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Measures to reduce the breadth of risks associated with nuclear weapons and measures to avoid increasing this risk

Working paper submitted by Austria

Nuclear weapons pose unique problems by virtue of their inherent/associated risks, as well as the magnitude of the consequences of their detonation. This is in addition to risks related to their delivery systems and directly connected systems, as well as miscalculations and misunderstandings. New technologies, increasingly deployed, have heightened these risks, inter alia, by reducing reaction time in the case of hypersonic missiles and increasing vulnerabilities in the case of cyber hacking. Automation has further heightened the potential of error and fast-tracked escalation. Renewed development and deployment of so-called “small” or tactical nuclear weapons has the potential of lowering the threshold of use.

While data about “near-misses” is largely limited to those countries laudably showing more transparency in this area, the incident data available shows¹ how close humanity has come to numerous nuclear explosions or even nuclear war. Luck, rather than control procedures seems to have saved the day on a number of occasions.² During times of tension, the risk of nuclear weapons use, be it by miscalculation, by accident or intentionally, increases. Given the current international situation, that risk has risen substantially over recent years, culminating in the hands of Bulletin of the Atomic Scientists’ famous doomsday clock being moved to an unprecedented 100 seconds to midnight in the beginning of 2020 and remains there in 2021.

In light of the above and the fact that the catastrophic humanitarian consequences of nuclear weapons know no borders, reducing risks associated with these weapons, and mitigating factors that could lead to their use, are therefore in the security interest of all States – nuclear-armed and non-nuclear weapon States alike – and their populations.

¹ See i.a. Chatham House „Too Close for Comfort: Cases of Near Nuclear Use and Options for Policy” available at <https://www.chathamhouse.org/publications/papers/view/199200>

² Ibid., as well as numerous quotes i.a. Robert S. McNamara “...at the end we lucked out. It was luck that prevented nuclear war.” in James G. Blight, Janet M. Lang “The Fog of War: Lessons from the Life of Robert S. McNamara” p.60

Logically, it is also vital that risk related to nuclear weapons not be increased by backtracking on existing commitments or practical steps, such as through the upgrading of arsenals, or the development of new types of nuclear weapons. Only the total elimination of nuclear weapons can eliminate entirely their inherent risks. Pending the achievement of this ultimate goal of the NPT, risk reduction will remain vital to decreasing the likelihood of nuclear detonations and their catastrophic humanitarian consequences.

Since relevant risks stem from multiple factors, a comprehensive approach is required. The 2016 Open-Ended Working Group on “taking forward multilateral nuclear disarmament negotiations” was mandated by resolution 70/33 of the United Nations General Assembly, *inter alia* to

3. ... “substantively address recommendations on other measures that could contribute to taking forward multilateral nuclear disarmament negotiations, including but not limited to: (a) transparency measures related to the risks associated with existing nuclear weapons; (b) measures to reduce and eliminate the risk of accidental, mistaken, unauthorized or intentional nuclear weapon detonations.”

In its report circulated by the Secretary-General in 2016, the Open-Ended Working Group compiled a list of priority areas on transparency measures related to the risks associated with existing nuclear weapons and on measures to reduce and eliminate the risk of accidental, mistaken, unauthorized or intentional nuclear weapon detonations.³ The list thus constitutes an important set of measures to be brought forward as a priority also within the NPT framework, especially since risk reduction has become even more critical due to the current state of heightened global tensions and lack of progress on nuclear disarmament. The list is without prejudice to further measures being added. The list is also not meant to replace obligations under the Treaty or commitments made during the review process.

Drawing extensively on the report of the Open-Ended Working Group, Austria recommends that the following elements be included in the Review Conference final document.

I) Transparency measures related to the risks associated with existing nuclear weapons⁴

The principle of transparency, along with the principles of irreversibility and verifiability, is crucial to the process of nuclear disarmament. Without transparency, nuclear disarmament cannot be credibly verified, nor would States have adequate confidence that nuclear disarmament measures have been accomplished in an irreversible manner. Increased transparency also alleviates mistrust among States and builds confidence and trust at regional and international levels.

