Occasional Paper

Beyond the Disarmament Impasse
How Europe Perceives the UK’s Disarmament Verification Efforts

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RUSI Occasional Paper, September 2020
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Published in 2020 by the Royal United Services Institute for Defence and Security Studies.

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RUSI Occasional Paper, September 2020. ISSN 2397-0286 (Online).
Acknowledgements

The author would like to thank Jamie Kwong and Chelsey Wiley, who contributed to the literature review undertaken as part of this research during their time as Research Assistants with the Proliferation and Nuclear Policy team. Thanks must also go to the RUSI Publications team, especially Dina Mansour-Ille for her support and guidance in drafting this paper, and Harry King-Riches for providing the graphics.

This research was funded by a grant from the John D. and Catherine T. MacArthur Foundation.
Executive Summary

This year marks the 50th anniversary of the entry into force of the Nuclear Non-Proliferation Treaty (NPT). The NPT has played a vital role in international non-proliferation efforts and in supporting equal access to the peaceful uses of nuclear energy. Yet, achieving nuclear disarmament remains a source of contention within the NPT community.

The NPT process and nuclear disarmament agenda are facing significant challenges. While non-nuclear weapons states (NNWS) argue that progress on nuclear disarmament is moving too slowly, nuclear weapons states (NWS) — including the UK — claim that the current international security context is not conducive to further efforts to reduce the number and role of nuclear weapons.

Within the NPT community, the UK is often noted for having strong nuclear disarmament credentials. Working collaboratively with NWS and NNWS, the UK’s involvement in technical disarmament verification work has been a key component of its self-declared commitment to uphold its NPT disarmament obligations. Technical verification work has been a primary and constant feature of UK disarmament policy since the early 2000s.

This research examines how the UK is perceived within the European NPT community, both in relation to upholding its nuclear disarmament commitment and its continued involvement in technical disarmament verification work. A focus on European perspectives stems from the fact that:

• The UK is part of Europe and the majority of European countries are members of NATO. This means that nuclear weapons and associated policies contribute to their approach to defence and security.
• Europe has prominent deterrence and disarmament advocates.
• The NNWS that the UK has directly collaborated with on disarmament verification are both European: Norway and Sweden.

Based on a review of the existing literature and a survey, this paper examines the extent to which the UK’s prioritisation of disarmament verification is perceived by the European NPT community to be a valuable contribution to the disarmament agenda.

Although the results from the survey cannot be considered statistically significant nor conclusive for the subcategories of respondents, five tentative findings and trends have been observed:

1. Survey respondents identified political – not technical – hurdles to nuclear disarmament as the top priority for the 2020 Review Conference.
2. The survey demonstrated that respondents with more than six years of experience in the field were less likely to hold positive perceptions, and that governmental respondents were more likely to view UK policy positively than non-governmental respondents.

3. A substantial percentage of the respondents do not understand how the Quad Nuclear Verification Partnership (QNVP) supports the UK's disarmament policy.

4. The majority of respondents felt that China was the most important additional actor for the UK to work with on disarmament verification, followed by Russia and non-NPT nuclear-possessing states.

5. The survey results suggest that without practical disarmament steps the perceived value of disarmament verification is at risk of declining.

Overall, the UK’s technical disarmament verification work was broadly viewed as a positive contribution to the NPT process by survey respondents. This paper recommends that the UK:

- Retains verification as a core part of its disarmament policy.
- Undertakes efforts to improve outreach and communication about these initiatives, especially regarding the QNVP and with the non-governmental community.
- Considers ways in which it might become possible to engage with Russia, China and/or other non-NPT nuclear-possessing states in technical verification work.

