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Differentiated Nuclear Responsibilities among Non-Nuclear Possessor States

Perspectives from the Hague

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The Institute for Conflict, Cooperation and Security (ICCS), based in the School of Government and Society at the University of Birmingham, adopts a multi-disciplinary approach to global security challenges to create innovative research, education, and training in conflict and cooperation in world politics.

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Introduction

This report arises from a one-day roundtable on 'nuclear responsibilities' held on 21 August 2019 that was hosted by the Clingendael Institute in the Hague. Held under the Chatham House Rule, the roundtable was attended by current and former officials from the Ministries of Foreign Affairs and Defence of the Netherlands, think tanks, academia, and civil society, and was facilitated by Sebastian Brixey-Williams (Co-Director, BASIC), Marion Messmer (Co-Director, BASIC) and Alice Spilman, a joint BASIC-ICCS PhD researcher on the Programme on Nuclear Responsibilities.

The purpose of the roundtable was to introduce nuclear weapons experts in the Netherlands to the BASIC-ICCS Programme on Nuclear Responsibilities, and to gather their perspectives on the core responsibilities of nuclear possessor states and non-nuclear possessor states, both towards nuclear disarmament itself and to the wider set of activities around nuclear weapons that can be taken on the path to disarmament.

The roundtable was the fourth of five multi-stakeholder roundtables held at the national level, following those in London, Tokyo, and Kuala Lumpur over 2018-19, in addition to a roundtable in Geneva in March 2019 involving diplomats from the Conference on Disarmament, and a meeting in November 2019 in São Paulo. In January 2020, BASIC and ICCS will facilitate the first five-way Nuclear Responsibilities Dialogue between the United Kingdom and the four non-nuclear possessor states consulted, where officials from each event will have the opportunity to provide detailed feedback on UK policy making and diplomacy around nuclear weapons. With the United Kingdom holding the Chair of the so-called 'N5 Process' meeting in February 2020, the ideas and recommendations of these roundtables are intended to feed into that meeting via the United Kingdom, and into the Non-Proliferation Treaty (NPT) Review Conference in May 2020.[1]

With that in mind, participants were asked to collectively identify defined responsibilities and tangible recommendations that the United Kingdom and the Netherlands could recognise and act upon, in a difficult global context characterised by:

- deepening distrust among the Nuclear Weapon States;

- the breakdown and devaluing of arms control, as demonstrated by the loss of the INF Treaty and the low prospects for the extension or replacement of New START;

- the concurrent re-valuing of nuclear weapons in the security doctrines of some NWS, above and beyond what is required to maintain a credible deterrent, including daunting talk about warfighting and strategic dominance, including in Washington D.C.;

- new arms racing, driven in part by excessive ambiguity around doctrine and modernisation programmes;

- the weakening of the norm prohibiting the use of chemical weapons;

- the perceived deterioration of the bargain between Nuclear Weapon States (NWS) and Non-Nuclear Weapon States (NNWS) in the NPT, with radical voices even calling for NNWS to leave the treaty altogether;

- resurgent proliferation fears, not least in Iran and North Korea, and;

- a plethora of new and emerging technologies that risk complicating the strategic picture further.

The nature of the subject matter means that discussion of responsibilities around nuclear weapons is not always comfortable, and at times forceful opinions and positions were expressed, some of which reproduced positions, debates, and unconstructive blame dynamics. Part of the challenge, some felt, is to learn to accept and move through this discomfort.

At other times, however, the participants proposed well-defined original ideas and were able to delve into topics effectively. On the whole, the experts consulted believed that the concept of socialising states to think and talk to each other about nuclear weapons policy in terms of their responsibilities had the potential to develop 'habits of cooperation' and even build trust among states.[2] One participant reflected that such language had a 'good vibe' and could help create a 'community environment' between nuclear and non-nuclear possessor states, particularly if both groups of states demonstrate a willingness to look into their own responsibilities (as well as those of others) in good faith.

Some saw nuclear responsibilities as a new concept that might help break through the polarising language that have dogged other fora, a problem that was said to have affected the recent Creating the Environment for Nuclear Disarmament (CEND) meeting in New York. Others saw nuclear responsibilities, and particularly the principle of 'common but differentiated responsibilities and respective capabilities' (CBDR-RC), as an 'organising principle' that could help frame issues in a new context and distribute responsibilities fairly among all stakeholders.

This programme of work will not be the only piece of the puzzle needed to achieve a better strategic picture, but it could play role depending on how other states take it up. As such, while not wedded to any of them, the Programme has the potential to complement (rather than compete with) a number of existing initiatives such as the United States' Creating the Environment for Nuclear Disarmament (CEND) initiative, the Stockholm Initiative (or 'Stepping Stones Approach to Nuclear Disarmament'), NTI's Global Enterprise to Strengthen Non-Proliferation and Risk Reduction, the Humanitarian Initiative, and the N5 Process.

After advancing the conceptual framework of the Programme on Nuclear Responsibilities (PNR) with a new discussion of the relationship between power and responsibility, this report reports – but also elaborates – some of the core discussions on responsibilities that took place over the day. It also produces a full list of all responsibilities proposed over the course of the day in the boxes at the end of the report.[3]

The Sources of Nuclear Responsibilities

When a community has a problem that requires collective action to solve, how can responsibilities be fairly distributed among its members? Put another way, how could the principle that states have common but differentiated responsibilities around nuclear weapons be applied in practice? What is required is an understanding in the abstract of how responsibilities are allocated.

Discussions at this roundtable, and previously, have concluded, in abstract terms, that actors have differentiated responsibilities in respect of a collective problem because:

1. they have different capabilities, circumstances, or access to power to solve a problem;

2. they are more or less culpable for creating or perpetuating the problem;

3. they volunteer themselves to solve all or some aspect of a problem, even if they are less powerful or culpable for it (which can in turn generate an informal expectation of that role among others).

Responsibilities and Power

In collective action problems, there is a general expectation on those with the greatest power to do the 'heavy lifting.' As is sometimes said: 'with great power, comes great responsibility.' Owing to the very nature of nuclear weapons as instruments of extreme power, the allocation of responsibilities around nuclear weapons in relation to access to power is particularly pronounced; those without nuclear weapons cannot directly change doctrine or disarm nuclear weapons.

