

House of Lords IRC Inquiry: Nuclear Non-Proliferation Treaty and nuclear disarmament

Written evidence submitted by Medact

Executive Summary:

1. A 'perfect storm' has led to increasing instability in international relations: a resurgence of far-right politics; technical advances in missile and nuclear weaponry (including missile defence) and in communications systems such as Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR); regional instability, such as in the Middle East and Indian sub-continent; and, novel developments in US diplomacy with Russia and South East Asia.
2. These factors are compounded by a crisis in credibility in the complex international nuclear arms control regime, and further exacerbated by anthropogenic climate change.
3. Nuclear Weapons States (NWSs) are modernising their nuclear arsenal, thereby increasing the risk of nuclear war whether by accident or intent. Immediate and catastrophic humanitarian crisis would be followed by years of global nuclear famine way beyond the localities immediately affected.
4. The United Nations General Assembly (UNGA) adoption of the Treaty on the Prohibition of Nuclear Weapons (TPNW) in July 2017 provides an opportunity to revive trust in the arms control regimes if the opposition by the five Nuclear Non-Proliferation Treaty (NPT)-approved NWSs can be addressed satisfactorily. The UK government and Parliament should take a constructive attitude to the TPNW and understand the motivation of its authors.

Introduction

1. Medact is a membership organisation for health professionals bringing a public health perspective to broader societal issues including peace and security. Medact was formed in 1992 from the merging of the Medical Campaign Against Nuclear Weapons and the Medical Association for the Prevention of War.
2. One of Medact's key concerns and areas of work is the production of research and materials outlining the health and humanitarian effects of the use of nuclear weapons. In 2017, Medact published a report entitled *A Safer World: Treating Britain's harmful dependence on nuclear weapons* providing information about the risks associated with the UK's current nuclear weapons policies and recommendations for how it could engage more actively with nuclear disarmament.¹

A. Nuclear risk

1. US/Russian and US/Chinese political tensions have been heightened since the US published its 2018 Nuclear Posture Review (NPR). Several developments in non-nuclear military hardware aggravate these tensions – anti-space weapons, ballistic missile defences, cyber weapons and malware, and high-precision conventional munitions

¹ Awan F, Boulton F, McCoy D, 'A Safer World: Treating Britain's harmful dependence on nuclear weapons'. Medact: 2017. <https://www.medact.org/wp-content/uploads/2017/07/A-Safer-World-Treating-Britains-Harmful-Dependence-on-Nuclear-Weapons.pdf>

<https://carnegieendowment.org/2018/09/12/reducing-risks-of-nuclear-entanglement-pub-77236>

2. It is important to question how much nuclear risk is acceptable. Civil society and health services could not cope with the ensuing casualties.
 - a. As an example of a small impact of a nuclear detonation at high altitude, an immediate catastrophic effect includes the electromagnetic pulses which would severely disrupt electronic communications and mechanized transport.
 - b. In 2011 the International Red Cross emphasised ‘the incalculable human suffering that can be expected to result from any use of nuclear weapons, the lack of any adequate humanitarian response capacity and the absolute imperative to prevent such use.’²
 - c. Furthermore, the immediate mass destruction on the ground from even a ‘limited’ nuclear exchange between India and Pakistan would be followed by climate disruption which could trigger a global nuclear famine for several years. This includes firestorm debris and soot lofted into the stratosphere, which would lead to a significant fall in surface temperature, ozone losses of 20-50% over populated areas and summer UV index enhancements of 30 to 80%.³
 - d. The resulting damage to human health and ecosystems, aggravated by shortened crop growing seasons by 10 to 40 days a year, indicates that continued possession of modern nuclear weapons produces an even greater hazard than hitherto realised.³ Given this understanding, any associated risk is unacceptable.

B. The Nuclear Non-Proliferation Treaty (NPT)

1. The NPT has undoubtedly been successful in reducing horizontal proliferation to no more than four countries beyond the five NPT-defined NWSs. It also drastically reduced the nuclear stockpiles held by those five (halting vertical proliferation). However, over the past decade the stockpile reduction rate has nearly ground to a halt, and modernisation has been pursued by all possessor States.⁴
2. The 2015 NPT Review Conference failed to produce a Final Document, largely because the five NPT-defined NWSs opposed the proposal for a binding ‘instrument’ for nuclear disarmament, preferring ‘step-by-step’ approaches which many non-NWS found frustrating.⁵
3. A lack of trust between states seems particularly dominant in the present global political climate. The phrases ‘in good faith’ and ‘at an early date’ in the NPT Article VI led many non-