Ensuring access to information reported by the States possessing nuclear weapons to the public and to neighbouring and other States is important. In this connection, the establishment of a reporting mechanism within the framework of the United Nations with a view to enhancing accountability and facilitating nuclear disarmament would also be important.⁵

³ Document A/71/371, 1 September 2016

⁴ The measures listed in paragraphs I) and II) were included the Report of the Open-ended Working Group taking forward multilateral nuclear disarmament negotiations, Document A/71/371, 1 September 2016

⁵ This could also use the UN Secretary General’s repository as mandated by Action 21 of the 2010 NPT Action Plan. Specific reporting on risk reduction measures could be added to that repository.

The need to protect sensitive information from malicious use by terrorists, criminals and non-state actors needs to be borne in mind, in the context of the public disclosure of information related to nuclear weapon programmes and activities.

The following transparency measures should be considered related to the risks associated with existing nuclear weapons, including that States possessing nuclear weapons should provide standardized information at regular intervals on, inter alia:

- (a) The number, type (strategic or non-strategic) and status (deployed or non-deployed, and the alert status) of nuclear warheads within their territories as well as those deployed in the territories of other countries;
- (b) The number and the type of delivery vehicles;
- (c) The measures taken to reduce the role and significance of nuclear weapons in military and security concepts, doctrines and policies;
- (d) The measures taken to reduce the risk of unintended, unauthorized or accidental use of nuclear weapons;
- (e) The measures taken to de-alert or reduce the operational readiness of nuclear weapon systems;
- (f) The number and type of weapons and delivery systems dismantled and reduced as part of nuclear disarmament efforts;
- (g) The amount of fissile material produced for military purposes: the Working Group considered that baseline information on these issues would also contribute to verification and nuclear disarmament negotiations;
- (h) Information about plans, expenditures and number of facilities related to the modernization and maintenance of nuclear weapons.

The above standardized information should be provided to the UN Secretary-General, who should make such information available to Member States and to the public.⁶

States that maintain a role for nuclear weapons in their military and security concepts, doctrines and policies are encouraged to also provide standardized information at regular intervals on, inter alia:

- (a) The number, type (strategic or non-strategic) and status (deployed or non-deployed, and the alert status) of nuclear warheads within their territories;
- (b) The number and the type of delivery vehicles within their territories;
- (c) The measures taken to reduce the role and significance of nuclear weapons in military and security concepts, doctrines and policies.

⁶ Ibid.

II) Measures to reduce and eliminate the risk of accidental, mistaken, unauthorized or intentional nuclear weapon detonations

The risk of accidental, mistaken, unauthorized or intentional nuclear weapon detonations will persist for as long as nuclear weapons exist. The only way to eliminate this risk is by achieving the complete elimination of nuclear weapons.

Factors that could contribute to the current and growing risk of a nuclear weapon detonation include:

- increasing tensions involving nuclear-armed and other States at the international and regional levels;
- the vulnerability of nuclear-weapon command and control systems and early warning networks to cyberattacks and attacks by non-State actors;
- and the growing automation of weapon systems.

At the same time, it is difficult to assess the precise nature of the risks given the lack of transparency in nuclear weapon programmes.

There is a widely shared concern that the maintenance of nuclear weapons at high alert levels could significantly multiply the risks and the threat posed by nuclear weapons and negatively affect the process of nuclear disarmament. In this regard, measures to reduce the operational status of nuclear weapons systems would increase human and international security and represent an interim step towards nuclear disarmament as well as an effective measure to mitigate some of the risks associated with nuclear weapons.

Support from States for the implementation of measures to reduce risks and increase safety, pending the total elimination of nuclear weapons, does not imply support for any possession or use of nuclear weapons.