However, power is heterogeneous within international politics, meaning that responsibilities are not allocated simply according to access to military might. According to Michael Barnett and Raymond Duvall's taxonomy, power in international politics comes in four forms, and different kinds of state may have a comparative advantage when different forms of power are considered:

- compulsory power: through the 'direct control over another' such as through the exercise of hard force;
- institutional power: through the indirect control of others' behaviours by working through formal and informal institutions and rules;
- structural power: through the shaping of social relations and categories, which put some actors in positions of domination and others in subordination;
- productive power: through the more general shaping of 'systems of knowledge and discursive practices.'[4]

The four forms of power are explored in a little more detail below. The purpose is to highlight the fact that non-possessors have responsibilities, even though they lack weapons of mass destruction, by virtue of their ability to influence nuclear diplomacy through a variety of means. While they cannot participate directly in, say, bilateral nuclear arms control, the non-possessors are nevertheless empowered to shape the institutions, structural relationships, identities, and discourses that govern the ways in which nuclear weapons are understood, constructed, valued, and deployed. None of this is to say that non-possessors do not already recognise and discharge these responsibilities – in many cases, they do – but rather to demonstrate at the conceptual level how the CBDR could be put into practice.

Compulsory Power

The nuclear possessor states appear to derive a certain amount of compulsory power from their nuclear weapons. The threat of nuclear retaliation is believed by these states to deter certain behaviours, and there is always the possibility of nuclear possessor states using their nuclear weapons to compel or coerce others. For this reason, the nuclear possessor states have a particular responsibility deriving from their access to compulsory nuclear power. Non-possessor states lack the same kind of compulsory power, although in time they may start to access equivalent forms as new and emerging military technologies (such as cyber weapons or lethal autonomous weapon systems) become more widely accessible. Nuclear possessor states cannot be easily compelled to disarm their nuclear weapons by non-possessor states.

Nevertheless, the compulsory power afforded to possessor states by nuclear weapons should not be overstated. Far today from being widely seen as 'just another weapon system,' nuclear weapons are of limited political or military utility in most normal circumstances, and possessor states are usually able to exercise compulsory power through other means. Where states are heavily reliant on nuclear weapons to exercise their compulsory power, such as in North Korea and Pakistan, situations are judged to be more unstable.

Nuclear weapons, and indeed military hardware more generally, are also not the only source of compulsory power. The use of economic sanctions, for instance in the case of Iran, can be used to exercise direct control over another if the sizes of the economies are sufficiently different in size. Non-nuclear possessor states can also unilaterally withhold the transfer of certain technologies from other states. All this being said, as might be expected, the compulsory power afforded by nuclear weapons to their possessors confers major responsibilities.

Institutional Power

Institutional power and responsibilities derive from the ability to shape international institutions and rules. The nuclear possessor states typically have a high level of institutional power. This is particularly true of the Nuclear Weapon States recognised by the NPT (the N5), which also happen to be the five permanent members of the UN Security Council (the P5), and which are able to use their status within that forum to their advantage to shape nuclear policy.

By virtue of their majority status in the United Nations, non-nuclear possessor states have the potential to exercise their institutional power if they are able to cooperate effectively, and from this derives a certain level of responsibility. At the voting level this responsibility is shared equally by all state parties, but in practice the relative political influence of states within the UN system means that states' responsibilities in multilateral institutions are differentiated to some extent, differing with each forum and issue.

Structural Power

Structural power is exercised when actors are categorised in such a way that confers greater power to those in one category than those in another, or in other words, to one's position within a structure.[5] In the global nuclear order, such a dynamic is perpetuated through the creation and maintenance under the NPT of a binary in which states are classed either as 'NWS' and 'NNWS.' As a NNWS, actors are explicitly barred from certain actions in law that are accessible to NWS, above all the development or acquisition of nuclear weapons.[6] NNWS are also implicitly denied a 'seat the table,' such as by being excluded from the N5 process, except when it chooses to consult with select NNWS partners; the United Kingdom has engaged with non-possessor states in the NPDI over 2019-2020 while chairing the process.

The NWS-NNWS binary is the basis of claims about the NPT's inherently discriminatory character, particularly among the Non-Aligned Movement, which tend to focus on the access to compulsory power that the treaty confers on some over others. Yet, if greater attention is given to responsibilities in the discourse, in theory these same structures should also clarify that those NWS have greater burdens. These responsibilities are recognised to some extent, but a greater association of power and responsibility may help reinforce them, which may provide further opportunities for NNWS.

Structural power stems from other power structures too. Some participants at the roundtable argued that membership of a nuclear alliance like NATO, or protection by a nuclear umbrella, confers on those non-possessors greater power (and thus, greater responsibility) to influence nuclear-armed partners within those groupings than those that lie outside one. This difference may be marginal, insofar as the possessor states tend not to demonstrate a willingness to make decisions multilaterally, but there is precedent where it has made a difference. It has been said that when the Obama Administration was considering a No First Use policy, a high-level visit to Washington D.C. by Japan – fearful of the implications to extended deterrence – helped prevent this from going through.

For some, this access to a form of structural power implies unique responsibilities for non-possessors under nuclear protection. Specifically, they argued, umbrella states are in a privileged position to lobby for more transparency in nuclear doctrine, and as a result, one participant proposed that umbrella states have a particular responsibility to form a critical mass and recognise their critical role in engaging with the possessors on disarmament.

Productive Power

Productive power is diffuse and difficult to pin down, but refers broadly to the power relations produced through the creation and sharing of knowledge, which is not an apolitical process. In part, nuclear possessors maintain their hegemony through the reproduction of systems of thought and through their world-leading academies, particularly within the English language. However, non-possessor states have opportunities to shape systems of thought too, especially through contributions to transnational academia and policy, which can have a direct or indirect effect on other forms of power, such as the functioning of institutions or the doctrines of possessor states. It is difficult to generalise about which among the possessor and non-possessor states have greater access to productive power; access is asymmetric and depends heavily on who or what that power is seeking to influence.

Compared to during the Cold War, non-possessor states have far greater productive power today 'to shape the identities of social actors and to shape what counts as legitimate knowledge and possible, acceptable, and meaningful actions.'[7] The ability to access and contribute to online journals and other internet sources has facilitated international exchange on key nuclear issues between possessor and non-possessor voices and political organisation at a large scale. In a free speech environment, productive power has great potential for non-possessors to influence possessors' policy (and vice versa). In recognition of this influence, it also requires that non-possessors, like any other actors with productive power including think tanks and NGOs, reflectively and holistically consider how responsible their proposals are. The role of norms is key here, which non-possessors and their policy elites have the power to shape. The negotiation of the TPNW is the prime recent example where a group of non-possessors have executed their productive power and so discharged their responsibilities (as they imagine them) in this regard. The preamble and articles of the Treaty draw a series of clear normative boundaries about legitimate and illegitimate behaviour, an alternative which have not yet been comprehensively proposed by non-TPNW states.