² ‘Council of Delegates 2011: Resolution 1. Working towards the elimination of nuclear weapons’, International Committee of the Red Cross: November 2011. <https://www.icrc.org/en/doc/resources/documents/resolution/council-delegates-resolution-1-2011.htm>

³ Mills MJ, Toon OB, Lee-Taylor J, Robock A, ‘Multidecadal global cooling and unprecedented ozone loss following a regional nuclear conflict’. *Earth’s Future*: 2; 2014. <https://agupubs.onlinelibrary.wiley.com/action/showCitFormats?doi=10.1002%2F2013EF000205>

⁴ Kristensen HM, ‘Nuclear weapons modernization: A threat to NPT?’. *Arms Control Association*: 2014. https://armscontrol.org/act/2014_05/Nuclear-Weapons-Modernization-A-Threat-to-the-NPT

⁵ Rauf T, ‘The 2015 NPT Review Conference: setting the record straight’. Stockholm International Peace Research Institute: 2015. <https://www.sipri.org/node/384>

NWSs and civil society organisations to feel frustrated. This added to the justified fears of humanitarian crisis which would inevitably follow a nuclear war, led the UNGA to adopt the TPNW.

4. Some TPNW ratification nations in the Non-Aligned Movement may feel that the NPT has become less relevant. However, Medact does not share this view. There is a clear need to avoid a similar breakdown in the Review Conference in 2020. Medact agrees with the Atomic Heritage Foundation, who state that ‘nuclear non-proliferation and disarmament are likely to remain goals of the international community as long as nuclear weapons pose a threat to international peace and security.’⁶
5. **Other components of the nuclear non-proliferation regime and nuclear arms control:**
 - a. **Comprehensive Nuclear-Test-Ban Treaty (CTBT):** This has not come into force because although ratified by 154 countries, 9 of the 44 States mandated to ratify it have not done so, including the US. As nuclear tests can be easily detected due to seismology, there has been significant restraint even by the US - but calls for resumption receive sympathy in some quarters.⁷ Clearly, North Korea was not deterred by the CTBT. Nevertheless, US ratification would be a welcome step.
 - b. **Intermediate-Range Nuclear Forces Treaty (INF) and Strategic Arms Reduction Treaty (START):** It is no coincidence that there was a hiatus in the meetings of the INF Special Verification Commission (SVC) between 2003 and 2016, as mutual accusations of non-compliance began in the early 2010s. Medact’s response to the House of Commons Defence Select Committee Inquiry on withdrawal from the INF stated that this carries a high risk of igniting a new nuclear arms race: instead of withdrawal, international diplomacy should focus on extending the various international arms-limitation regimes including an extended INF Treaty.⁸
6. **Do India, Israel and Pakistan destabilise the overall regime?**
 - a. Both India and Pakistan are constitutionally governed with elected civilian assemblies, although in both there are strong nationalist and insurgency movements. For example, Pakistan was host to the notorious nuclear proliferator, Abdul Qadeer (AQ) Khan.
 - b. Nevertheless, each moment of crisis seems to be followed by a ‘standoff’ and, so far, nuclear war has been avoided. The NPT processes have little direct influence but each nation’s participation in other UN processes including the TPNW (or Ban Treaty) conferences has kept them in touch with world opinion.
 - c. Civil society participants in both countries regret the allusions to nuclear war between them causing nuclear famine, indicating sensitivity to such scenarios.
 - d. The Nuclear Suppliers’ Group (NSG) has a role, although Medact is concerned that undue commercial pressures among the nuclear-trading nations may compromise nuclear safety, despite NSG compliance with IAEA standards. Gross underfunding of the IAEA requires urgent attention to safeguard these standards.⁹

⁶ ‘Nuclear Non-Proliferation Treaty’, Atomic Heritage Foundation: 2016.

<https://www.atomicheritage.org/history/nuclear-non-proliferation-treaty-npt>

⁷ Monroe R, ‘It’s time for America to resume nuclear testing’. *The Hill*: 2017. <https://thehill.com/opinion/national-security/360484-its-time-for-america-to-resume-nuclear-testing>

⁸ Medact, ‘Written evidence submitted by Medact – Defence Committee Inquiry: INF Treaty Withdrawal’. www.parliament.uk: January 2019.