To maintain and further enhance the perceived value of the UK’s technical verification work in the NPT process, this paper has also identified two areas that should be considered for future research:

- This survey has not provided insight into why those with governmental affiliations might appear to hold more positive views, or why more experience might correlate with more negative perceptions. Answering these questions would be valuable for shaping government–non-government engagements, as well as for the inclusion of next-generation voices in disarmament processes.
- Without solutions to the political challenges that nuclear disarmament faces, and thus practical steps to further disarmament, technical verification work is at risk of declining in value. It might therefore be worthwhile to consider the value of the political disarmament initiatives the UK is involved in. Does the NPT community see the P5 Process aligning with UK policy set out in the 2015 Strategic Defence and Security Review? Does UK policy currently have an appropriate balance of both technical and political disarmament initiatives?
Introduction

The nuclear disarmament agenda is at an impasse. There is significant tension and disagreement within the international community on how nuclear disarmament should be achieved. Furthermore, the upcoming Review Conference (RevCon) will be particularly important for several reasons. First, it coincides with the 50th anniversary of the Non-Proliferation Treaty’s (NPT) entry into force as well as the 25th anniversary of the treaty’s indefinite extension in 1995 (which was concluded on the basis of commitments by nuclear weapons states [NWS] that remain unfulfilled). Second, there is a risk that this meeting could be the first time in which two consecutive RevCons since indefinite extension fail to agree a consensus outcome document, partly a result of disagreement over the advancement of disarmament. Third, it is expected that the Treaty on the Prohibition of Nuclear Weapons, negotiated in 2017 to prohibit nuclear weapons and lead ‘towards their total elimination’ in a way that does not rely on a stagnating NPT process, could enter into force around the same time.

The NPT is widely considered to be the cornerstone of the international nuclear regime. The treaty established three ‘pillars’ of provisions: disarmament; non-proliferation; and the peaceful uses of nuclear energy. Since its opening for signature in 1968 and entry into force in 1970, it is credited with limiting the spread of nuclear weapons and aiding the growth of peaceful nuclear development. However, Article 6 of the treaty, which lays out the disarmament obligations of NPT states, has a more chequered reputation. The NPT’s non-nuclear weapons states (NNWS) argue that those with nuclear weapons have been too slow on delivering on this commitment. The NWS currently argue stockpiles have reduced significantly since their height during the Cold War. For NWS, further progress is currently hindered by negative threat perceptions, in which NWS do not see an international environment that allows them to reduce their reliance on nuclear weapons without implications for their own defence and security, and that of their allies.

The purpose of this paper is to explore how the UK’s prioritisation of technical disarmament verification work is perceived in the context of the NPT review process and commitments to achieve nuclear disarmament. Previous research has shown that the UK is considered by European governmental and non-governmental experts to be a leader in the NPT. Efforts to address the technical challenges around the verification of nuclear disarmament have contributed to this

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1. States parties to the treaty meet every five years to review the implementation of all its articles.
2. The Review Conference was initially scheduled for 27 April – 22 May 2020. It has now been postponed due to the coronavirus pandemic. The UN has agreed that the conference will take place no later than April 2021. Irrespective of the date change, the alignment of these circumstances still makes this upcoming conference an important one.
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perception, alongside the UK’s unilateral weapons stockpile reductions and postural changes since the end of the Cold War. The UK has conducted significant activity on nuclear arms control and disarmament verification research, and has recently been involved in four international verification research initiatives: bilateral work with the US; the UK–Norway Initiative (UKNI); the Quad Nuclear Verification Partnership (QNVP) with Sweden, Norway and the US; and the International Partnership on Nuclear Disarmament Verification (IPNDV).

These initiatives have seen the UK work closely with the US, alongside some engagement with China, as well as NNWS. Since initiating collaborative work in 2000, the UK and the US have worked together to better understand how states may be able to monitor and verify future nuclear arms control, including warhead verification efforts. This laid the groundwork for the UK to work with NNWS, to highlight challenges and find solutions to the additional complexities that exist when NPT Article 1 and 2 constraints are present. Such an endeavour has been explored through the UKNI in 2007, which expanded into the QNVP in 2015. The UK is also one of the 25 countries participating in the IPNDV since it began in 2014. Through these forums, the UK has continued to explore the practical and technical challenges that achieving and maintaining nuclear disarmament might involve.