Common Responsibilities

Nuclear Risk Reduction

All states have a responsibility to engage in nuclear risk reduction efforts, including those that do not possess nuclear weapons. This responsibility, ultimately deriving from the existential threat posed by nuclear weapons to human security, necessitates continued efforts towards effective diplomatic cooperation and the maintenance of regional peace and security to reduce the drivers of nuclear conflict.

Yet, the challenge lies in the fact that different constituencies understand the reduction of nuclear risks in different ways. For some, the deliberate creation and maintenance of a high risk is crucial to sustain deterrence against what are perceived as risk-taking nuclear adversaries; for others, it is precisely what should be avoided. With these difficulties in mind, the responsibility of all states in the first instance is therefore to engage with each other through a pluralistic and respectful dialogue, in order to find a pathway that will promote the security of all states.

Nuclear Safety and Security

Participants recognised an established norm to operate the highest standards of nuclear safety and security around national nuclear programmes – both civil and military – within both nuclear and non-nuclear possessor states. This norm has been significantly bolstered by the four Nuclear Security Summits between 2010 and 2016.

Core common responsibilities in this domain include full compliance with existing legal obligations, such as safeguards agreements and UN Security Council Resolutions on this theme, and identifying ways in which nuclear safety and security can be strengthened. This includes investments at the national level in training, expertise, and technologies; learning from best practices and seeking non-judgemental feedback internationally; and through the robust red-teaming of systems to spot weaknesses ahead of time. Responsibilities around safety and security also need to be projected far into the future, due to the long half-lives of some fissile and waste materials. This includes ensuring that materials in long-term storage do not leak into the environment and are not accessible, and inventing effective signs to warn future generations of the existence of harmful radiological materials.[8]

Some time was spent discussing the extent to which states might have responsibilities for the safety and security of other countries' military or civil nuclear programmes. On the one hand, the implementation of safety and security measures principally takes place at the national level and is therefore a sovereign issue. On the other, if states have a shared responsibility to nuclear safety and security *per se,* owing to the fact that a serious breach could have major implications anywhere in the world, can it be argued that third-party states also have an additional responsibility to ensure that implementation takes place in other countries? If so, how far should states go to ensure this takes place?

One participant asked whether it would be correct for a possessor state recognised under the NPT to withhold, or sanction the development and use of, technologies that would increase the safety and security of nuclear weapon systems by nuclear possessor states not recognised under the NPT, like India and Pakistan. Even while maintaining principled opposition to the programme, 'recognised' possessor states might consider ways to share best practices with those states as a risk reduction measure.

Likewise, if nuclear safety and security is a common responsibility, to what extent might a responsibility already exist not to prosecute offensive cyber operations that could destabilise another state's civil nuclear plant management or command and control systems? Participants questioned whether the framing of responsibility might help embed a norm against this relatively-new behaviour and so avert a potential future crisis.

Non-Proliferation and Disarmament Education

As with many longer-term initiatives, education about nuclear weapons sometimes falls outside the mainstream nuclear weapons policy discourse. Nevertheless, nuclear non-proliferation and disarmament education is mandated by Action 22 in the 2010 NPT Rev Con Action Plan, and is an essential component of an informed public discussion on international peace and security.[9]

Having overall oversight of national curricula and the regulation of schools and other educational facilities, the delivery of a robust education on these issues is principally the national responsibility of states. According to those present, the 1945 bombings of Hiroshima and Nagasaki were mentioned perhaps 'once or twice' in twentieth century history lessons at high school, with the implication that the shock and awe of the bombings single-handedly ended the Second World War. Scholarship has thrown serious doubt on this latter point: according to Ward Wilson, 68 cities were attacked and either partially or completely destroyed by American bombing in the summer of 1945, only two with atomic weapons. The imminent invasion of Japan by the Soviet Union was arguably a far greater factor in Tokyo's decision to surrender; the idea that the nuclear weapons dropped in Japan had sufficient shock and awe to end the war by themselves is a persistent myth. [10]

Academic experts present, who had also studied Cold War international relations, expressed their belief that too great an emphasis had been placed on the role of nuclear weapons as 'war-ending weapons' that were able to preserve a cold peace between the two superpowers, ignoring the essential roles of diplomacy, restraint, and espionage, as well as the high incidence of proxy conflicts that took place regardless. The effect is that, for most children leaving school, nuclear weapons are uncritically equated with ending or preventing war, producing a skewed perception of their costs and risks. This, in turn, reduces public knowledge and engagement on these issues, with negative implications for democratic discourse and accountability. It was therefore recommended that informed and holistic debate on international peace and security in the modern day, including a component on nuclear weapons, be reframed as a mainstay of the high school citizenship curriculum.

In higher education, the Netherlands has in the past offered scholarships to a limited number of graduates to pursue doctoral studies related to nuclear non-proliferation at universities in Utrecht and Rotterdam; one recipient was present at the roundtable and now works in policy. Participants advocated for the continuation and, if possible, expansion of this programme, and for the

Netherlands to encourage other states to construct similar programmes, which helps increase a state's productive power.

States also have a national responsibility it was proposed to declassify archival materials for academic study wherever national security permits. On this point, there was disagreement in the room as to whether the Netherlands was doing as much as it could to fulfil this responsibility, with one participant arguing that there is probably a wealth of material that could be released, and another pointing to the practical funding limitations on the declassification department.

Since nuclear non-proliferation and disarmament education is the common responsibility of all states, far more could be done to more strategically coordinate education efforts at the multilateral level. At present, education efforts are determined nationally, as can be seen in the Working Paper on Nuclear Disarmament and Non-Proliferation Education produced by the Non-Proliferation and Disarmament Initiative (NPDI) for the 2019 NPT Prep Com.[11] The achievements presented in this paper are successful in their own terms, such as the forum organised by Global Affairs Canada bringing together a small number of graduate students with government officials, think tanks, and civil society in March 2019. In global terms, however, the impact is very low with numbers of recipients mostly in single or double figures: far below what would be needed for a systemic transformation in awareness.

A scalable means to extend the reach of nuclear weapons education could be for states to collectively develop an international teaching curriculum that could be implemented at the national level, with an associated multilateral support and review process. The advantage of this approach is that the curriculum development process would encourage buy-in from states involved, and so if properly implemented reach students across each state. Such a curriculum would have core modules, which lay out the principal debates and which aim to give students across the world what Leland Miles calls a 'common international experience.'[12] It could also have optional modules that cover specific areas of policy that are more relevant to a given national context.

