39. After a difficult and frustrating Review Conference in 2005, which concluded without a final document, the 2010 Review Conference succeeded in reaching a consensual Final Document, whereby a new, enhanced action plan was approved, again with the resolute support of the New Agenda Coalition.

40. Thwarted especially, but by no means solely, by the issue of the nuclear-weapon-free zone in the Middle East, the 2015 Review Conference enhanced the Non-Proliferation Treaty's fitful ability to adopt final documents. While calling for the complete implementation of nuclear disarmament commitments of the 2010 Action Plan, Brazil believes that the tenth Review Conference should not provide merely for a "roll-over" of those, but for the adoption of new, more ambitious and concrete actions related to the elimination of nuclear weapons.

41. Brazil has long been clear that the challenges facing the implementation of the Treaty are of a political nature and not the result of deficiencies in the machinery or administration of the Treaty. Although the strengthened review process could always be streamlined and made more efficient, it is sufficient for the purpose of ascertaining the full implementation of the Treaty. Political will by all parties, but especially by the nuclear-weapon States, is of the essence.

## **Treaty on the Prohibition of Nuclear Weapons**

42. Adopted by the United Nations in July 2017 and in force since January 2021, the Treaty on the Prohibition of Nuclear Weapons is the culmination of a process in response to long-standing concerns about the catastrophic consequences of any use of nuclear weapons.

43. Having as a starting point General Assembly resolution 1, adopted unanimously in 1946, in which the goal of the "elimination from national armaments of atomic weapons" was set out, this process found concrete expression in the Final Document of the 2010 Review Conference, which recognized "the catastrophic humanitarian consequences of any use of nuclear weapons and reaffirmed the need for all States at all times to comply with applicable international law, including international humanitarian law".

44. The Treaty on the Prohibition of Nuclear Weapons is the first multilateral agreement that comprehensively prohibits nuclear weapons. It is also the first to include provisions to help address the humanitarian consequences of nuclear weapons use and testing. The Treaty on the Prohibition of Nuclear Weapons complements existing international agreements on nuclear weapons, in particular the Non-Proliferation Treaty, the Comprehensive Nuclear-Test-Ban Treaty and agreements establishing nuclear-weapon-free zones.

45. In line with principles set forth by the Federal Constitution,<sup>6</sup> particularly the provision on use of nuclear energy exclusively for peaceful uses,<sup>7</sup> Brazil attended the Conferences on the Humanitarian Impact of Nuclear Weapons held in Oslo (March

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<sup>6</sup> Article 4 of the Federal Constitution sets out, inter alia, "the centrality of human rights", "the defence of peace" and "the peaceful settlement of disputes" as standing principles for Brazil's foreign policy.

<sup>7</sup> Article 21, XXIII, a of the Federal Constitution states that "all nuclear activity within the national territory will be only for peaceful uses and subject to approval by the National Congress".

2013), Nayarit (February 2014) and Vienna (December 2014) and supported General Assembly resolution 71/258 to commence negotiations on a prohibition treaty, adopted on 23 December 2016.

46. Having voted in favour of the Treaty on the Prohibition of Nuclear Weapons on 7 July 2017 along with other 121 countries, Brazil was the first State to sign the Treaty on 20 September 2017. The Treaty on the Prohibition of Nuclear Weapons is currently under consideration by the Legislative branch with a view to its ratification.

47. Brazil is of the undimmed persuasion that any use of weapons of mass destruction is abhorrent and contrary to international humanitarian law and international human rights law. Nuclear weapons are by far the most lethal and indiscriminate of all weapons of mass destruction, with unthinkable and enduring effects on human health and on the environment.

48. The Treaty on the Prohibition of Nuclear Weapons represents an important normative advance in the international law, thereby closing a legal gap relating to the absence of a legally binding instrument explicitly prohibiting nuclear weapons and establishing a framework for their elimination. The other weapons of mass destruction (biological and chemical weapons) have been prohibited and subject to elimination processes through international legal instruments. It is past time that nuclear weapons were put on the same footing.

49. Five months after the adoption of the Treaty on the Prohibition of Nuclear Weapons, the Brazilian Ministry of Foreign Affairs organized an international seminar on 7 and 8 December 2017 entitled “Towards a world without nuclear weapons: challenges and perspectives”. Besides the Treaty on the Prohibition of Nuclear Weapons, the seminar focused on the fiftieth anniversary of the Treaty of Tlatelolco and the then upcoming twenty-fifth anniversary of the Brazilian-Argentine Agency for Accounting and Control of Nuclear Weapons (ABACC).

## **Nuclear disarmament verification**

50. Brazil considers the development of necessary verification capabilities fundamental to achieving complete and effective nuclear disarmament. A world without nuclear weapons will be not only a world minus nuclear weapons: a world without nuclear weapons will necessarily require a robust mechanism of verification.

51. The wealth of experience acquired through the Brazilian-Argentine Agency for Accounting and Control of Nuclear Weapons of nuclear materials in the fields of, inter alia, confidence-building and inspections has particularly encouraged Brazil to take a proactive position to participate in and contribute to initiatives on nuclear disarmament verification.

52. Brazil has advocated that multilateral organizations, notably IAEA, should play a major role in nuclear disarmament verification, according to article III.B.1<sup>8</sup> of its statute. Brazil has supported the inclusion of a reference on the necessity for IAEA to maintain in-house disarmament verification capabilities in the Agency’s Medium-Term Strategies for the periods 2012–2017 and 2018–2023, as well as in safeguards resolutions approved by its General Conference.

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<sup>8</sup> “In carrying out its functions, the Agency shall: 1. Conduct its activities in accordance with the purposes and principles of the United Nations to promote peace and international cooperation, and in conformity with policies of the United Nations furthering the establishment of safeguarded worldwide disarmament and in conformity with any international agreements entered into pursuant to such policies” (IAEA Statute, art. III.B.1).

53. Since its inception, Brazil has participated in all meetings of the International Partnership for Nuclear Disarmament Verification, which is in many ways innovative in this field. Brazil welcomed the establishment of the Partnership. However, it could have better outcomes, representation and legitimacy if carried out in truly multilateral format, preferably within the United Nations system.

54. Brazil has played an active role in the work of the Group of Governmental Experts to consider the role of verification in advancing nuclear disarmament (2018–2019) convened in accordance with General Assembly resolution [71/67](#). Within that framework, the Brazilian expert submitted a working paper proposing the establishment of a group of scientific and technical experts on nuclear disarmament verification, to be mandated by the Conference on Disarmament and to operate under its rules of procedure.<sup>9</sup> The proposal recognized the substantive contribution that the scientific and technical community can make to nuclear disarmament verification.

