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ICAN's five steps to denuclearise the Korean peninsula

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1 Recognize the risk of nuclear use and the unacceptable humanitarian consequences of such use

In any outcome or communication from the meeting in Singapore, the DPRK and the United States should recognize the risks and unacceptable humanitarian consequences of any use of nuclear weapons. Leaders of states must listen to the survivors of Hiroshima and Nagasaki, including the tens of thousands of Korean Hibakusha, as well as to the voices of those affected by the dark and pervasive legacy of nuclear testing.

A single nuclear weapon detonated in a populated area could kill hundreds of thousands or millions of people. Climate scientists believe that even a limited regional nuclear conflict would disrupt the global climate, causing widespread crop failure and famine. Nuclear weapons release vast amounts of energy in the form of blast, heat and radiation. Almost everything close to ground zero would be vaporized. Ionizing radiation kills cells, damages organs and can be acutely fatal. Over the course of a lifetime, the risk of cancer, chronic disease and genetic damage is greatly increased, especially for children and women.

In the immediate aftermath of a detonation, local and national emergency response capacities, if they still existed at all, would be overwhelmed by the extent of the humanitarian needs. International assistance would take time to mobilize and would be nevertheless be unable to access much of the area near ground zero.

As the International Committee of the Red Cross has stated, “there is presently no effective capacity at the international level to deliver appropriate humanitarian assistance to survivors if nuclear weapons were ever to be used.” Given the uniquely comprehensive scale of the destruction, the injured, sick and dying would be largely left to fend for themselves in horrific environmental circumstances.

The risk of the use of a nuclear weapon, whether intentional or accidental, has been greatly underestimated and, in many cases, misunderstood. Vulnerabilities are inevitable in the systems for the management and operation of nuclear stockpiles, where human error and system failures can quickly lead to unexpected and disastrous results. The combination of out-dated systems for command and control with advancements in methods of cyber attack compel us to confront the reality that nuclear weapons can never be managed safely.

2 Reject nuclear weapons by joining the Treaty on the Prohibition of Nuclear Weapons (TPNW)

Denuclearisation of the Korean Peninsula means not only dismantling the DPRK nuclear-weapon programme and permanently prohibiting the stationing of US nuclear weapons in the Republic of Korea, but also creating a sustainable nuclear-free Korean Peninsula that will be a part of the peace process.

The DPRK and the Republic of Korea (ROK) should immediately join the Treaty on the Prohibition of Nuclear Weapons, rejecting any role for nuclear weapons in their security policies. By joining the TPNW, the DPRK and ROK would undertake never under any circumstances to:

- (a) Develop, test, produce, manufacture, otherwise acquire, possess or stockpile nuclear weapons or other nuclear explosive devices;
- (b) Transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly or indirectly;
- (c) Receive the transfer of or control over nuclear weapons or other nuclear explosive devices directly or indirectly;
- (d) Use or threaten to use nuclear weapons or other nuclear explosive devices;
- (e) Assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party under this Treaty;
- (f) Seek or receive any assistance, in any way, from anyone to engage in any activity prohibited to a State Party under this Treaty;
- (g) Allow any stationing, installation or deployment of any nuclear weapons or other nuclear explosive devices in its territory or at any place under its jurisdiction or control.

Joining the TPNW would oblige the DPRK to immediately cease any development, production, and manufacture of nuclear weapons. The DPRK would also be obliged to eliminate its nuclear-weapon programme, to resume implementation of its IAEA comprehensive safeguards agreement, and to conclude and implement an Additional Protocol with the IAEA. The ROK would be obliged to reject the potential use of nuclear weapons on its behalf by the United States. Together, these undertakings would denuclearise the Korean peninsula.

2.1 DPRK ratification of the TPNW

Rather than risk the kind of disputes over verification and compliance that led to the collapse of 1994 Agreed Framework and six-party talks, the United States and the DPRK should agree on a multilateral process under UN auspices, using the structure offered by TPNW. TPNW ratification would commit the DPRK no longer to “develop”, “produce”, or “threaten to use nuclear weapons”. TPNW ratification would further oblige the DPRK to verifiably eliminate its nuclear-weapon programme.