Nothing like this currently exists, although UNODA's Disarmament Education website links through to a range of external resources developed by think tanks, civil society, and universities. While getting agreement on such a curriculum may entail challenging negotiations in such a polarised debate, the process of having evidence-based discussions may also gently encourage a process of national self-reflection on key assumptions and help develop empathy for opposing points of view.

Improving Gender Diversity and Awareness

All participants recognised a common responsibility on all states to increase the diversity of their national delegations and expert communities. There is a nascent discussion on gender diversity and awareness, but the issue should be approached intersectionally to include multiple conceptions of diversity.

There are a number of intersectional strategies that can be taken to implement this responsibility both upstream and downstream in respect of gender, which BASIC, Chatham House and the Centre for Feminist Foreign Policy will be publishing on in the near future. Among these are:

- supporting education programmes on nuclear weapons and international security at the primary and high-school levels, as well through robust academic teaching and funded doctoral positions, with equality and inclusion as underlying principles;

- setting targets for greater equality within national delegations, backed up by a clear plan to achieve this;
- ensuring that events are organised with consideration to diversity. In respect of gender, this may involve researching and identifying lesser-known voices through networks of expert women such as Women in International Security (WIIS) and The Brussels Binder, scheduling events at times of day when people with childcare commitments are able to attend, and ensuring that women who cannot attend are replaced with other women;
- creating safe spaces for all and implementing clear and robust harassment policies that entail appropriate sanctions;
- chairing with authority to ensure that all voices are equally heard, especially when a roundtable environment has become dominated by loud (often white male) voices;
- fostering mentoring or peer-to-peer support networks among women or people of colour in the field;
- elevating and championing excellent research by women or people of minority backgrounds, by universities and other researchers.

There is a positive trend towards greater awareness of the importance of considering diversity in the nuclear weapons policymaking space. Regarding gender, this has been particularly championed by a group of digitally-aware younger women and men entering the field, and by the International Gender Champions initiative launched in July 2015.[13] However, progress cannot be taken for granted and there is much to do to improve diversity in official delegations and within think tanks and civil society organisations, and to mainstream gendered thinking and awareness in research and operations.

Proposed Common Responsibilities:

In each box like this one, the responsibilities listed were proposed by participants throughout the day. They are given in full and in no particular order, to promote debate and discussion, without implied support.

- Responsibility to collectively work to prevent strategic behaviours that could result in conflicts that could run the risk of escalating to nuclear use.
- Responsibility to articulate the continued importance of arms control and negotiate in good faith towards stronger controls.
- Responsibility to ensure the longevity of existing landmark international treaties unless a suitable replacement is agreed upon.
- Responsibility to actively educate or create opportunities for the education of national populations – particularly youth – on nuclear weapons issues.
- Responsibility to ensure that the impact of nuclear weapons use is never forgotten.
- Responsibility to seek and facilitate opportunities for inclusive strategic dialogue, at whatever level, including with those states outside the NPT.
- Responsibility to create an environment of positive reinforcement to reward good behaviour or progress.
- Responsibility to openly debate one's own position in relation to nuclear weapons and actively involve civil society and the wider population in those debates.
- Responsibility to offer to support the safety and security of other countries' nuclear facilities.
- Responsibility not to 'hack' the control and command networks of nuclear possessor states.
- Responsibility to take the views of the rest of the room into account.
- Responsibility to share experiences, expertise and resources to promote better export controls globally.
- Responsibility to increase foreign language capabilities within delegations, in order to improve dialogue across language divides.
- Responsibility to take efforts to declassify more material, particularly in order to better understand how decisions have been taken within the Nuclear Weapon States.

A Royal Netherlands Air Force F-16 and U.S. Air Force F-15C line up for fuel from a U.S. Air Force KC-135 tanker during a training mission over the Netherlands, March 21, 2018. Air Force photo (C) Senior Airman Luke Milano, US DoD.

Nuclear Possessor State Responsibilities

Transparency

Ambiguity and transparency, in respect of nuclear weapons doctrine, broadly exist on a spectrum, whereby adding more of one typically necessitates reducing the other. For example, when a state practices a certain level of strategic ambiguity regarding its declaratory policy, it cannot also be more transparent about the circumstances when it would consider the use of its nuclear weapons. If international stability is the end goal, nuclear possessor states have a responsibility to regularly review where their doctrines lie on this spectrum and to optimise their position along it. Since the optimal position for maximum national security may differ from that of maximum international security, the process requires states to think in terms of balancing their national and international responsibilities and to find an acceptable compromise, recognising the linkages between the two. [14]

Nuclear possessor states have a 'special responsibility' to reduce excess ambiguity around the role of nuclear weapons within a given doctrine and the circumstances of use. Too much ambiguity breeds misperception, distrust, arms racing, and ultimately has the potential to provoke a spiral of security competition.[15] Historically, the Soviet Union's ambiguity around its nuclear forces in the

late 1950s and early 1960s – as it tried to give impression of nuclear spohistication, which led to a perception of a 'missile gap' by analysts within the United States and an unnecessary, costly and destabilising armament programme.

In respect of stockpiles, the Netherlands – as a member of the NPDI – advocates for greater transparency among all the nuclear possessor states in their nuclear weapons systems.[16] However in practice, possessor states tend to describe a trade-off between transparency of doctrine and transparency of stockpile on the basis that transparency in both would undermine the security of their nuclear forces. For instance, the United Kingdom has a transparent stockpile but maintains a declaratory policy of deliberate ambiguity, while China claims to be completely transparent about its declaratory policy but will not take part in stockpile transparency to the same extent, stating that it cannot do without more trust. It is difficult therefore to give defined responsibilities around transparency, and this dimension will require direct more discussions between possessor states and non-possessor states to determine. Arrangements that bring the N5 Process together with a wider range of non-possessor states, as the UK has done in its chairing of the Process over 2019-20, offer opportunities to do this.

Nuclear Weapons Testing

Participants agreed that nuclear possessor states have a special responsibility not to test nuclear weapons. This responsibility extends beyond the obligations set out by the Comprehensive Test Ban Treaty (CTBT), which is not yet in force, and rather derives from recognition of the destabilising effects that nuclear weapons testing today or future would have for international relations, communities, and the environment. In addition to those who have signed and ratified the CTBT, recognition of this responsibility is evident in the voluntary moratoria on testing by the Nuclear Weapon States. It is essential for states to keep embedding this norm, since there will come a time where calls for a resumption of testing may return among the scientific and technical communities that steward nuclear stockpiles. According to some, it is a question not of 'if', but of 'when.'