55. The following elements of Brazil's proposal for a group of scientific and technical experts on nuclear disarmament verification stand out:

(a) It seeks to develop, within the disarmament machinery, a multilateral entity in charge of assessing verification methodologies, technologies and procedures relevant for nuclear disarmament;

(b) It is premised on the notion that all States, nuclear- and non-nuclear-weapon alike, have a stake in and a right to fully participate in nuclear disarmament discussions, negotiations and verification of compliance, albeit with different roles;

(c) It addresses concerns with non-nuclear weapon States having access to confidential information by applying the concept of “proliferation-resistant information”;

(d) It takes into account and brings into a multilateral setting other similar precursor exercises such as the United Kingdom-Norway initiative to explore how a non-nuclear-weapon State could take part in the verification of nuclear disarmament; its successor, the Quad Nuclear Verification Partnership; and the International Partnership for Nuclear Disarmament Verification;

(e) It has the potential to effectively connect different existing efforts to the disarmament machinery while strengthening the Conference on Disarmament as the single negotiating body for nuclear disarmament negotiations;

(f) It is inspired by the Group of Scientific Experts, which laboured under the Conference on Disarmament for some 20 years, from 1976 to 1996, with a view to technically preparing for negotiations on the Comprehensive Nuclear-Test-Ban Treaty.

56. Although the response to the group of scientific and technical experts proposal was extremely positive, a situation that could be described as “consensus minus one” prevented the Group of Governmental Experts from clearly endorsing a recommendation to pursue such a course of action. The concept of a group of scientific and technical experts will be subject to the consideration of a new edition of a group of governmental experts on nuclear disarmament verification, convened in 2021–2022, pursuant to General Assembly resolution [74/50](#).

57. The Brazilian Ministry of Foreign Affairs cooperated with the United Kingdom-based institution, the Verification, Research, Training and Information Centre, on the organization of the seminar “Building capacity on multilateral nuclear disarmament verification”, held in Buenos Aires on 7 and 8 August 2019.

<sup>9</sup> Documents [A/74/90](#) and GE-NDV/2019/1.



## Conference on Disarmament

58. Brazil is an active participant in the Conference on Disarmament in Geneva. The Brazilian Government maintains an independent diplomatic mission to the Conference, comprised of diplomats and high-ranking military advisors. The Brazilian Special Representative to the Conference holds the rank of Ambassador.

### Fissile material treaty/fissile material cut-off treaty

59. A treaty banning the production of fissile materials (primarily plutonium and highly enriched uranium) is considered an important step to constrain the nuclear arms race and achieve the goal of nuclear disarmament. This understanding was endorsed by General Assembly resolution 48/75, adopted in 1993 without a vote, in which the Assembly called for a “non-discriminatory, multilateral and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices”.

60. In March 1995, the Conference on Disarmament agreed on the mandate presented by the Ambassador of Canada, Gerald Shannon, to the Conference.<sup>10</sup> Since then, the lack of consensus over verification provisions, as well as whether the treaty should involve a ban on the use of some of pre-existing stocks for weapons and, outside the treaty scope, over the convenience of holding parallel negotiations in the Conference on outer space arms control issues, has prevented not only negotiations on a fissile material treaty/fissile material cut-off treaty but also the adoption of a programme of work for the Conference on Disarmament.

61. According to the *Global Fissile Material Report 2015*, published by the International Panel on Fissile Materials,<sup>11</sup> the global stockpiles of plutonium and highly enriched uranium are sufficient for more than 200,000 nuclear weapons, assuming 3 kg of weapons-grade plutonium, 5 kg of reactor-grade plutonium and 15 kg of highly enriched uranium per weapon-equivalent. The material currently reserved for weapons purposes today is equivalent to more than 100,000 weapons. The remaining material is sufficient for almost 100,000 warheads.

62. Taking into account the above estimates, Brazil holds the view that any treaty banning the production of fissile materials that caps future production but does not address the pre-existing stockpiles will have very limited effects, if any, on advancing nuclear disarmament.

63. In June 2010, the Brazilian delegation to the Conference on Disarmament submitted a proposal on a framework agreement structure for a treaty on fissile material for nuclear weapons or other nuclear weapons devices.<sup>12</sup> It comprises an umbrella treaty, a first protocol addressing future production for nuclear weapons purposes or nuclear explosive devices and a second protocol dealing with pre-existing stockpiles. Each of the protocols would have different mechanisms of verification.

64. The purpose of the proposal was, in a spirit of compromise and transcending Brazil’s national position, to break the protracted impasse at the Conference on

<sup>10</sup> Document CD/1299, report of Ambassador Gerald E. Shannon of Canada on consultations on the most appropriate arrangements to negotiate a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices, Conference on Disarmament, 24 March 1995.

<sup>11</sup> Available at [http://fissilematerials.org/publications/2015/12/global\\_fissile\\_material\\_report\\_7.html](http://fissilematerials.org/publications/2015/12/global_fissile_material_report_7.html).

<sup>12</sup> Document CD/1888, Brazil Working Paper “Proposal on the structure of a treaty on fissile material for nuclear weapons or nuclear explosive devices”, Conference on Disarmament, 10 June 2010.

Disarmament, thereby allowing for the commencement of negotiations on a treaty banning the production of fissile materials.

65. Brazil deems this proposal to be worthy of consideration on three grounds. First, it gives considerable room for flexibility by means of accommodating different views on the scope of the treaty. Second, it sets out from its inception a two-step framework agreement model for negotiations whereby all the main tenets will be clear to all parties, even if all these tenets are not realized at the same time. Third, it provides predictability on the way forward.

66. Brazil actively participated in the Group of Governmental Experts (2014–2015) to make recommendations on possible aspects that could contribute to – but not negotiate – a treaty banning the production of fissile material for nuclear weapons or other nuclear weapons devices, pursuant to General Assembly resolution 67/53, as well as in the high-level fissile material cut-off treaty expert preparatory group (2017–2018) created by Assembly resolution 71/259.