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/defence-committee/consequences-for-uk-defence-of-inf-withdrawal/written/94685.html>

⁹ Findlay T, ‘What Price Nuclear Governance? Funding the international atomic energy agency’. Harvard <https://www.belfercenter.org/sites/default/files/legacy/files/WhatPriceNuclearGovernance-Web.pdf>

- e. India and Pakistan are candidate members, rather than full members of the NSG. This issue is complicated by *regional and global politics*: China favouring Pakistan's membership and the US favouring India's. India has pledged that it will not share any sensitive nuclear technology gained from the US; but – partly following the AQ Khan exposure – the US has placed sanctions on Pakistan's nuclear imports.^{10,11} The disparity between the NSG's treatment of India and Pakistan is cause for great concern and requires urgent attention and the regularising of international nuclear relations throughout the South Asian subcontinent.

7. **Prospects for a Middle East WMD free zone:**

- a. Israel maintains an official denial of nuclear weapons-possession; this a major factor in the lack of progress in developing the Middle East weapons of mass destruction-free zone, compounded by other regional concerns. However, so far, the Israelis have refrained from hostile nuclear detonations.
8. The above remarks indicate that these developments are intertwined and have a profound effect on the international order. Constructive diplomacy is essential and could be reinforced if the UK adopted policies such as 'no-first-use' against any nation, and 'negative security assurances' for NNWs party to the NPT.¹²

C. The role of the United States

1. The US Nuclear Posture Review of 2018 claims that the US must increase its nuclear arsenal and envisages expanding the possible use of nuclear weapons in 'non-nuclear strategic attacks' against infrastructure, and training conventional forces to fight alongside nuclear ones.
 - a. New types of nuclear weapons proposed include submarine-based cruise missiles and submarine launched tactical ballistic missiles.^{13,14} At the same time, Russia is developing hypersonic missiles and engaging in cyber-warfare.¹⁵ (Amanda Macias, October 2018).
2. It is extremely dangerous for the United States to withdraw from the Iran nuclear deal. Such unilateral action undermines international diplomacy and sets a dangerous precedent; the efforts of other partners in the deal, including the UK, are to be applauded. It would be better to relieve the sanctions, among which are pharmaceuticals of which radio-pharmaceuticals are particularly vulnerable.¹⁶

¹⁰ Varadarajan S, 'Dateline Vienna: NSG waiver enables member states to provide India full civil nuclear cooperation'. *Reality, one bite at a time*: 2008. <http://svaradarajan.blogspot.com/2008/09/dateline-vienna-nsg-waiver-enables.html>

¹¹ Neelakantan S, 'Huge blow to Islamabad's NSG ambitions, as US sanctions 7 Pakistani firms for nuclear proliferation'. *Times of India*: 2018. <https://timesofindia.indiatimes.com/world/pakistan/huge-blow-to-islamabads-nsg-ambitions-as-us-sanctions-7-pakistani-firms-for-nuclear-proliferation/articleshow/63461660.cms>

¹² Ingram P, 'Renewing interest in negative security assurances'. BASIC: Briefing Paper; 2017. http://box5466.temp.domains/~basicin1/wp-content/uploads/2018/06/NSAs-June2017_0.pdf

¹³ Mount A, 'Trump's troubling nuclear plan'. *Foreign Affairs*: 2018. <https://www.foreignaffairs.com/articles/2018-02-02/trumps-troubling-nuclear-plan?>

¹⁴ Downman M, 'Trump's Nuclear Posture Review endangers Europe'. BASIC: 2018. <https://www.foreignaffairs.com/articles/2018-02-02/trumps-troubling-nuclear-plan>

¹⁵ Macias A, 'Putin says Russia will deploy hypersonic missiles in "coming months", surpassing US and China'. *CNBC*: 2018. <https://www.cnn.com/2018/10/18/putin-says-hypersonic-missiles-will-deploy-in-coming-months.html>

¹⁶ Zakavi SR, 'Economic Sanctions on Iran and Nuclear Medicine'. *Asia Oceania Journal of Nuclear Medicine & Biology*: 2019; 7(1): 1-3. http://aojnmb.mums.ac.ir/article_12039_ee7d7b5c6640c4ea53142e497ca4b37e.pdf

3. Denuclearisation in the Korean Peninsula would be encouraging although, as with any such programme, strong verification systems must be put in place. The talks between President Trump and Kim Jong Un presently seem to have stalled, but Jong Un seems determined to maintain contact with South Korea. In his 2019 New Year's Day speech he reiterated his commitments not to make, test, use or spread nuclear weapons, but this is doubtful progress; he also renewed his commitment to civil nuclear energy.¹⁷