Participants encouraged states to consider that recognition and remediation for those affected by historic tests is both a special responsibility of the possessor states, and low-hanging fruit in an otherwise difficult global security context. Nuclear weapons testing appears to have had adverse impacts to the health of local communities near and downwind of the Nevada Test Site in the United States, the Soviet Union's test site at Semipalatinsk in Kazakhstan, and at UK and French test sites in the Pacific and Africa. Of the United States, for instance, Steven L. Simon and André Bouville write that 'an extra 49 000 […] cases of thyroid cancer would be expected to occur among US residents alive at the time of the testing […and] as many as 11 000 deaths from non-thyroid cancers related to fallout among those US residents, with leukaemia making up 10% of the total.'[17]

Nuclear weapons test veterans and their children are also recognised, to a greater or lesser degree, to have suffered adverse health effects as a result of exposure to ionising radiation during nuclear tests, and nuclear possessor states have taken some steps to remunerate nuclear test veterans. By the analysis of a British investigative journalist who has worked extensively on the issues, all but the United Kingdom have undertaken recognition and compensation schemes in one form or another.[18] If this is the case, this could hamper or even undermine the United Kingdom's ability to signal awareness of it is responsibility towards service personnel in the nuclear enterprise internationally, and it might suggest that the Government should consider appointing a

commission to clarify whether test veterans were exposed to radiation and the steps that have and could be taken to remedy this.

Minimum Deterrence Posture

As long as states possess nuclear weapons, they should seek to minimise their arsenals to the lowest number that would allow them to carry out their defined purpose, participants generally agreed. The United Kingdom was recognised as having purposefully sought to do this, particularly when announcing that it would reduce deployed warheads further in 2010 after a review of minimum requirements.[19] While the United Kingdom does not explicitly have a 'sole purpose' policy, which would clarify the role of its nuclear weapons further as weapons to deter nuclear threats only, officials take pains to clarify that the strategic threats to UK security are very low, leaving a relatively defined mission for its four SSBNs.

A model of minimising deterrence might be advocated for among other nuclear possessor states, founded on strategic and budgetary arguments. From a strategic perspective, nuclear stockpiles or systems in excess of apparent needs breed questions and doubts about a state's intentions, while reducing excess, while retaining what is necessary for a defined mission, may help build assurance and the credibility of signalling. From a budgetary perspective, there are obvious benefits to the public purse.

In the United States, Bruce Blair, with Jessica Sleight and Emma Claire Foley, has produced an *Alternative Nuclear Posture Review* that aims to demonstrate that these principles can be applied in the United States, and it will be interesting to see if arguments like this have any effect in the 2020 US Presidential Election.

Proposed Special Responsibilities of Nuclear Weapon States:

- Special responsibility of the N5 to reduce global political and security tensions.
- Special responsibility to reduce nuclear weapons deployments and stockpiles to the minimum level needed for credible deterrence, as a step towards eventual elimination.
- Special responsibility to clearly set out the number of nuclear weapons and weapons delivery systems that the state perceives that it would require for minimum credible deterrence, to increase mutual understanding and transparency.
- Special responsibility to make a clear distinction between conventional and nuclear weapon delivery systems and minimise the role of dual-use systems that could generate nuclear risks based on misperception and miscalculation.
- Special responsibility to disavow the use of nuclear weapons as tools of coercion.
- Special responsibility to take every opportunity to reduce nuclear stockpiles.
- Special responsibility to be as transparent as possible around doctrine and intentions, and to be clear about having a policy of strategic ambiguity when transparency is judged to be infeasible.
- Special responsibility to not engage in tit-for-tat escalation, threats, and dismantling of treaty regimes.
- Special responsibility to eliminate the possibility of a new arms race.

Responsibilities of the Netherlands

What specific nuclear responsibilities apply to the Netherlands? Notable is the country's advanced technology, high GDP-per-capita, influence within the NATO alliance and at the global level, nuclear mission and the protection under the NATO nuclear umbrella, among a number of other criteria. As such, it would appear intuitive that the Netherlands might bear a broader set of responsibilities than less developed or less militarised non-nuclear possessor states. But how might this translate in practice?

While the NPT does not apportion responsibilities differently among the non-nuclear weapon states in this manner, and instead generates the NWS-NNWS binary, this is where PNR seeks to add more nuance. Today, how these greater responsibilities manifest themselves depends to a certain extent on what responsibilities countries like the Netherlands is willing to take on voluntarily, and in practice, it seems clear that the Netherlands and other advanced nations recognise this differentiation. Yet, more might be done to develop a clearer understanding of the criteria that determine why some non-possessor states do or should take on more than others.

Advisory Opinion of the Advisory Council on International Affairs

In January 2019, the Netherlands received an advisory opinion from the Advisory Council on International Affairs (AIV), an independent body providing advice to the Dutch government and parliament on foreign policy matters, which focused on the need for new arms control initiatives in a world characterised by a resurgence of the nuclear threat.[20] The opinion made 10 recommendations and statements of belief, which are copied in an abbreviated form.

The list outlines a set of responsibilities for the Netherlands, which seem generally consonant with the Government's understanding of its role as an actor in the international nuclear weapons policy community. These responsibilities are principally international in focus, and orbit around the Netherlands meeting its agreed or new contributions to NATO and European defence; its support for international law, such as the NPT and the INF Treaty; and crafting its role as a facilitator of dialogue and bridge-building between nuclear possessor states and non-nuclear possessor states with more ambitious disarmament goals. Discussion of Dutch nuclear responsibilities herein are principally focused on similar themes.

'The Netherlands has an important responsibility to keep NATO conversations on disarmament and not nuclear warfighting, and can have a role on nuclear planning in Europe' – Participant

The Advisory Council on International Affairs' 10 recommendations:

1. The AIV recommends that the Netherlands submit a proposal to the General Assembly of the United Nations to the effect that an authoritative international commission should outline the path towards agreements on controlling risks, quantities and types of weapons.

2. The Netherlands and other European countries should speak out more forcefully in favour of preserving the INF Treaty.

3. The Netherlands should propose opening a strategic dialogue with Russia on shared interests in relation to controlling and reducing nuclear weapons, in order to gradually bring about multilateral nuclear disarmament.

4. The Netherlands must fulfil its obligations as agreed within NATO concerning conventional military capabilities [to raise the nuclear threshold and provide opportunities for arms control and disarmament].

5. Partly in the light of the United States' current foreign policy, which is weakening the international multilateral order, there must be scope for discussion on greater European military self-reliance.