67. At the aforementioned high-level group, the Brazilian expert resubmitted the proposal on a framework agreement with further clarifications and technical additions. Although it received robust support from many experts from non-nuclear-weapon States, those representing States possessing nuclear weapons objected to its inclusion in the recommendations section of the report.<sup>13</sup>

68. At the regional level, Brazil took part in the regional workshop on the high-level fissile material cut-off treaty expert preparatory group process, held in Lima on 19 and 20 March 2018.

## Negative security assurances

69. The only effective security assurance that nuclear weapons will never be used against countries that have forsworn them is the realization of nuclear disarmament in a transparent, verifiable and irreversible manner.

70. Pending the above, the unambiguous reaffirmation of the negative security assurances is not void of meaning, particularly in the context of the nuclear-weapon States' legal obligations to members of nuclear-weapon-free zones.

71. Despite several proposals and suggestions during the negotiations of the Non-Proliferation Treaty within the Eighteen-Nation Committee on Disarmament, no negative security assurances were incorporated into the text of the Treaty, with the exception of a reference to the Charter of the United Nations in the last preambular paragraph, which reads: "States must refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State."

72. The purpose of establishing nuclear-weapon-free zones is to guarantee the immunity of their member States from the use or the threat of use of nuclear weapons. Therefore, the cooperation of the nuclear-weapon States is essential to ensure the viability of such zones. In 1966, the General Assembly, in its resolution 2153 (XXI), called upon all nuclear-weapon Powers to refrain from the use, or the threat of use, of nuclear weapons against States which might conclude regional treaties in order to ensure the total absence of nuclear weapons.

73. In 1978, the final document of the first special session of the General Assembly Devoted to Disarmament<sup>14</sup> asked nuclear-weapon States to "pursue efforts to

<sup>13</sup> A/73/159, report of the high-level fissile material cut-off treaty preparatory group, 13 July 2018.

<sup>14</sup> [www.un.org/disarmament/wp-content/uploads/2017/05/A-S10-4.pdf](http://www.un.org/disarmament/wp-content/uploads/2017/05/A-S10-4.pdf).

conclude, as appropriate, effective arrangements to assure non-nuclear-weapon States against the use or threat of use of nuclear weapons”.

74. Nuclear-weapon-free zones are recognized by article VII of the Non-Proliferation Treaty and constitute important components of the global security architecture. In this sense, the negative security assurances can be a measure to strengthen the nuclear-weapon-free zones in tandem with achieving universal adherence to nuclear-weapon-free zone treaties and fostering inter-zone cooperation.

75. To date, no international legally binding treaty or Security Council resolution addresses negative security assurances satisfactorily.

76. Currently negative security assurances have been provided through unilateral declarations by the nuclear-weapon States under the Non-Proliferation Treaty in their nuclear posture reviews, ratification of nuclear-weapon-free zone protocols or both, albeit with the imposition of unrelated preconditions or interpretative clauses. Among the nuclear-weapon States, China should be singled out as the one that has adopted the most forthcoming stance on the issue of negative security assurances and no-first-use policy.

77. As a State Party to the Treaty of Tlatelolco, Brazil, in close cooperation with its regional partners, has consistently called upon the nuclear-weapon States to withdraw reservations and interpretative declarations to Protocols I and II to the Treaty of Tlatelolco and to protocols to other nuclear-weapon-free treaties, which are incompatible with the objectives of such treaties and with nuclear disarmament obligations under article VI of the Non-Proliferation Treaty.

78. Those reservations and interpretative clauses dilute in particular the commitment enshrined in article 3 of Protocol II, namely, that nuclear-weapon States “undertake not to use or threaten to use nuclear weapons against the Contracting Parties to the Treaty”.

79. Like the negative security assurances, a no-first-use commitment could engender an atmosphere of détente in which nuclear weapons would not be resorted to in the first place. It could further slow down the arms race and positively impact non-proliferation purposes.

## **Creating an Environment for Nuclear Disarmament**

80. Brazil participated with interest in the two plenary meetings in 2019 (Washington, D.C., on 2 and 3 July, and Wilton Park, United Kingdom, on 20 and 21 November) of the initiative entitled “Creating an Environment for Nuclear Disarmament”, launched by the United States Government.

81. Although not directly linked to the Non-Proliferation Treaty, the initiative is set to examine challenges related to nuclear disarmament. Brazil associated itself with the discussions but harbours strong reservations to the proposition that progress on nuclear disarmament should depend on the improvement of worldwide security and stability. In fact, the opposite is true: only decisive action towards the fulfilment of nuclear disarmament commitments can bring about the conditions for a safer and more stable environment.

82. Nuclear disarmament will not happen in a short period of time, and its realization will require complex negotiations and the setting up of a robust mechanism of verification. However, this should not preclude establishing a political horizon for the complete elimination of nuclear weapons.

83. In Brazil’s understanding, the Non-Proliferation Treaty’s principles and obligations already provided the environment for nuclear disarmament. The quest for

an ideal, tension-free dispensation devoid of security challenges is not only disingenuous but also elusive.

84. The principle of “undiminished security for all” makes little sense in a nuclear order marked by haves and have-nots. Nuclear weapons do not enhance but rather diminish the security of all States, including those that believe that they are more secure by virtue of possessing such weapons or of participating in nuclear-weapon-based military alliances. Reducing stockpiles will not lead to true nuclear disarmament as long as nuclear weapons are seen as strategic assets and qualitative arms races continue, although in less visible or disguised forms.

## Section II

### Reporting on measures relating to non-proliferation

85. The proliferation of nuclear weapons, unsafeguarded fissile materials and weapons-oriented nuclear technology poses a grave threat to international peace and security. Brazil stands by its non-proliferation commitments, but stresses that, while preventing new nuclear-armed States should remain a priority, the principal cause of increased risk is the continued and, at the present time, expanding reliance on their nuclear weapons by possessor States.

86. As stated by the Secretary-General, António Guterres, in *Securing Our Common Future: An Agenda for Disarmament*, “existing norms for disarmament and non-proliferation of nuclear weapons are mutually reinforcing and inextricably linked”, “the two objectives are two sides of the same coin”.<sup>15</sup> Through its provisions and the commitments agreed through its review process, the Non-Proliferation Treaty remains the cornerstone for the engagement of the international community on achieving both goals.

87. Non-proliferation objectives have been under grave strain owing to the ongoing qualitative development of nuclear weapons and their delivery systems. The potential negative effects of “emerging technologies” on efforts in this domain merit thorough examination. Long-standing regional conflicts imperil confidence-building and progress in the non-proliferation architecture.