Subparagraph 4(2) of the TPNW provides that a state party that “owns, possesses or controls nuclear weapons or other nuclear explosive devices” shall

immediately remove them from operational status, and destroy them as soon as possible but not later than a deadline to be determined by the first meeting of States Parties, in accordance with a legally binding, time-bound plan for the verified and irreversible elimination of that State Party's nuclear-weapon programme, including the elimination or irreversible conversion of all nuclear-weapons-related facilities.”

If the DPRK joins the TPNW, it would be required to “immediately remove” its nuclear weapons from “operational status” and submit a “time-bound plan” for the elimination of its nuclear-weapon programme to current state parties. If this were to happen immediately – i.e. before the first TPNW meeting of states parties – DPRK ratification would trigger the TPNW provision 4(6) that “the Secretary-General of the United Nations shall convene an extraordinary meeting of States Parties to take any decisions that may be required.” The DPRK should eliminate its nuclear missiles and other delivery systems specifically designed to deliver nuclear warheads. The technicalities of DPRK disarmament are further elaborated under point 3.

2.2 ROK ratification of the TPNW

Joining the TPNW would commit the ROK never to allow the United States or other nuclear-armed state to station nuclear weapons on its territory. It would further commit the ROK to reject “extended nuclear deterrence” as an element of its security policy, i.e. to opt out of the US “nuclear umbrella”. The ROK would not have to end its military alliance with the United States; the TPNW does not prohibit military cooperation with nuclear-armed states and/or non-party states. The ROK could continue to rely on US extended deterrence, but not extended *nuclear* deterrence.

The ROK's public support for the US “nuclear umbrella” has been expressed in several ways. For example, a 2017 joint statement by the United States and the ROK makes clear the United States' “commitment to provide extended deterrence to the ROK, drawing on the full range of United States military capabilities, both conventional and nuclear.”¹ In addition, in 2013, the United States and the ROK agreed on a joint “Tailored Deterrence Strategy”. While the strategy itself remains classified, the public communiqué confirms that the United States has extended a “nuclear umbrella” over the ROK.² Such policies constitute a form of “encouragement and inducement” of the United States' continued practice of extended nuclear deterrence and retention of nuclear weapons (violating subparagraph 1(1)(e) of the TPNW).

According to the legal commentary on the Chemical Weapons Convention, encouragement and inducement “means contributing to the emergence of the resolve

¹ US White House, “Joint Statement Between the United States and the Republic of Korea,” White House press release (30 June 2017) <https://www.whitehouse.gov/briefings-statements/joint-statement-united-states-republic-korea/> (accessed May 13, 2018).

² US Department of Defense, “U.S., South Korea Announce ‘Tailored Deterrence’ Strategy” (2 October 2013). <http://archive.defense.gov/news/newsarticle.aspx?id=120896>.

of anyone to commit a prohibited activity”.³ The ROK’s and other US allies’ “contribution to the resolve” of the United States to “possess” and “stockpile” nuclear weapons – prohibited by subparagraph 1(1)(a) – is evidenced by US policy makers’ frequent statements that the United States must retain a large nuclear arsenal to reassure allies and maintain extended deterrence guarantees. For example, the recent US Nuclear Posture Review provides for an expansion of the United States’ “flexible nuclear options” to “strengthen deterrence” and for “assurance of allies”. According to the Review, the United States’ “triad of strategic bombers, ICBMs, and SLBMs [...] contributes uniquely both to deterring nuclear and non-nuclear attack and to assuring allies and partners.”⁴ The ongoing \$1.2 trillion US nuclear “modernisation” effort was justified, in part, as a means of fulfilling “extended deterrence commitments”.⁵

Opting out of the nuclear umbrella would not necessarily require any legal changes for the ROK. The legal basis of the US–ROK military alliance – the 1953 Mutual Defence Treaty – does not mention nuclear weapons or give the United States a carte blanche to determine ROK defence policy. The ROK could release a declaration clarifying its opposition to the use of nuclear weapons under any circumstances, overriding its previous support for nuclear deterrence, and sign and ratify the TPNW. Arguably, the very act of signing the TPNW would signal that the ROK no longer accepts the US “nuclear umbrella”, making the ROK fully compliant with the TPNW. Following its signature of the TPNW, the ROK would have to desist from encouraging or inducing, in any way, the United States to practice extended nuclear deterrence. Any US–ROK military exercises foreseeing the use of nuclear weapons against the DPRK would be prohibited.