Measures to reduce the risk of accidental, mistaken, unauthorized or intentional nuclear weapon detonations that States possessing nuclear weapons and other relevant States should undertake, pending the total elimination of nuclear weapons, include:

- (a) Reduce the number of deployed strategic nuclear weapons;
- (b) Reduce the number of non-strategic and non-deployed nuclear weapons;
- (c) Reduce nuclear weapons designated as surplus stockpiles;
- (d) Rapidly moving towards an overall reduction of the global stockpile of any type of nuclear weapons;
- (e) Reduce risks associated with nuclear weapon delivery vehicles, in particular nuclear-armed cruise missiles, including actions to limit, prevent deployment of and lead to a ban on all nuclear-armed cruise missiles;
- (f) Commit to reduce, or at least freeze, the number of nuclear weapons in holding pending the commencement and conclusion of plurilateral negotiations on nuclear weapons reductions;

- (g) Reduce the role of nuclear weapons in security doctrines and the value assigned to the role of nuclear weapons in military training schools;
- (h) Develop and implement nuclear weapons policies that reduce and eliminate any dependence on early launch or launch-on-warning postures and refrain from increasing the alert levels of their nuclear forces;
- (i) Conclude agreements to eliminate launch-on-warning from their operational settings and carry out a phased stand-down of high-alert strategic forces;
- (j) Begin developing a long-term formal agreement to lower the alert level for the use of nuclear weapons, with all agreed steps to be measurable and carried out within an agreed time frame;
- (k) Increase the safety and security of nuclear weapon stockpiles;
- (l) Ensure the protection of nuclear-weapon command and control systems from cyber threats;
- (m) Pending the entry into force of the Comprehensive Nuclear-Test-Ban Treaty, refrain from the development and use of new nuclear weapon technologies and any action that would undermine the object and purpose of the Treaty and maintain all existing moratoria on nuclear-weapon-test explosions;
- (n) Pending negotiations and the entry into force of a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices, maintain and declare moratoriums on the production of fissile material for nuclear weapons purposes;
- (o) Dismantle or convert for peaceful uses facilities for the production of fissile material for use in nuclear weapons or other nuclear explosive devices;
- (p) Respect fully their commitments with regard to security assurances, extend such assurances if they have not yet done so and withdraw reservations and interpretative statements on the protocols to the treaties establishing nuclear-weapon-free zones;
- (q) Be more transparent regarding accidents involving nuclear weapons and on the steps taken in response to these accidents.

III) Other measures to reduce nuclear-risks

Other measures to reduce the risks associated with nuclear weapons include but are not limited to:

- (a) A swift negotiation and conclusion by the United States and Russia and possibly further nuclear-armed states of a New START follow-on agreement that seeks to achieve deeper reductions and verifiable limits on all types of nuclear weapons, including INF-range nuclear-capable delivery systems.
- (b) An immediate commitment by all nuclear-armed states not to increase the overall size of their nuclear arsenals nor to introduce new nuclear weapons delivery systems or new or modified nuclear warheads.
- (c) Abandonment of “launch-under-attack” postures in light of the heightened risk for nuclear weapons use as a result of escalation and miscalculation;

- (d) Adoption, as an interim-step on the path to nuclear zero, of no-first use policies by the nuclear-armed states;
- (e) Issuance of a joint statement or commitment by all nuclear-armed States recognizing that a nuclear war or even a limited nuclear exchange would produce catastrophic health, environmental, societal and economic transboundary and global effects and reiterating the notion that “*a nuclear war cannot be won and must never be fought.*”
- (f) Negotiation of legally-binding negative security assurances for non-nuclear weapon States at the Conference on Disarmament or in a different, UN-mandated negotiating forum;
- (g) Avoidance of dual-use nuclear and conventional military installations and weapon platforms that can be armed with nuclear and conventional to reduce the risk of misunderstanding and miscalculation.

IV) Avoidance of actions that create an environment that is not conducive to nuclear disarmament and that would increase the risk of nuclear conflict.

There are a number of actions that are counter to creating an environment conducive to nuclear disarmament and increase the risk of nuclear conflict. These include but are not limited to:

- (a) Pursuit of new nuclear weapons systems, including their delivery systems;
 - (b) Implied and explicit threats of nuclear use;
 - (c) Provocative and escalatory actions or inflammatory and disparaging statements that increase the risk of a nuclear conflict, intentionally or through error or miscalculation;
 - (d) Reductions of transparency on nuclear arsenals, delivery systems or doctrines;
 - (e) Nuclear postures that assert the right to use nuclear weapons first (even in response to nonnuclear threats);
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