88. Standing in an unbroken tradition of impeccable records in non-proliferation, Brazil does not possess nor has it ever developed nuclear weapons. The Brazilian Constitution<sup>16</sup> expressly forbids all non-peaceful nuclear activities. In addition to the Non-Proliferation Treaty, Brazil is a party to four legally binding instruments in the regime of disarmament and non-proliferation: the Treaty of Tlatelolco; the Comprehensive Nuclear-Test-Ban Treaty; the Agreement between Argentina and Brazil for the Exclusively Peaceful Use of Nuclear Energy; and the Quadripartite Agreement between Brazil, Argentina, the Brazilian-Argentine Agency for Accounting and Control of Nuclear Weapons and IAEA. Moreover, Brazil is a signatory State of the Treaty on the Prohibition of Nuclear Weapons and looks forward to its ratification.

89. Brazil considers that non-proliferation efforts are not an end unto themselves but a means of fulfilling the highest aspirations and purposes of the Treaty. Progress in this pillar should not occur in isolation but rather in tandem with advances in nuclear disarmament and peaceful uses of nuclear energy.

90. Brazil notes that, according to article III of the Non-Proliferation Treaty, the IAEA safeguards system is “for the exclusive purpose of verification of the fulfilment of its obligations assumed under this Treaty with a view to preventing diversion of

<sup>15</sup> [www.un.org/disarmament/sg-agenda/en/](http://www.un.org/disarmament/sg-agenda/en/).

<sup>16</sup> See footnote 7.

nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices”; and that safeguards “shall be implemented in a manner designed to comply with article IV of this Treaty, and to avoid hampering the economic or technological development of the Parties or international co-operation in the field of peaceful nuclear activities”.

91. Brazil further underlines the provisions contained in IAEA INFCIRC/153 (Corrected), which states that “safeguards shall be implemented in a manner designed (b) to avoid undue interference in the State’s peaceful nuclear activities, in particular in the operation of facilities; and (c) to be consistent with prudent management practices required for the economic and safe conduct of nuclear activities”.

### **Nuclear-weapon-free zone**

92. Brazil is a party to the Treaty of Tlatelolco, which established the first denuclearized zone in a densely populated area of the planet and is ready to continue contributing to efforts leading to the establishment of nuclear-weapon-free zones around the world. Since 1996, Brazil and New Zealand have submitted biannually to the First Committee of the General Assembly the resolution entitled “Nuclear-weapon-free southern hemisphere and adjacent areas”, which has enjoyed overwhelming support. Brazil also participates in the Conferences of States Parties and Signatories to Treaties that Establish Nuclear-Weapon-Free Zones and Mongolia.

93. Motivated by its own experience with the Treaty of Tlatelolco, Brazil has consistently supported the convening of the Conference on the Establishment of a Middle East Zone Free of Nuclear Weapons and Other Weapons of Mass Destruction. In this regard, Brazil acknowledges the initiative launched in 2019, on the recommendation of the First Committee (General Assembly decision 73/546) to give a mandate to the Secretary-General to convene a Conference on the Establishment of a Middle East Zone Free of Nuclear Weapons and Other Weapons of Mass Destruction, whose first session was held in November 2019, to be repeated on an annual basis until the conclusion of a treaty to that end.

94. In accordance with universally agreed principles, a Middle East zone free of nuclear weapons should be established on the basis of arrangements freely arrived at among all States of the region. Brazil believes that inspiration can be drawn from the Treaty of Tlatelolco, the first instrument of its kind. Latin American and Caribbean countries established a flexible and long-lasting arrangement, which has served as a model for other following agreements in the field.

### **International Atomic Energy Agency**

95. Brazil is a founding member of IAEA. Since 1957, it has participated in an active and constructive manner in the work of the Agency with the aim of strengthening the exercise of the right to the peaceful uses of nuclear technology and promoting international cooperation in this field.

96. Brazil has a diplomatic mission in Vienna devoted exclusively to IAEA, the Comprehensive Nuclear-Test-Ban Treaty and the Nuclear Suppliers Group. Brazil’s Permanent Representative to IAEA holds the rank of ambassador.

97. The Brazilian delegation in Vienna has been vigorously involved in the work of the IAEA policymaking organs (General Conference and Board of Governors).

### **Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials**

98. The year 2021 marked the thirtieth anniversary of the establishment of the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials. The celebrations of this landmark included a high-level event held in Rio de Janeiro, in

July 2021, with the participation of the Foreign Ministers of Brazil and Argentina and of the IAEA Director General, Rafael Grossi, and the adoption, by acclamation, of a resolution on the Brazilian-Argentine Agency by the First Committee of the seventy-sixth session of the General Assembly.

99. Brazil and Argentina decided to follow an unprecedented path by creating the Brazilian-Argentine Agency and submitting all their nuclear facilities to IAEA and Brazilian-Argentine Agency comprehensive safeguards. The satisfactory implementation of this unique safeguards system is recognized by IAEA and the Brazilian-Argentine Agency in their annual reports, without ever having given rise to any doubt with respect to the complete fulfilment of commitments and obligations in accordance with all relevant international instruments on nuclear non-proliferation to which Brazil and Argentina are parties.

100. Nuclear cooperation between Brazil and Argentina began in the 1960s and grew stronger after 1980, when political conditions paved the way for the signing of the Agreement between the Republic of Argentina and the Federative Republic of Brazil for the Exclusively Peaceful Use of Nuclear Energy between the two countries. Other commitments followed, and principles and guidelines established thenceforth led to the Guadalajara Agreement, in 1991, whereby Brazil and Argentina agreed to the exclusively peaceful uses of nuclear energy and to the setting up of a Common System of Accounting and Control of Nuclear Materials, and of an agency – the Brazilian-Argentine Agency – responsible for the administration and application of the Common System.

101. The ultimate goal of the Brazilian-Argentine Agency is to ensure that no material is diverted or used in an inappropriate or unauthorized manner, in conformity with the purposes of the Guadalajara Agreement and the provisions contained in article III.4 of the Non-Proliferation Treaty, according to which “non-nuclear-weapon States Party to the Treaty shall conclude agreements with IAEA to meet the requirements of this article either individually or together with other States in accordance with the Statute of IAEA”.

102. Based on the INFCIRC/153 (Corrected) comprehensive safeguards model, the Quadripartite Agreement allows both IAEA and the Brazilian-Argentine Agency to perform the physical monitoring of nuclear activities in both Brazil and Argentina, as mandated under the Non-Proliferation Treaty. All nuclear materials in Brazilian territory are subject to IAEA safeguards and to those of the Brazilian-Argentine Agency.