Transforming the US–ROK military alliance from a “nuclear umbrella” to a more general “security umbrella” would constitute a significant step towards eliminating nuclear weapons and fulfilling the 2010 NPT Final Document Action Plan’s call to “further diminish the role and significance of nuclear weapons in all military and security concepts, doctrines and policies”.⁶

For its part, the government of the United States would need to agree to the conditions set by the ROK for a Nuclear-Free Korean Peninsula and begin negotiations for abolition with all other nuclear weapons states, as described below in Step 5.

³ See Walter Krutzsch, “Article 1: General Obligations”, pp. 61–72 in Walter Krutzsch, Eric Myjer, and Ralf Trapp (eds), *A Commentary on the Chemical Weapons Convention*. Oxford: Oxford University Press (2014), p. 67.

⁴ US Department of Defense, “Nuclear Posture Review” (2018).
<https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF>.

⁵ E.g. Madelyn R. Creedon, “Nuclear Weapons Modernization Programs”. Hearing before the Committee on Armed Services, US House of Representatives. Available at: <https://www.hsdl.org/?view&did=755532> (accessed 5 October 2017).

⁶ NPT Review Conference, “Final Document”. NPT/CONF.2010/50 (Vol. I) (2010).

3 Remove – a verifiable and time-bound plan for disarmament

Under the TPNW, the DPRK would work with a competent international authority to develop and implement a time-bound, verifiable, and irreversible plan for the total elimination of its nuclear-weapon programme. For safety reasons, the weapons should be disassembled by the people who assembled them. However, the destruction of the DPRK's nuclear warheads and elimination of its nuclear-weapon programme could be overseen or monitored by a team from, for example, the United States, China, and Russia. Non-nuclear-weapon states could not be directly involved in the dismantlement process, as the NPT prohibits non-nuclear-weapon states from acquiring technical information about the manufacture of nuclear weapons.

According to a report by the Institute for Science and International Security

If North Korea agrees to denuclearise and to cooperate fully, admittedly big “ifs,” then verified dismantlement of the key parts of its nuclear weapons program can happen in parallel and be accomplished in as little as about two years.

Gaining assurance that North Korea is not hiding relatively small but significant amounts of plutonium, enriched uranium, or nuclear weapons will take longer than two years and will likely fall to the International Atomic Energy Agency (IAEA) to handle as part of bringing North Korea into compliance with the Nuclear Non-Proliferation Treaty as a non-nuclear weapons state. This whole process could take several more years, as the IAEA insists on accounting for even grams of nuclear explosive materials, as it should. Decommissioning operating reactors and plutonium separation plants will also take years longer.

But within a few years, all the declared nuclear weapons and stocks of plutonium and enriched uranium could be verifiably eliminated, and all key facilities identified and rendered unable to operate. [...] Past experience would suggest that the verified dismantlement of the uranium enrichment program can be expected to take longer than verifiably dismantling either the plutonium or the nuclear weaponization programs, including the dismantling of any nuclear weapons. In any case, the denuclearization work on all the major nuclear weapons programs should proceed in parallel, unlike in the past when only the plutonium program was focused on.⁷

The DPRK's comprehensive safeguards agreement with the IAEA still appears to be in force. After the DPRK's successful dismantlement of its nuclear-weapon programme, the DPRK must give the IAEA access to implement that agreement. If it joins the TPNW, the DPRK must also conclude an Additional Protocol with the IAEA, giving the Agency the opportunity to inspect any undeclared facilities. Such measures would be crucial to confidence building and long-term peace and security.

⁷ David Albright and Andrea Stricker, “Technical Note on a Timeline for North Korean Denuclearization”, Institute for Science and Technology (29 May 2018). <http://isis-online.org/isis-reports/detail/technical-note-on-irans-enrichment-related-notifications-to-the-iaea>.

4 Ratify the CTBT

The United States and DPRK must both commit never to test nuclear weapons by ratifying the Comprehensive Nuclear-Test-Ban Treaty and work towards its entry into force.

The CTBTO should be invited to verify the dismantlement of the Democratic People's Republic of Korea's (DPRK) nuclear test site. Such verification steps could be included in the time-bound plan for the elimination of the DPRK nuclear-weapon programme to be negotiated under the TPNW. The United States has already signed the CTBT, but has yet to ratify the agreement, the DPRK needs to both sign and ratify it.