Although these initiatives have been aimed at addressing the technical challenges that implementing and maintaining nuclear disarmament pose, the disarmament agenda is stalled and opportunities to make progress on nuclear disarmament seem to be rapidly decreasing. Efforts to reduce nuclear weapons numbers, make policy changes to decrease reliance on them for defence and security, or develop and uphold the necessary international agreements

5. In the past, there has been at least one UK–China bilateral technical engagement, but this work did not result in public briefings from either government. See Tom Plant, ‘Arms Control Verification Research at AWE’, presented at Nuclear Academics Meeting, Bristol, September 2016, <https://www.nuclearuniversities.ac.uk/meetings/nuclear-academics-meeting-2016/>, accessed 1 September 2020.


7. Under Article 1, Nuclear Weapons States (NWS) commit not to transfer nuclear weapons nor provide assistance to, encourage, or support any Non-Nuclear Weapons States (NNWS) in developing or acquiring nuclear weapons. Article 2 of the NPT commits the NNWS not to receive or seek the transfer of nuclear weapons or advice or assistance relevant to their production. For the full treaty text, see Treaty on the Non-Proliferation of Nuclear Weapons, UN, <https://www.un.org/disarmament/wmd/nuclear/npt/text/>, accessed 11 September 2020.

seem extremely unlikely in the near term as relations between NWS deteriorate and existing agreements erode.⁹

In this context, it is reasonable to ask what meaningful contribution can be made by the UK’s focus on disarmament verification. While several studies have considered this question at various points by examining verification research work in isolation,¹⁰ none have taken a systematic approach to understanding how interested parties value this work in the context of advancing nuclear disarmament. This paper therefore seeks to address the question: to what extent is the UK’s prioritisation of disarmament verification perceived by the European NPT community to be a valuable contribution to the disarmament agenda?

To address this question, a literature review and survey were carried out. The literature review highlighted issues relevant to the disarmament agenda, including disarmament verification, which were then used as the basis for a survey designed to assess the value that others place on the UK’s disarmament research. Although the results of the survey for the subgroups (for example, age or professional affiliation) cannot be considered statistically significant due to small sample sizes, the overall results of the survey do provide a dataset which can provide a more reliable insight into the perceptions of those with expertise in nuclear disarmament. From the survey results, some tentative findings emerge that may warrant further exploration.

This research was supported by a grant from the John D. and Catherine T. MacArthur Foundation, to explore the role of the UK in nuclear disarmament processes and the NPT. This paper will first outline the methodology used in this research. It will then discuss the contextual background and current disarmament agenda. This forms the backdrop against which the results of the survey undertaken will be discussed in the final chapter. The conclusion will summarise the key findings, propose recommendations and highlight areas of future work.

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⁹ Commonly cited examples of the declining state of the disarmament agenda are: the collapse of the Intermediate-Range Nuclear Forces Treaty; uncertainty over the extension of New START; a dysfunctional Conference on Disarmament, which in turn has a knock-on effect on the international community’s ability to negotiate a Fissile Material Cut-Off Treaty; and the low chance that the Comprehensive Test Ban Treaty will enter into force. See Sharon Squassoni, ‘Arms Control “Under Fire”’, Arms Control Today (March 2018).

¹⁰ For example, see Brian Anderson et al., ‘Verification of Nuclear Weapon Dismantlement’, British Pugwash Group, November 2012, <http://eprints.whiterose.ac.uk/75090/1/2012_Nov_BPG_Verification_Report.pdf>, accessed 1 September 2020; Plant, The Disarmament Laboratory.
I. Overview and Background

Since the height of its stockpile numbers between 1974 and 1981, the UK has reduced the number of nuclear weapons it possesses from around 500\(^{11}\) to no more than 180 warheads, with only 120 to be operationally available by the mid-2020s.\(^{12}\) The UK has also reduced the number of delivery systems it operates for nuclear weapons, now only operating four Vanguard-class submarines, that will carry no more than eight operational missiles (a similar restriction is to be carried over to the forthcoming Dreadnought class). The UK government has argued that these reductions in delivery systems and warhead numbers – which have not been verified – and the UK’s commitment to maintain only a credible minimum deterrent serve as evidence in its claims to support nuclear disarmament.\(^{13}\)