103. Brazil believes that the international community has not yet made full use of the wealth of experience embodied in the Brazilian-Argentine Agency or of the lessons learned in the process of its creation and operation. Two points must be emphasized in this regard: (a) the bilateral inspections performed on a cross-national basis are among the strongest and soundest verification measures in place; and (b) the level of interaction generated through the common system of accounting and control is such that transgressions are virtually impracticable.

104. On the first point, Brazilian-Argentine Agency inspections are performed on a cross-national basis: Argentine inspectors carry out inspections in Brazil, and Brazilian inspectors carry out inspections in Argentina. Currently, there are 40 inspectors from Brazil and 46 from Argentina, all professionals from the nuclear safeguards field. They do not work permanently for the Agency, rather they are employees of national safeguards authorities, or of other governmental organizations in areas related to technical aspects, design or operation of nuclear facilities, being called for inspection missions.

105. The main advantage of this system is that inspectors assume great responsibility in performing inspections on behalf of their country: verification is performed

directly by the interested party, not by a third entity. The Brazilian-Argentine Agency can call expert inspectors, specialized in the type of installation to be inspected, which increases the effectiveness of the safeguards system. This is also an advantage of the Agency's system, since the experts are familiar with the type of facility to be verified.

106. On the second point, the knowledge generated by frequent and successive interactions, as well as mutual inspections, is such that the possibility of infringement is virtually inconceivable. The level of secrecy that such an enterprise would require is impossible to maintain with the network forged between Brazilian and Argentine authorities, specialists and people on the ground.

107. Brazil is of the view that the Brazilian-Argentine Agency – as it currently operates – can provide guarantees equivalent to those resulting from the implementation of an additional protocol about the absence of undeclared activities, materials and/or facilities.

108. The Brazilian-Argentine Agency is an indigenous verification mechanism, based on trust between the two countries, capable of achieving the same ends as an additional protocol, without depriving IAEA of its central role in the safeguards system.

109. Brazil believes that principles and elements of the Brazilian-Argentine Agency verification model could be a source of inspiration for nuclear-related tensions elsewhere, with a view to improving peace and security at the regional and international levels. The Brazilian-Argentine Agency played a role in the rapprochement between Brazil and Argentina akin to that played by the European Atomic Energy Community (EURATOM) in the European context. Only with full transparency in the nuclear realm did both countries build trust and improve mutual confidence.

110. In 2020, the Brazilian-Argentine Agency, in coordination with IAEA and in cooperation with the national authorities of Brazil, conducted 65 inspections of Brazilian nuclear facilities, consisting of 17 physical inventory verifications and design information verifications (jointly performed); 26 interim inspection verifications; 13 unannounced inspections; and 94 design information verifications. To carry out those activities, the bilateral Agency employed a total of 365 inspector days of verification effort.

111. Besides the regular meetings of Brazilian-Argentine Agency National Commissions, Brazil and Argentina hold annual meetings of the bilateral Permanent Committee on Nuclear Policy, tasked to steer the strategic partnership in the nuclear field. At the technical level, the Binational Commission on Nuclear Energy is responsible for the management of joint projects.

112. In 2019, the Office of Disarmament Affairs included a visit to the Brazilian-Argentine Agency in the United Nations Disarmament Fellowship Programme. As the first institution of the southern hemisphere to have merited such a distinction, this initiative enhances the Brazilian-Argentine Agency's strong credentials in the global nuclear non-proliferation regime.

### **Strengthening safeguards and the Model Protocol Additional to the Agreements between States and the International Atomic Energy Agency for the Application of Safeguards**

113. Brazil is supportive of actions aimed at strengthening safeguards. The necessity of such actions should take into account the existence of mechanisms that already provide enhanced verification. Furthermore, a distinction exists between legal obligations of States and voluntary measures aimed at facilitating and strengthening the implementation of safeguards and aimed at confidence-building, bearing in mind the obligation of States to cooperate with the Agency to facilitate the implementation of safeguards agreements.

114. Brazil recalls that, unlike the comprehensive safeguards agreements, whose adoption is mandatory for all non-nuclear-weapon States Parties to the Non-Proliferation Treaty, the Model Protocol Additional to the Agreements between States and the International Atomic Energy Agency for the Application of Safeguards is a voluntary instrument to which States may decide to adhere at their own discretion, as recognized by the Final Document of the 2010 Non-Proliferation Treaty Review Conference<sup>17</sup> and by the latest IAEA General Conference safeguards resolutions.<sup>18</sup>

115. While the IAEA General Conference and the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons subscribe to the notion that comprehensive safeguards agreements and the Additional Protocol represent the “enhanced verification standard for that State” that adopted both instruments,<sup>19</sup> they recognize, on the other hand, that “comprehensive safeguards and additional protocols should be universally applied once the complete elimination of nuclear weapons has been achieved”.<sup>20</sup>

116. Brazil constantly reviews its nuclear policy, taking into account its sovereign national interests, its legally binding commitments, its nuclear strategic partnership with Argentina and the evolution of the Non-Proliferation Treaty-based global nuclear order, particularly with regard to nuclear-weapon States’ compliance with their nuclear disarmament obligations.

117. Brazil attaches very high importance to the protection of sensitive information related to its nuclear naval propulsion programme, whose related nuclear installations and fissile material are under comprehensive safeguards, unlike those of all other countries that possess such technology.

118. Brazil underscores the international community’s expectations that States should provide assurances of the absence of undeclared material, activities and/or facilities. However, they should not be addressed in a “one-size-fits-all” manner.

119. In this respect, it should be noted that Brazil is among the very few countries that are subject to a multi-layered binational and international legal verification framework that ensures that its nuclear activities are of an exclusively peaceful nature.

120. Resting on the assumption that different means can achieve the same goal, Brazil espouses the conviction that the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials, as outlined above, through its verification design and practices, is capable of providing guarantees equivalent to an IAEA Additional Protocol.

121. Brazil has cooperated since 2005 with the IAEA Department of Safeguards through the Member States Support Programme. Brazil’s participation has focused on projects devoted, inter alia, to equipment prototype testing and the provision of secondary standards for use in IAEA laboratories in the field.