The following explains how the DPRK could verifiably shut down its nuclear testing site and join the CTBT:

4.1 The CTBT is an essential and effective step in the denuclearization process

The CTBT recognizes that the cessation of all nuclear weapon test explosions and all other nuclear explosions constitutes an effective measure of nuclear disarmament and non-proliferation in all its aspects. The CTBT can provide the security and certainty needed by solidifying a commitment to turn away from nuclear testing. As a legally-binding instrument founded on a robust verification system, adherence to the CTBT by all parties concerned is an effective way to overcome the trust deficit that is a real impediment to progress on denuclearization of the Korean peninsula. As part of its preparations for the effective implementation of the CTBT, the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) promotes the entry into force of the Treaty and, for this purpose, engages in particular those States listed in Annex 2 to the Treaty, whose signature and ratification of the Treaty are essential for its entry into force. The DPRK and United States are both Annex 2 states; their ratification is therefore essential for the entry into force of the Treaty. By welcoming the DPRK's announced closure of nuclear test site and providing active assistance in the DPRK's fulfilment of its pledge, and thereby encouraging the DPRK to be part of the CTBT community through signing and ratifying the Treaty, the CTBTO stands ready to achieve a major breakthrough and an important milestone on the way to the entry into force of the Treaty.

4.2 CTBTO is pertinent in the verification of the closure of the DPRK test-site

As the CTBTO is the guardian of the nuclear test ban, it is in a unique position to contribute to the building of international confidence in the process, and to provide

reliable international assurances for the transparency, verifiability, and credibility of the verification of the closure of the DPRK test-site. The CTBTO Executive Secretary, Lassina Zerbo, has already expressed the Organization's readiness and willingness to participate in international verification efforts. The type, scope and duration of CTBTO involvement depends on any agreement to be concluded involving the DPRK and international multilateral actors and institutions.

There is a high degree of flexibility in the forms of the CTBTO's participation in the process. Under the current circumstances, the most effective and cost-efficient mode of participation seems to be some form of partnership with other relevant international organizations, such as the UN and IAEA, so as to explore and benefit from synergies with these organizations

Given its competencies and capabilities, the Organization may contribute substantially to an international/multilateral verification effort of the nuclear test site closure that would include:

- Site characterization to ascertain the state of the site as a reference/baseline for future monitoring and verification;
- Site closure verification;
- Post site closure/dismantlement verification in the form of periodic site visits, as well as ongoing local video and seismic monitoring;
- Ongoing remote monitoring through the International Monitoring System (IMS) and possibly with additional input or data from the host country which would enhance IMS calibration.

CTBTO technical competencies and capabilities include remote monitoring through its IMS and In-field data collection. The IMS is capable of detecting very low yield nuclear explosions in any environment on earth. CTBTO accurately detected and characterized all six DPRK announced nuclear tests. The sensitivity of the system provides findings of events of a few tons of TNT within a 50km radius around the DPRK test site.

5 Rejoin the NPT and commit to global nuclear disarmament

Once the DPRK's nuclear-weapon stockpile is destroyed – i.e. once the DPRK's nuclear weapons have been destroyed according to the disarmament plan negotiated in the context of the TPNW – the DPRK should rejoin the NPT as a non-nuclear weapon state.

Given the DPRK's unsettled departure from the NPT in 1993/2003, the formalities of the DPRK's return to the NPT community would have to be agreed between the DPRK and the NPT depositary states (Russia, the United Kingdom, and the United States).

The compliance with the NPT by the DPRK should be predicated upon the strictest IAEA safeguards.

In concert with the tangible steps taken by the DPRK in dismantling and destroying its nuclear arsenal, the United States must also recognize its responsibility to eliminate its nuclear weapons, as required as a member of the Nuclear Non-Proliferation Treaty and pursue multilateral nuclear disarmament negotiations in line with NPT Article VI. It should therefore end its campaign to undermine the Treaty on the Prohibition of Nuclear Weapons and cease trying to block its allies from signing the treaty. The United States should embrace the TPNW and actively work with all nine nuclear-armed states establishing a verifiable time bound process to eliminate their nuclear arsenals.