6. For military and, above all, political reasons, having only US nuclear assets that are not stationed in Europe to fall back on for the implementation of NATO's nuclear policy is undesirable, not least due to the current state of relations within the Alliance.

7. The AIV considers it important for NATO to continue conducting thorough exercises for the procedures regarding nuclear weapons, using generic scenarios.

8. The modernisation of systems for nuclear decision-making and communication includes the use of digital technologies and possibly, in the future, artificial intelligence.

9. NATO and the governments of its member countries should make a much greater effort to explain NATO's nuclear and security policy and provide information about all the relevant facts.

10. The Netherlands can contribute to [the multilateral process of arms control] – particularly in the context of the Non-Proliferation Treaty – in a variety of ways: by using its good knowledge position to participate in a wide network within the global arms control community, by working with like-minded actors, by emphasising the importance of nuclear arms control in its bilateral contacts with the United States and other countries, by stressing the responsibility inherent in the protective, example-setting role of key countries, and – where it can operate as a bridge builder – by seizing every opportunity to facilitate dialogue as concretely as possible.

Royal Netherlands Air Force F-16 at Volkel Air Force Base. (C) Floris Oosterveld, 313 Squadron, Volkel, CC 2.0.

The Netherlands' NATO Nuclear Mission

Nuclear Weapons in the Netherlands

It is an 'open secret' that the Netherlands hosts American B-61 gravity bombs at Volkel Air Force Base, as part of the Netherlands' nuclear sharing arrangement. These weapons are protected by US military personnel, but would be flown by Dutch pilots operating Dutch F-16s Officially, the Government of the Netherlands operates a long-standing 'neither confirm nor deny' (NCND) policy as to whether or not the weapons are present on Dutch soil at any given time.

Dutch experts were unclear amongst themselves as to the origin of this policy; as to whether it was a unilateral policy, a bilateral arrangement between the Netherlands and the United States, or a NATO arrangement; and, as to whether or not the policy is binding in law. One non-governmental participant stated that there exists a secret bilateral treaty that legally binds the Netherlands to this policy, though had not seen it themselves; another considered that it could be the result of a secret, but non-binding memorandum of understanding. This question was not resolved within the meeting, and a scan of open-source literature does not reveal any more information.

Deep frustration was expressed about the NCND policy, which one participant in particular saw as having the direct and unnecessary effect of suppressing an informed democratic debate within the Dutch Parliament and among the general public. They added the strong belief that the policy exposed the Netherlands to allegations of hypocrisy about its wider framing of transparency around arsenals and doctrine as a special responsibility of the nuclear possessor states, making it challenging for the country to lead by example. This was met with the response from others that while the Dutch NCND policy is an effect of the arrangement, it is *not* motivated by a desire to

maintain 'strategic ambiguity' about when, where, and at what scale these weapons would be used, and that discussions can take place about Dutch doctrine without these questions being answered directly. This disagreement within certain sectors of the nuclear weapons policy community in the Netherlands is longstanding.

Indeed, NCND policies can add blockages to multilateral disarmament efforts. Most famously, Israel has a NCND policy regarding the existence of its nuclear weapons which severely impedes domestic debate on Israeli national security, as well as the NPT-mandated negotiations on the Middle East Weapons of Mass Destruction-Free Zone. It will be essential for this policy to change if constructive disarmament dialogue is ever to take place between the nine nuclear possessor states. Yet, it is difficult to see how Israel could be induced to clarify its own policy if such arrangements still exist within NATO, not only within the Netherlands, but also the other NATO states with US nuclear weapons on their soil (Belgium, Germany, Italy, and Turkey). The linkages between these two contexts cannot be effectively overlooked.

NCND is also understood to be one major blockage to Nuclear Weapon State signature and ratification of the Protocol to the Bangkok Treaty which would legally commit these states to maintaining the Southeast Asian Nuclear-Weapon-Free Zone. Between 2018 and 2019, China used its Chair of the N5 Process to make a push for all five countries to adopt the Protocol simultaneously, seeing the Zone as 'low-hanging fruit' in a step-by-step approach to nuclear disarmament. It has been reported through private conversations that one barrier is the United States' policy of neither confirming nor denying the existence of nuclear weapons on its non-submersible naval vessels, which at times dock in Singapore.

NCND policies are often framed as immutable, in part because they have been maintained through long-standing resistance. However, this should not stand in the way of periodic, open-minded reviews of these policies. Indeed, there could be much to be gained from building a new norm of restraint around the use of NCND policies around nuclear weapons. Such a norm would frame restraint around NCND as a contribution to the nuclear responsibility of transparency. While there may be cases in which NCND is justified on the grounds of national security, there are also situations worldwide in which NCND has been kept as the default because it provides the actors involved with maximum freedom of action. This seems likely in the case of the United States' unwillingness to sign the Bangkok Treaty Protocol, given the fact that the United States has a policy of not putting nuclear weapons on surface vessels.[21] Freedom of action is one important consideration, but it should also be weighed against benefits and costs at the systemic level.

Further research could be done to understand the historical roots and behind the NCND policies of the NATO states hosting US nuclear weapons, and examine their contributions towards building trust, reducing nuclear risks, and the advancement of disarmament. While a policy of NCND may offer the arrangements a level of stability, the evidence of this roundtable is that it also risks provoking public ire and distrust at the national level, generating a sense of excessive doctrinal ambiguity to NATO nuclear planning (even if this is not the intended effect), and contributing to a permissive environment in which states can use NCND policies to obscure less-benign aspects of their nuclear programmes.

Dutch Nuclear Doctrine

It is public knowledge that the Netherlands will deliver US nuclear weapons under NATO nuclear planning arrangements. On that basis, some participants proposed that it is or should be possible

to have a public discussion about Dutch doctrine at the national level, that would elaborate the kinds of situations in which the Netherlands would fulfil its nuclear task. It was felt that this public discussion is currently lacking, and even expert understandings of the kinds of situations in which the Netherlands would contemplate the use of nuclear weapons appeared low.[22]

Participants at both ends of the political spectrum appeared to agree that this discussion could take place irrespective of the factual question of whether or not there are nuclear weapons at Volkel Air Force Base or anywhere else on Dutch soil, with the two discussions sometimes being erroneously elided. Indeed, it was argued, many NATO states have a nuclear task, with or without nuclear weapons on their territories, including refuelling or the protection of bomber squadrons, and that equivalent discussions would be appropriate in those states too.