Despite unilateral reductions to the UK’s nuclear arsenal, and major reductions by the US, Russia and France since their stockpile sizes peaked, there has been increasing frustration among several NNWS over the lack of progress on nuclear disarmament. NWS remain committed to pursuing a step-by-step process,\(^{14}\) and have been criticised for: failing to address the increasing risk of miscalculation that might inadvertently lead to nuclear use; allowing nuclear arms control agreements to collapse; the absence of dialogue and transparency between NWS; the lack of continuous efforts to reduce and remove the threat of nuclear weapons; retaining too many nuclear weapons; and modernising nuclear weapons and their delivery systems.\(^{15}\) Admittedly, these criticisms have tended to be directed at the US and Russia, the two states with by far the largest nuclear arsenals. However, because of the UK’s status as an NPT NWS, at least part of these criticisms and responsibility are also directed at London.\(^{16}\)

The UK government currently argues that the negative international security environment is not conducive for reducing reliance on nuclear weapons or the role they play in defence and security.
by providing a ‘minimum credible deterrent’.\(^{17}\) This is the result of the continued expansion and modernisation of some nuclear weapons arsenals, coupled with the termination or uncertain future of multiple arms control agreements, the perceived ongoing need to deter threats, and behaviour that undermines international norms and rules.\(^{18}\) These factors are also cited by other NWS as contributors to a security environment that is not conducive to nuclear disarmament.\(^{19}\) Specifically for the UK, Russia’s involvement in the use of a Novichok nerve agent against Sergei Skripal in Salisbury has implications for disarmament, as noted in a statement at the 2018 Preparatory Committee (PrepCom) meeting.\(^{20}\)

Instead of focusing on near-term steps, the UK centred its support for nuclear disarmament around exploring the technical tools that will be required to implement verification of nuclear disarmament when the time is right.\(^{21}\) Despite the UK’s prioritisation of technical efforts, the progress towards nuclear disarmament remains a highly controversial issue. This raises questions around the perceived value and benefit of technical verification work as an essential tool for the progress of the nuclear disarmament agenda, especially in the near term. Gaining a better understanding of how its approach is received by NNWS, especially in Europe, may help the UK to refine and adapt the implementation and communication of its nuclear disarmament policy for greater impact.

**Current Context**

In the most recent review cycle, the UK has taken some steps to address factors that contribute to a negative security environment through unilateral efforts to improve its transparency and national reporting to the NPT process. For the 2019 NPT PrepCom meeting, the UK government submitted an early draft of their national implementation report for the 2020 RevCon and held a side event to enable a dialogue on this that will support the UK in refining its report

\(^{17}\) The UK government has made this case on numerous occasions. For example, see HM Government, National Security Strategy and Strategic Defence and Security Review 2015; UK Mission to the UN, ‘NPT Preparatory Committee 2019’.

\(^{18}\) UK Mission to the UN, ‘NPT Preparatory Committee 2019’.

\(^{19}\) For a more comprehensive discussion, see Tytti Erästö and Tarja Cronberg, ‘Opposing Trends: The Renewed Salience of Nuclear Weapons and Nuclear Abolitionism’, SIPRI Insights on Peace and Security (No. 5, September 2018).


\(^{21}\) UK Mission to the UN, ‘NPT Preparatory Committee 2019’. 
before final submission.\textsuperscript{22} This engagement was also followed up with a private dialogue on the draft report.\textsuperscript{23}

In the past two review cycles (2010–15 and 2015–20), efforts have also been made to energise disarmament activity through new multilateral efforts, such as the negotiation of the TPNW, new forums led by Sweden and the US, and the reinvigoration of the P5 Process. Although the purpose of this paper is not to analyse or assess these efforts, it is important to outline them to situate this work in a broader context.