122. The development of the Cristallini analysis method of the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials, currently undergoing the last test procedures before its final validation, deserves a special mention in Brazil’s cooperation portfolio with the IAEA Department of Safeguards. In the light of its optimal operational protocols (requiring less nuclear material in samples collected at

<sup>17</sup> NPT/CONF/2010/50 (Vol. I), 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, Final Document, para. 17: “The Conference also notes that it is the sovereign decision of any State to conclude an additional protocol, but once in force, the additional protocol is a legal obligation.”

<sup>18</sup> Resolution GC(65)/RES/12, Strengthening the Effectiveness and Improving the Efficiency of Agency Safeguards (September 2021), para. 13.

<sup>19</sup> NPT/CONF/2010/50 (Vol. I), para. 18; resolution GC(63)/RES/11, para. 15.

<sup>20</sup> NPT/CONF/2010/50 (Vol. I), action 30; resolution GC(63)/RES/11, para. (r).



enrichment installations) and the ensuing advantages of the samples' physical form for their safe aerial transportation, the Brazilian-Argentine Agency's Cristallini analysis method has great potential for being routinely applied by IAEA.

123. Brazil, Argentina, the Brazilian-Argentine Agency and IAEA periodically review the implementation of the Quadripartite Agreement, under the provisions contained in INFCIRC/435. To that end, the four parties hold meetings of the Quadripartite Liaison Committee and of the Quadripartite Agreement Liaison Subcommittee on a yearly basis.

### **Comprehensive Nuclear-Test-Ban Treaty**

124. Brazil has long been an advocate for a legally binding norm prohibiting nuclear testing. At the Eighteen-Nation Committee on Disarmament, Brazil was among the first countries to endorse the call for a total ban on atomic weapons testing. It proactively contributed to the negotiations at the Conference on Disarmament and signed the Comprehensive Nuclear-Test-Ban Treaty on 14 September 1996, the same day that it was opened for signature, and was among the first States to ratify it, on 24 July 1998.

125. Brazil hosts six monitoring stations in operation in its territory, out of a total of seven set out by the International Monitoring System. These include one primary seismic station (Brasília), two auxiliary seismic arrays (Pitinga and Riachuelo), one radionuclide station (Rio de Janeiro), one planned radionuclide laboratory (Recife), one infrasound station (Brasília) and one radionuclide laboratory (Rio de Janeiro). In addition, negotiations are under way for the establishment of a national data centre. Noteworthy is the participation of military personnel from the Brazilian Army in the Comprehensive Nuclear-Test-Ban Treaty inspection and observation activities with a view to advancing their consolidation.

126. The Comprehensive Nuclear-Test-Ban Treaty is a key element of the international non-proliferation regime. As recognized in its preamble, it is meant, once in force, to constrain the development and qualitative improvement of nuclear weapons and to put an end to the development of advanced new types of nuclear weapons. Brazil hopes that this aspiration is effectively met, thereby giving the Treaty a meaningful role in the collective efforts to cease the nuclear arms race and achieve a world free of nuclear weapons. In this vein, Brazil regrets the carrying out of subcritical tests by nuclear-weapon States, which runs counter to the spirit of the Treaty, thus defeating its very essential objectives.

127. The entry into force of the Comprehensive Nuclear-Test-Ban Treaty is among the "13 steps" for nuclear disarmament approved by consensus by the 2000 Review Conference. Ten years later, the 2010 Review Conference renewed this goal, particularly in actions 9 and 10 of the action plan, and agreed that the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization should fully develop the verification regime, including the early completion and provisional operationalization of the International Monitoring System.

128. Notwithstanding the positive prospects with regard to the full-fledged effectiveness of the verification system of the Comprehensive Nuclear-Test-Ban Treaty, it is a source of grave concern to witness that, a quarter of a century after having been opened for signature, the Treaty is still not in force.

129. The indefinite postponement of the entry into force of the Treaty is unwarranted. There is a deep frustration in this respect, aggravated by the high costs, particularly to developing countries, involved in the maintenance of an expensive verification mechanism of a norm in legal limbo.

130. Brazil voted in favour of General Assembly resolution [74/78](#) in support of the Comprehensive Nuclear-Test-Ban Treaty, adopted on 23 December 2019. In relevant forums, Brazil has unremittingly urged all States, especially those listed in annex II of the Treaty, to sign and/or ratify the Comprehensive Nuclear-Test-Ban Treaty in all expediency.

## **Export controls**

### **1. Nuclear Suppliers Group**

131. Brazil fully supports efforts towards improving and strengthening controls over transfers of dual-use nuclear items and technologies in the nuclear field without detriment to the full enjoyment of the provisions of article IV of the Non-Proliferation Treaty.

132. Since its accession in 1996, Brazil has been an active supporter of the work of the Nuclear Suppliers Group in all its instances (plenary, consultative group and technical experts groups) and has contributed to the continuous updating of the Group's control lists, as a measure of great relevance to non-proliferation efforts.

133. The Brazilian implementation of Nuclear Suppliers Group guidelines has been legally underpinned by national Law 9112 (1995) on export controls on sensitive goods.

### **2. Security Council resolution [1540 \(2004\)](#)**

134. Besides the obligations derived from the Non-Proliferation Treaty and the incorporation into its national legislation of the guidelines adopted in the context of the Nuclear Suppliers Group, Brazil has enacted legislation for the control of every nuclear activity in its territory, defining specific penalties for activities not authorized by the Government in this field. This legislation, set out below, promotes the full implementation of Security Council resolution [1540 \(2004\)](#):

(a) Law 4118 of 27 August 1962 (later amended by Laws 6189/1974, 7781/1989 and 14222/2021) created the National Commission for Nuclear Energy. It defined as a crime against national security the clandestine export or import of nuclear materials (article 39). Furthermore, it prohibited the possession or transfer of nuclear materials, including by-products, without the explicit authorization of the National Commission, even within the domestic market (art. 40);

(b) Law 6453 of 17 October 1977 established civil responsibility for nuclear damages and criminal responsibility for acts related to nuclear activities. It defined and penalized the production, processing, supply and use of nuclear material without necessary authorization or for other purposes than those allowed by law (art. 20), as well as the export and import of nuclear material without due official licence (art. 25);

(c) Law 1065 of 24 February 1994 approved the 1991 Agreement between the Federative Republic of Brazil, the Argentine Republic, the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials and IAEA for the Application of Safeguards;