Dutch Influence within NATO

As a state with a nuclear mission, it was advocated that the Netherlands has a particular responsibility among non-possessor states to make progress on nuclear risk reduction and disarmament. However, in the context of a discussion about power, it was widely recognised that the Netherlands has more influence within, say, NATO multilateral decision-making processes than it does directly influencing a state like Russia directly. In other words, the Netherlands has institutional and structural power that it can exercise, but is more limited in terms of compulsory power, especially in relation to Russia.

Accordingly, in discharging its responsibilities, the Netherlands should focus on moulding alliances and institutions like NATO from within and moderating more hawkish states. As one participant put it, 'The Netherlands has an important responsibility to keep NATO conversations on disarmament and not nuclear warfighting, and can have a key role in nuclear planning in Europe.'

Non-Proliferation

The Netherlands plays an active role in non-proliferation, participating in the International Partnership for Nuclear Disarmament verification (IPNDV) and arguing for an Additional Protocol as the baseline international verification standard.[23] It is also an active funder in the field, and a member of the NPDI. All agreed that non-proliferation is a common responsibility of states, but conversation focused on the Netherlands' contributions.

Since the United States withdrew from the Intermediate-Range Nuclear Forces Treaty (INF) earlier in August 2019, three weeks before the roundtable, non-proliferation was considered particularly in the context of a concern that there might be a proliferation of US intermediate range nuclear ballistic missiles (IRBMS) in Europe. It was imagined that existing nuclear host states might feel pressured by the United States and Russia to take on additional weapons, or that a push for IRBMs in Europe may open the door to a new nuclear host state, with the risks that it could drive arms racing and increase nuclear risks in the European theatre.

While the United States and Russia have principal responsibility not to seek to place these systems in Europe, some participants suggested that NATO states with a nuclear task – and particularly those flying US nuclear weapons – also have a particular responsibility to maintain minimum levels of nuclear sharing in Europe. It was not clear precisely what kind of power a country like the

Netherlands would ultimately have when it comes to limiting nuclear sharing in Europe, beyond refusing new IRBMs on its own soil.

Export Control

The Netherlands operates an export control regime for strategic goods and services, which includes dual-use items that could pose a nuclear proliferation concern. It is a member of the Wassenaar Arrangement, the multilateral export control regime covering these technologies, and experience bears out that the Netherlands takes its responsibilities for export control very seriously.

It is the responsibility of the Netherlands, alongside other leading states, to ensure that these export control norms are become universally accepted, especially with regard to dual-use items. To this end, the Netherlands provides financial and technical assistance to states with less developed export control regimes, for whom the associated costs of inspections and impounding can often be more punitive. Citing an appeal from the roundtable on nuclear responsibilities in Kuala Lumpur, for greater assistance from the developed economies to relieve the export control burden in less developed countries, the discussion explored whether it might be possible or desirable to increase the level of such assistance.[24] There was disagreement on this point, with some pointing out that even in a country like the Netherlands only 5-10% of containers are checked due to funding constraints, and that no export control regime is (or can be) watertight. It was added that what could be improved without significant increases in funding is the algorithms in place to select inspection targets, and the contact and information sharing between customs officers.

Bridge-building

In recent years, the Netherlands has sought to develop its reputation as a bridge-building nation between states at different ends of the political spectrum on the nuclear weapons debate.[25] This role is a voluntary one, and might be viewed as an attempt by the Netherlands to carve for itself greater structural power and demonstrate leadership in an otherwise difficult environment for progress.

Central to this reputation was the Netherlands's involvement in the negotiations for the TPNW, the only NATO state to have taken part. While the Netherlands did not vote for the adoption of the treaty text, it expressed its support for a process that sought to make meaningful progress on disarmament, and was also able to express for the record the views of nuclear possessor and non-possessor states that – much to the chagrin of some other states in the process – elected not to participate.

Elsewhere, the Netherlands' involvement in 'mini-lateral' processes involving a range of states reaffirm this role. These include the NPDI and IPNDV, the US' CEND initiative, and more recently in June 2019 as one of the 16 states represented at the Ministerial level at the 'Stockholm Meeting on Nuclear Disarmament and the NPT,' calling to 'bring disarmament and non-proliferation back to the top of the international political agenda.'[26]

Proposed Responsibilities of the Netherlands:

- Responsibility to continuously reinforce the taboo against nuclear weapon use.
- Responsibility to use political clout within alliance structures to curb irresponsible behaviours and restrict further forward deployments within NATO, particularly on NATO's Eastern borders.
- Responsibility, as a country with a nuclear task, to be transparent about national doctrine on use of nuclear weapons.
- Responsibility to maintain the core idea that Europe should not become more nuclearised.
- Responsibility to challenge the norm that deterrence is an effective and desirable long-term solution to national security.

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Conclusion

The Netherlands is one of a small number of non-possessor states that has deep involvement in a nuclear delivery task; advanced civil nuclear science; developed non-proliferation, export control, and nuclear safety and security regimes; and a high GDP-per-capita. These attributes, among others, would arguably imply that the country has greater access to different forms of power than many non-possessor states, and by extension, would bear a broader set of responsibilities to contribute to the reduction of international distrust, which is both a cause and effect of nuclear risks and tensions today, and the longer-term goal of nuclear disarmament. These responsibilities would not necessarily *greater* than those of other states, but they would be differentiated.

Indeed, the responsibilities proposed for the Netherlands during the roundtable tended to reflect the kind of access the Netherlands has to the four forms of power elucidated earlier in this report. While the Netherlands has limited compulsory power against a nuclear adversary acting alone, it is able to exercise it as an agent of a wider coordinated nuclear task with allies. It derives institutional and structural power from its position within NATO and various initiatives like the NPDI, IPNDV, CEND and the Stockholm Initiative – as well as through its self-appointed role as a 'bridge-builder' (a framing that it might seek to develop further with input from those with whom it hopes to build bridges). And the Netherlands has productive power as a shaper of norms and thinking, particularly because it is a trusted ally of the nuclear-armed France, the United Kingdom, and the United States. Each of these bring responsibilities that Dutch officials appear to instinctively recognise and must continue to try to define.

Deciding what these responsibilities look like in practice, however – and how they might differ from those of other non-possessor states – is challenging. Responsibilities must be responsive to national capabilities, circumstances, and history, and cannot be easily or comprehensively assigned in a top-down manner across states or constituencies. This task is something that each state must consider, and since responsibilities may also need to change or adapt over time, will require regular review. For this, all states need to invest resources to develop robust cultures of responsibility populated by officials and non-governmental experts. But acknowledging or assuming nuclear responsibilities should not be cast in a bad light: they offer fruitful opportunities for states and other actors to explore their agency and fulfil untapped leadership potential, and a means to open new avenues for dialogue on the principles of the global nuclear order.