The most significant multilateral effort has been the negotiation of the TPNW, emerging from the humanitarian process which began in 2013.\textsuperscript{24} The treaty was negotiated in 2017 with the aim of driving forward the disarmament agenda by banning and stigmatising nuclear weapons possession.\textsuperscript{25}

Other new multilateral initiatives have also sought to identify ways to overcome the political impasse to the step-by-step approach and find ways to advance disarmament within this framework. Sweden launched a new initiative that seeks to identify ‘stepping stones’ that can advance nuclear disarmament.\textsuperscript{26} The US established the Creating the Environment for Nuclear Disarmament (CEND) initiative in 2019 to explore ways in which the international security environment could be improved to become more conducive for progressing nuclear disarmament.\textsuperscript{27}

\begin{itemize}
\item \textsuperscript{22} Cristina Varriale, ‘Reflections from the Non-Proliferation Treaty Preparatory Committee Meeting’, \textit{RUSI Commentary}, 16 May 2019.
\item \textsuperscript{24} Heather Williams, Patricia Lewis and Sasan Aghlani, \textit{The Humanitarian Impacts of Nuclear Weapons Initiative: The “Big Tent” in Disarmament} (London: Chatham House, 2015).
\item \textsuperscript{25} The full extent of the impact this will have on the NPT process and disarmament obligations is yet to be understood. Yet, it still highlights the increasing disapproval of the lack of disarmament action from the NPT NWS. NWS did not contribute to the negotiation of the NPT, and the UK has clearly stated it will not become a party to the treaty. See Foreign and Commonwealth Office, ‘UK Statement on Treaty Prohibiting Nuclear Weapons’, 8 July 2017.
\item \textsuperscript{27} The UK is a participant of the Creating the Environment for Nuclear Disarmament initiative. See Heather Williams, ‘CEND and a Changing Global Nuclear Order’, \textit{European Leadership Network}, 18 February 2020.
\end{itemize}
The most recent review cycle (2015–20) has also seen the revival of older initiatives, with the reinigoration of the P5 Process. The purpose of the P5 Process is to provide a forum in which the five NPT NWS can discuss ways to work towards their disarmament commitments.\(^\text{28}\)

The UK has participated in some of these multilateral efforts. It is participating in the CEND initiative, and currently holds the position of Chair, having taken over from China in May 2019 until the 2020 RevCon. However, a recent House of Lords Select Committee report acknowledged that there is scope for the UK to do more in bolstering the impact of the P5 engagements.\(^\text{29}\)

### The Role of Verification in Disarmament

Nuclear disarmament verification refers to the tools and techniques that are required to assess whether or not treaty obligations have been met.\(^\text{30}\) Technical tools to verifiably implement nuclear disarmament will be essential to delivering and maintaining a world without nuclear weapons. Instability and nuclear risk are often fuelled by uncertainty, lack of transparency and miscalculation. As the number of nuclear weapons in the world reduces, it will be imperative to ensure irreversibility and that states cannot seek to race back to nuclear weapons. This is applicable not just to maintaining global zero, but throughout the process of disarmament that leads us there.

For nuclear disarmament to be practically implemented, tools and techniques need to be developed that provide both NWS and NNWS with confidence that weapons are being irreversibly dismantled. Users of these tools, such as governmental inspectors or an independent international body, might wish, for example, to be able to confirm that an item sent for dismantlement is actually a nuclear warhead. Where NNWS participate in verification, it must be done in such a way that Articles 1 and 2 of the NPT, which among other things prohibit transfer of nuclear weapons design information from NWS to NNWS, are not breached.

In addition to addressing these technical challenges and ensuring non-proliferation in verification practices, there are also logistical and safety challenges that technical and collaborative disarmament verification work can seek to address. Implementors from a range of governments and/or international organisations might require access to highly sensitive military facilities where fissile material and explosives – with all the associated hazards – are present. This


requires an understanding of how disarmament verification can be implemented logistically, with an emphasis on safety and security.

As noted above, the UK has been involved in four core technical nuclear disarmament verification initiatives: UK–US bilateral work; the UKNI; the QNVP; and the IPNDV. The UK has also participated in a recent UN Group of Governmental Experts meeting on disarmament verification, although this endeavour has a more political mission and will not be discussed further.