(d) Law 1246 of 16 September 1994 approved the Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (Treaty of Tlatelolco) and resolutions 267 (E-V) of 3 July 1990, 268 (XII) of 10 May 1991 and 290 (E-VII) of 26 August 1992, adopted at the General Conference of the Agency for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (OPANAL);

(e) Law 9112 of 10 October 1995 established controls on international exports of materials and services with possible application to weapons of mass destruction. It

defined as sensitive goods all those with “dual-use” in the nuclear, chemical and biological fields. The implementation of controls is supervised by an Interministerial Commission for Export Control of Sensitive Goods, established within the Ministry of Science, Technology and Innovation;

(f) Law 13260 of 16 March 2016 established special legal proceedings and penalties for terrorism activities within the Brazilian territory. It set out definitions of the various types of terrorism in addition to previous legislation on the matter;

(g) Law 14222 of 15 October 2021 created the National Nuclear Safety Authority, which took over the regulatory and licensing functions of the National Nuclear Energy Commission. It also conferred competence to the Brazilian Navy to regulate, license and supervise naval vessels with on-board nuclear power plants and the transportation of their fuels.

### Section III

#### Reporting on measures relating to the peaceful uses of nuclear energy

135. The inalienable right to the development of any technology for peaceful purposes, including nuclear, precedes positive law. The Non-Proliferation Treaty has in fact excluded the possibility of any interpretation that would affect this right, recognized in article IV, together with the obligations contained in articles I, II and VI. Respect for this right and the undertaking by States Parties to facilitate the fullest possible exchange of nuclear technology for peaceful purposes are key elements of the effectiveness and credibility of the Treaty regime.

136. In consonance with Non-Proliferation Treaty articles I, II and IV and the Brazilian Constitution,<sup>21</sup> Brazil upholds the view that peaceful uses of nuclear energy encompass all technologies, including nuclear naval propulsion, not devoted to manufacturing nuclear weapons or other nuclear weapons devices. This view has been implemented by the Brazilian Nuclear Policy, enacted by a presidential decree dated 5 December 2018, which established principles and guidelines for the peaceful use of nuclear energy in the country.

137. Nuclear technologies are an indispensable tool in modern economies and play an important role in a wide range of key areas, such as medicine, public health, agriculture, food security, water resources management, energy, technological innovation and sustainable environmental development.

#### Technical cooperation

138. Brazil has long been highly appreciative of IAEA efforts “to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world” (IAEA statute, art. II).

139. Brazil receives significant benefits from international cooperation and, at the same time, assists other States by providing technical cooperation on nuclear science and nuclear technology applications. Brazil maintains nearly 20 bilateral nuclear cooperation agreements, with both developed and developing countries. Brazil attaches particular relevance to the IAEA Technical Cooperation Programme, in which it is an active participant, as both a beneficiary and a donor country.

140. Under the auspices of the Technical Cooperation Programme, Brazil sends about 25–30 technicians for training abroad every year. Furthermore, it offers about 30 scholarships for nationals of countries of Latin America and the Caribbean, Africa, the Middle East and Asia to receive training at Brazilian institutions and facilities.

<sup>21</sup> See footnote 7.

Brazil also makes specialists available every year to serve in the context of IAEA expert missions abroad. On average, Brazilian experts attend around 300–350 technical meetings organized by IAEA every year.

141. Brazil and IAEA have considerably expanded their bilateral cooperation on peaceful uses of nuclear energy. In partnership with the Agency, two mammography exam machines were installed on Brazilian Navy hospital vessels operating in areas of isolated communities in the Amazon region, and two laboratories for radioisotopic research were built at Brazil's new Antarctic station.

142. In 2019, Brazil, Angola and Mozambique agreed on a plan of action to develop joint initiatives in the fields of medicine, agriculture, regulatory matters and human resources, with the support of the IAEA Department of Technical Cooperation.

143. Since the 1980s, Brazil has provided support to the Regional Cooperative Agreement for the Promotion of Nuclear Science and Technology in Latin America and the Caribbean. Brazil's profile has been mainly as a donor country, both by making scholarships available at its nuclear institutions for the training of Latin American and Caribbean experts and by making Brazilian experts and instructors available to assist other countries in the region.

### **Brazilian nuclear programme**

144. Brazil operates two nuclear power plants, and a third is under construction. Altogether, they will generate approximately 3,000 megawatts. Brazil is endowed with the world's sixth-largest uranium ore reserves, with 70 per cent of the territory still to be prospected, and has developed wide-ranging production capabilities, from the mining and processing of uranium to uranium dioxide (UO<sub>2</sub>) and isotopic uranium enrichment all the way to nuclear fuel element production. Uranium enrichment activities were started in 1987 at the Aramar Experimental Centre, which developed the technology indigenously. The industrial enrichment facility and the fuel fabrication plant, located at Resende, are now fully operational and continue to increase their production capacity.

145. Besides electrical power generation, Brazil's nuclear activities extend to wide-ranging applications in medicine, agriculture, industry and environmental protection. Besides radiological diagnosis facilities, more than 700 hospitals and clinics use nuclear techniques in medical applications, including radiotherapy and nuclear medicine. More than 450 clinical facilities apply radiopharmaceutical products in over 2.5 million medical procedures every year. Furthermore, there are approximately 22 specialized laboratories, which conduct radio immune assays. Nearly 700 industrial plants use radioisotopes, for instance, in food irradiation, polymerization, industrial radiography and oil-well operations.

146. Plans are afoot to build a 30-megawatt multipurpose research reactor under the entrepreneurial leadership of Brazilian State-owned company AMAZUL. Once in operation, it will enable Brazil to meet its domestic demand for radioisotopes and radiopharmaceuticals. In addition, the reactor will allow for nuclear materials and structural materials irradiation testing and post-testing analysis. This initiative is another important landmark in the nuclear strategic partnership with Argentina, whose company INVAP will develop the engineering project for the reactor.

147. The Brazilian Navy's nuclear naval propulsion programme has made progress in all its dimensions. In line with international best practices, the Brazilian Navy established the Naval Agency for Nuclear Security and Quality in 2017 to undertake regulatory and control tasks in relation to its nuclear programme.

148. The regulatory framework for nuclear activities in Brazil has been further strengthened with the adoption, in October 2021, of Law 14222, which establishes

the National Nuclear Safety Authority. The new Authority will take up responsibilities for the regulation, inspection and licensing of nuclear activities in Brazil, currently under the purview of the National Nuclear Energy Commission, which will henceforth focus on research and development work.