Endnotes

[1] The name 'N5 Process' has been used herein following a request by a number of experts at Wilton Park 2019 to cease to use the name 'P5 Process,' which gives the incorrect impression that the possession of nuclear weapons is tied to permanent membership of the UN Security Council.

[2] The useful phrase 'habits of cooperation,' which denotes the myriad ways that state officials can try to work together from the micro to the macro levels is borrowed from Lewis Dunn. See Lewis A. Dunn, Transparency: Options for Cooperative Engagement (Washington D.C.: NTI, 2019), <https://media.nti.org/documents/Discussion_Paper-Transparency.pdf>.

[3] For background reading explaining the 'nuclear responsibilities' conceptual framework, see: Sebastian Brixey-Williams, 'Everything you need to know about the Programme on 'Nuclear Responsibilities,' BASIC, 5 November 2019, <https://basicint.org/everything-you-need-to-know-about-the-programme-on-nuclear-responsibilities/?preview=true&_thumbnail_id=12092>.

[4]Michael Barnett and Raymond Duvall, 'Power in International Politics,' International Organization 59 (2005), p.49.

[5] Some civil society organisations under the TPNW campaign sought to use structural power as a lever to pressure nuclear umbrella states by inventing the term 'nuclear weasel state' to describe 'a country that is a non-nuclear-weapon state party to the NPT, but which is in a nuclear alliance with a nuclear-weapon state, and thus depends on nuclear weapons for its defence,' taking particular aim at the Netherlands for both hosting US nuclear weapons on its soil while taking part in the TPNW negotiations. See Wildfire>_, 'Stop the nuclear weasel! vote NO to the Netherlands in the UN Security Council election 2016,' <http://nlinunsc.org/>.

[6] In the case of North Korea, whose abrogation from the NPT in 2003 is deemed unlawful by the United States, the state is also subject to economic sanctions.

[7] Nick Ritchie, 'A hegemonic nuclear order: Understanding the Ban Treaty and the power politics of nuclear weapons,' Contemporary Security Policy 40 (2019), p.20.

[8] K.M. Trauth, S.C. Hora and R.V. Guzowski, Expert judgment on markers to deter inadvertent human intrusion into the Waste Isolation Pilot Plant (Albuquerque: Sandia National Labs, 1993), <https://www.osti.gov/servlets/purl/10117359>.

[9] Final Document: 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, NPT/CONF.2010/50 (Vol. I), 18 June 2010, p.24, < https://www.nonproliferation.org/wp-content/uploads/2015/04/2010_fd_part_i.pdf>.

[10] Ward Wilson, 'The Bomb Didn't Beat Japan... Stalin Did,' Foreign Policy, 30 May 2013, < https://foreignpolicy.com/2013/05/30/the-bomb-didnt-beat-japan-stalin-did/>.

[11] Non-Proliferation and Disarmament Initiative, Disarmament and Non-Proliferation Education, NPT/CONF.2020/PC.III/WP.26, 18 April 2019, <http://reachingcriticalwill.org/images/documents/Disarmament-fora/npt/prepcom19/documents/WP26.pdf>.

[12] Leland Miles, 'Education for Peace,' in War and Public Health, eds. Barry S. Levy and Victor W. Sidel (Oxford: OUP, 2000), p.324.

[13] 'International Gender Champions,' <https://genderchampions.com/>.

[14] Enhancing national security has typically relied more on the use of ambiguity, while enhancing international security typically expects greater transparency. However, there are numerous cases in which greater mutual transparency has contributed directly to national security such as New START and the Open Skies Treaty which allows for intrusive inspections of the other side's facilities. In successful collective security arrangements, the goal is to align these two points on the spectrum.

[15] Maxwell Downman, Reducing Nuclear Risks: European Perspectives from the 2019 Prep Com (London: BASIC, 2019), p.3.

[16] Non-Proliferation and Disarmament Initiative, Enhancing national reporting as a key transparency and confidence-building measure, NPT/CONF.2020/PC.III/WP.24, 18 April 2019, <http://reachingcriticalwill.org/images/documents/Disarmament-fora/npt/prepcom19/documents/WP24.pdf>.

[17] Steven L. Simon and André Bouville, 2015, 'Health effects of nuclear weapons testing,' The Lancet 386(9992), p.408.

[18] Susie Boniface, 'The Damned,' The Mirror, <http://damned.mirror.co.uk/chapter7.html>. Boniface and a coalition of Members of Parliament and the British Nuclear Test Veterans' Association are advocating for a medal for nuclear test veterans, the wider provision of war pensions to affected veterans, and ex gratia compensation where liability cannot be accepted.

[19] Richard Norton-Taylor, 'Britain's nuclear arsenal is 225 warheads, reveals William Hague,' The Guardian, 26 May 2010, <https://www.theguardian.com/world/2010/may/26/uk-nuclear-weapons-stockpile-warheads>.

[20] The Advisory Council on International Affairs, Nuclear weapons in a new geopolitical reality: An urgent need for new arms control initiatives (The Hague, 2019), <https://www.advisorycouncilinternationalaffairs.nl/documents/publications/2019/01/29/nuclear-weapons-in-a-new-geopolitical-reality>.

[21] Robert S. Norris and Hans Kristensen, 2016, 'Declassified: US nuclear weapons at sea during the Cold War,' The Bulletin of the Atomic Scientists 72(1), p.58. <https://www.tandfonline.com/doi/pdf/10.1080/00963402.2016.1124664>.

[22] The question of who would bear the responsibility for the clear-up of a nuclear weapons accident on Dutch soil was also unclear.

[23] Ekaterina Shirobokova, 2018, 'The Netherlands and the prohibition of nuclear weapons,' The Nonproliferation Review 25(1-2), p.38.

[24] Sebastian Brixey-Williams, Nuclear Responsibilities in an Interconnected World: Perspectives from Kuala Lumpur (London: BASIC and ICCS), 2019.

[25] This debate is sometimes characterised as 'deterrence versus disarmament,' although the reality is – or should be – more nuanced: states engaged in deterrence can still take part in disarmament, albeit in a slightly different form to those who would advocate for immediate elimination.

[26] Ministry of Foreign Affairs of Sweden, 'The Stockholm Ministerial Meeting on Nuclear Disarmament and the Non-Proliferation Treaty,' 11 June 2019, <https://www.government.se/statements/2019/06/the-stockholm-ministerial-meeting-on-nuclear-disarmament-and-the-non-proliferation-treaty/>.

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