D. Nuclear Arms Control

1. International Arms Control measures have become compromised; this trend must be reversed. This will require close appraisal of the risks of possession and of non-possession by expert diplomats and statespeople well-informed on the current critical stage of world affairs. An understanding of the inevitable consequences of anthropogenic climate change, as well as the climate consequences of nuclear war, will be required.
2. **Fissile materials** (FM) are products of the military and civil nuclear industries which are operationally, intellectually and politically intertwined. Limiting or cutting-off the global production of FM could contribute greatly to non-proliferation: efforts at the UN have proceeded intermittently for many years but without great enthusiasm.
 - a. One interesting suggestion is to pursue a route like that taken by the Ban Treaty drafters and avoid the Conference on Disarmament (where it would probably languish) but try the Open-Ended Working Group approach. Meyer reminds us that when the NPT was indefinitely extended in 1995, it was on the basis of a 'package' which made negotiating the Fissile Material Cut-Off Treaty a top priority as, like the CTBT, it was seen as an important tool for reducing nuclear proliferation. 'The protracted failure to conclude such a [FMCT] treaty (or even start negotiations on it) contributes to a credibility crisis that the Nuclear Non-Proliferation Treaty is now experiencing.'¹⁸
3. In weapons-equivalent terms, Israel has about the same amount of FMs as Pakistan – about 300 weapons; India has about 2,400 weapon equivalents of FMs - although the mix of uranium and plutonium is rather different for each.¹⁹ Pakistan's insistence that an FMCT should act retrospectively is seen by other NWSs as a block to further progress.

E. Nuclear Modernisation Programmes and New Technologies

1. Nuclear renewal programmes and technological developments will undermine the NPT and impact on existing arms control agreements. Maintenance and upgrading of existing arsenals are justified only on safety grounds, as may renewal and replacement if on like-for-like bases; but a barrier is crossed if they improve performance – an inevitable accompaniment of

¹⁷ Lewis J, 'Will Pyongyang succeed in widening the divide between Seoul and Washington?' *The National Interest*: 2019. <https://nationalinterest.org/feature/jeffrey-lewis-my-thoughts-kim-jong-uns-new-years-speech-40332>

¹⁸ Meyer P, 'Talks to ban nuclear materials need a fresh start'. *Bulletin of the Atomic Scientists*: 2018. <https://thebulletin.org/2018/09/talks-to-ban-nuclear-materials-need-a-fresh-start/>

¹⁹ Østern G, Ed., *Nuclear Weapons Ban Monitor 2018*. Norwegian People's Aid: October 2018. http://www.icanw.org/wp-content/uploads/2018/10/Nuclear-Weapons-Ban-Monitor_WEB_NEW.pdf

modernisation programmes. As noted above, all the NWSs are embarking on such programmes, the main point of which is to undermine deterrence and make nuclear war 'winnable'.

- a. This includes the non-nuclear components associated with deploying nuclear weapons such as missile defence, early warning systems and the ambiguity of whether the warhead on an incoming missile is nuclear or not.
 - b. Furthermore, upgrading tactical weapons for 'battlefield limited nuclear exchanges' away from civilian centres is more likely to encourage use: such tactics may lead to full-scale nuclear war. Modernisation programmes signify deteriorating confidence in arms control measures.
2. New technologies are a serious cause for concern. Improved accuracy, as in the US B61-12 missile development, can be used to justify the unjustifiable. Cyber technology is wide open to abuse. While nuclear weapons exist, their use is always possible. Medact's evidence to the House of Commons Defence Committee Inquiry on the INF Treaty highlights that: 'Big Data analytic systems and C4ISR have become an essential component of NATO military deployments.'²⁰ Such technologies will inevitably be developed by potential adversaries.

F. The Treaty on the Prohibition of Nuclear Weapons (Ban Treaty)

1. Frustration with the slow progress of the NPT led international civil society to enable the UNGA to adopt the Ban Treaty. It is supported by many organisations, including the International Committee of the Red Cross²¹ and the World Medical Association²².
2. Article I(l)e) specifically prohibits assistance in nuclear weapons production and this is widely accepted to include financial assistance. On entry into force, this provision will help non-proliferation and promote disarmament by limiting the financial resources for nuclear weapon producers.
3. States' parties that ratify the treaty may incorporate prohibitions on investments in nuclear weapons corporations as part of their national implementation measures. This will compel financial institutions, including British subsidiaries, to divest. If a norm against financing is established in customary international law, financial institutions will also need to comply with Article I(l)e).
 - a. The prohibition on financing is already promoting nuclear disarmament as more financial institutions are divesting from nuclear weapons, citing the treaty; nuclear weapons producers could find it increasingly difficult to access the needed financing. More information on this can be found on the Don't Bank on the Bomb Scotland website.²³