149. In 2017, the Federal Government restructured the Brazilian Nuclear Programme Development Committee. The Committee is a collegiate body composed of 11 Ministers of State, whose mission is to advise the President on establishing guidelines and goals for the development of the Brazilian nuclear programme, in order to contribute to national development and the promotion of the welfare of Brazilian society. The Committee is responsible for formulating public policies related to the nuclear sector, proposing improvements to the Brazilian nuclear programme and overseeing the planning and execution of joint actions by agencies and entities related to the development of the programme. The Brazilian Nuclear Policy was structured by this collegiate and approved through Decree No. 9600, of 5 December 2018.

### **Nuclear safety and security**

150. Mindful of the importance of adopting the highest requirements in nuclear safety and security, Brazil established the System for the Protection of the Brazilian Nuclear Programme in 1982 with the following attributions:

- (a) To coordinate actions to permanently meet the safety and security needs of the Brazilian Nuclear Programme;
- (b) To coordinate actions to protect the knowledge and technology held by agencies, entities, companies, research institutions and other private organizations that conduct activities for the Brazilian Nuclear Programme;
- (c) To plan and coordinate actions in nuclear emergency situations which aim to protect: (i) persons involved in the operation of nuclear facilities and in the safekeeping, handling and transportation of nuclear materials; (ii) the population and the environment near the nuclear facilities; and (iii) nuclear facilities and materials.

151. Since 2009, partial and full-scale safety and security exercises have been carried out at both nuclear power plants and nuclear fuel facilities, some of them involving more than 50 institutions and around 2,000 participants, with the aim of verifying emergency response plans. As of 2020, the exercises have covered integrated safety and security scenarios.

152. As a State Party to all relevant legally binding instruments in nuclear safety and security, Brazil attaches the utmost priority to the implementation of the highest standards in this field. Brazil also adheres to the Code of Conduct on the Safety and Security of Radioactive Sources. Within the ambit of IAEA, Brazilian officials from the National Commission for Nuclear Energy have regularly contributed to the work of the Commission on Safety Standards, including its five associated committees (Emergency Preparedness and Response Standards Committee, Radiation Safety Standards Committee, Waste Safety Standards Committee, Transport Safety Standards Committee and Nuclear Safety Standards Committee).

153. Brazil signed the 2005 Amendment to the Convention on the Physical Protection of Nuclear Material, which is under consideration by the legislative branch with a view to its ratification.

154. Brazil has participated with high-ranking officials in all IAEA International Conferences on Nuclear Security. Several other IAEA activities in the field of nuclear security, including the elaboration of the Nuclear Security Series documents, the sponsorship of regional courses in Latin America and the Caribbean, the organization of national workshops and the appointment of experts to missions, have also merited

decisive support by Brazil. It has also actively participated in the Joint Task Force of the Commission on Safety Standards and the Advisory Group on Nuclear Security, mandated to discuss synergies between nuclear safety and security.

155. Brazil contributes to the IAEA Incident and Trafficking Database and the IAEA Nuclear Security Information Portal. At the regional level, it has been engaged in efforts of the Southern Common Market (MERCOSUR) and associated States to prevent, detect and respond to the threat of the illicit trafficking of nuclear and radioactive materials, including training courses for border officials and the exchange of information and best practices.

156. Brazil has converted all its nuclear research reactors for the use of low enriched uranium fuel. All highly enriched uranium nuclear fuel elements have been repatriated to the country of origin. The Brazilian multipurpose reactor was also designed to use low enriched uranium.

157. The national regulatory authority (National Commission for Nuclear Energy) has been working with the nuclear industry and other agents having access to radioactive material to improve security standards in the transport of nuclear and radioactive material across the national territory.

158. The National Commission for Nuclear Energy has undertaken a complete review of its regulations on nuclear and radiological security, taking into account international best practices and provisions of the Amendment to the Convention on the Physical Protection of Nuclear Material of 2005, as well as INFCIRC/225/Rev.5 and other relevant IAEA recommendations.

159. The National Commission for Nuclear Energy has been making efforts in consultation with the national nuclear industry to strengthen nuclear security culture, through the organization of workshops, seminars and training courses.

160. In partnership with IAEA, the Brazilian Nuclear Security Support Centre was established in 2012 with the aim of training and qualifying personnel in the area of physical security. Since its creation, national and regional courses have been conducted.

161. The National Commission for Nuclear Energy represents Brazil in the Ibero-American Forum of Radiological and Nuclear Regulatory Organizations (FORO). Created in 1997 with a view to promoting radiological, nuclear and physical safety at the highest level in the Ibero-American space, the Forum is comprised of 10 nuclear regulatory agencies.

162. The Brazilian Navy, a relevant actor in the nuclear sector, has always been committed to the peaceful use of nuclear energy. In line with that commitment, and in order to cope with challenges posed by the evolution of its nuclear programme, the Navy created a new regulatory authority, the Naval Authority for Nuclear Safety and Quality, in 2018, and a Permanent Safeguards Commission, in January 2019, with a view to dealing with topic-related international nuclear safeguards in all its nuclear installations.

163. Brazil upholds the centrality of IAEA in all matters pertaining to nuclear safety and security. That notwithstanding, Brazil participated actively in the Nuclear Security Summits held in 2010 (Washington, D.C.), 2012 (Seoul), 2014 (The Hague) and 2016 (Washington, D.C.).

164. Along with 14 other like-minded non-nuclear-weapon States, Brazil subscribed to the joint statement entitled “In larger security: a comprehensive approach to nuclear security”, issued at the Hague (2014), and, with updates, at the Washington, D.C. Nuclear Security Summit (2016).

165. In a more comprehensive approach to nuclear security, Brazil has a long-standing position that efforts in that field must be articulated within the international community's broader efforts to promote the goals of nuclear disarmament, non-proliferation and the advancement of the peaceful uses of nuclear energy. As long as the goal of nuclear disarmament remains unrealized, measures aimed at securing nuclear materials and facilities will be tinged with an undeniable degree of precariousness. The additional risks stemming from the possibility of State or non-State actors having access to nuclear weapons or nuclear materials only heighten the need to expedite nuclear disarmament.

166. Furthermore, Brazil is convinced that nuclear security efforts must be geared towards protecting all nuclear material and installations, both civilian and military. Without detriment to the protection of sensitive national security information, nuclear-weapon States should regularly give an account of measures related to the security of their nuclear arsenals and their nuclear materials for military purposes.

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