²⁰ Houser N, 'Data-driven deployments: How analytics can transform military positioning'. Deloitte Insights: 2017. <https://www2.deloitte.com/insights/us/en/industry/public-sector/mission-analytics-military-deployments.html>

²¹ Maurer P, 'Why States must sign and ratify the Treaty on the Prohibition of Nuclear Weapons: A plea for humanity'. ICRC: 2018. <https://www.icrc.org/en/document/icrc-president-why-states-must-sign-ratify-treaty-prohibition-nuclear-weapons-plea-humanity>

²² 'WMA Statement on Nuclear Weapons'. World Medical Association: 2018. <https://www.wma.net/policies-post/wma-statement-on-nuclear-weapons/>

²³ Don't Bank on the Bomb Scotland. nukedivestmentscotland.org

G. The P5

1. The P5 are all nuclear weapon states who have the power of veto, so there is an inherent imbalance on global decisions regarding nuclear disarmament.
2. It is disappointing that the P5 united in opposition to the UNGA's adoption of the Ban Treaty.
 - a. They boycotted the first two humanitarian conferences in Oslo and Mexico (although India and Pakistan attended as observers), but the UK and US were present at the Vienna Conference in 2014.
 - b. Along with their 'Extended Deterrence' partners in NATO and South East Asia, they espoused the NPT step-by-step approach.
 - c. On the UNGA's adoption of the Ban Treaty in July 2017, the P5 rejected it and the US, UK and France issued a joint statement in opposition.
3. There have been several claims and counterclaims that the Ban Treaty undermines the NPT. NATO issued comment that: 'Divisions and divergences [create the opposite effect] when a unified approach to proliferation and security threats is required more than ever.'²⁴ However, legal experts have countered this opinion, stating that the NPT, CTBT and TPNW are part of the same 'nuclear weapons law' mosaic and are mutually supportive.²⁵ These differences need to be thoroughly addressed by both sides.

H. The role of the UK

1. It was very disappointing that the UK Government did not participate in the discussions on the Ban Treaty in July 2017 and that then UK Ambassador to the UN, Matthew Rycroft accompanied Nikki Haley (US Ambassador to the UN) and Alexis Lamek, the deputy French Ambassador to the UN, in speaking against it.²⁶
 - a. All claim to be supportive of the NPT and have reduced their nuclear arsenals since the height of the Cold War, but all are currently modernising their nuclear weapons systems.
2. Medact believes that the Ban Treaty is compatible with the NPT and could provide an opportunity for the NWSs to collaborate with the non-NWSs for the common good of humanity. The UK should:
 - a. Acknowledge the Ban Treaty as part of the rules-based international system.

²⁴ 'North Atlantic Council Statement on the Treaty on the Prohibition of Nuclear Weapons'. NATO: 2017. https://www.nato.int/cps/ua/natohq/news_146954.htm

²⁵ Dunworth T, 'Memorandum on the Treaty on the Prohibition of Nuclear Weapons'. University of Auckland: 2018; 1. <https://ikff.se/wp-content/uploads/2018/09/memorandum-on-the-treaty-on-the-prohibition-of-nuclear-weapons-dunworth.pdf>

²⁶ Watch Nikki Haley, Matthew Rycroft and Alexis Lamek on nuclear non-proliferation. UN Web TV: 2017. <http://webtv.un.org/watch/nikki-haley-united-states-matthew-rycroft-united-kingdom-alexi-lamek-france-before-the-opening-of-the-un-conference-to-negotiate-and-legally-binding-instrument-to-prohibit-nuclear-weapons-leading-toward-their-total-elimination-media-stakeout/5373937138001>

- b. Attend future meetings of Ban Treaty organization in observer status, following developments, avoiding misconceptions and making constructive suggestions.
- c. Provide technical expertise where relevant, such as verification (on which the UK continues to do substantial work), and address ongoing concerns about humanitarian and environmental harm from past nuclear testing.
- d. Foster a dialogue with countries and organisations working on how the Ban Treaty could effectively contribute to disarmament.
- e. In the long term, the UK Parliament should scrutinise these developments and make the UK public more aware of UK and international developments: the government should explore the Ban Treaty's framework for multilateral disarmament and work towards signing and ratifying it.

It is entirely possible for the UK to take realistic steps toward international disarmament so long as it supports and remains committed to the international rules-based system

It is only a matter of time before nuclear weapons are used either by accident or intent. The only way to stop this is by their complete elimination, and the UK has a crucial role to play in bringing this about.