The UK advocates for a step-by-step process. However, there has been a debate about at which stage of a step-by-step disarmament process technical work to develop a verification toolkit becomes valuable, and whether this approach is in line with how far along the disarmament process the international community really is.

Some have argued that developing disarmament verification tools is currently a useful endeavour and will help inform the negotiation of any nuclear disarmament treaty or treaties. Given that further limitations on – and reductions in – nuclear weapons are unlikely in the short term and many political challenges exist in changing this, it has been argued that the lull in political efforts provides an opportunity to focus on and advance technical work.

Furthermore, it has been argued that complete nuclear disarmament will only be reached following a series of sequential steps that will change security perceptions, with each step informed by the previous. This could result in the technical solutions developed now being inapplicable to the actual disarmament context states might find themselves in, as each step in the process will impact the context and demands of implementing and maintaining nuclear disarmament. Some governments agree with this position, arguing that negotiating a disarmament treaty must come first. In a statement at the 2019 PrepCom meeting, Russia stated that pursuing multilateral nuclear disarmament verification work ‘without a clear understanding of specific disarmament steps’ is pointless when done out of the context of a

31. For a more detailed overview of the UK Nuclear Initiative, IPNDV, UK–US bilateral cooperation and other issues pertaining to nuclear disarmament verification, see Caughley, ‘Nuclear Disarmament Verification’.


From this perspective, it could be suggested that the UK’s policy would not be viewed as constructive to advancing nuclear disarmament. Arms control and disarmament expert Annette Schaper also acknowledges that steps to reduce and destroy warheads have been voluntary and unverified. This suggests that technical solutions to disarmament have not been a prerequisite for change in the past.

Nuclear disarmament is not held back by technical challenges, but rather by issues of politics and security. As a result, since the early 2000s, UK nuclear disarmament policy has been reliant on offering contributions to address technical verification challenges to achieve and maintain a world that currently seems a long way off. This raises questions as to where technical contributions to disarmament verification will fall in prioritisation for the upcoming RevCon, and in the broader disarmament agenda.

Methodology and Research Limitations

Two methodologies have been employed in this research: a literature review and a survey. The research for this paper began with a targeted literature review which considered both governmental documents and statements, and academic and think tank analyses to better understand the UK’s apparent prioritisation of disarmament verification as well as the broader nuclear disarmament agenda. Specifically, the UK’s 2015 Strategic Defence and Security Review (SDSR), statements at PrepCom meetings and RevCons since 2000, and working papers submitted by the UK as part of the NPT process were prioritised as key texts to consider.

The literature review also considered official government statements by the US, Russia, China, France, Norway and Sweden. The US is not only an NPT NWS but has also collaborated on technical disarmament verification work with the UK, as have Sweden and Norway. Russia, China and France make up the remaining three NPT NWS. Statements from other States Parties across Europe were also considered, such as Poland, Germany and the EU. Poland and Germany are both key voices in the European nuclear debate: Poland is geographically close to Russia, its adversary, and therefore perceives significant value in the NATO nuclear umbrella; Germany is currently host to US nuclear weapons and also has to manage strong domestic anti-nuclear sentiment that frequently results in political conflict at both the local and federal levels. Statements from the EU are helpful in identifying commonalities, or lack thereof, between EU states. The EU is also the organisation that represents the geographical area this work has focused on.

This review was used to help design a survey which was conducted with the aim of maximising reach in a compact timeframe. To control the scope of this research in line with the project timescales and budget, it was necessary to bound the survey. The survey was bound


36. Schaper, ‘Verifying Nuclear Arms Control and Disarmament’. 
geographically to focus on respondents based in European countries. Europe was specifically chosen for several reasons:

- First, the majority of European countries are part of NATO, and five countries within the alliance host US nuclear weapons (Italy, the Netherlands, Germany and Belgium within Europe, and Turkey on its periphery), meaning nuclear weapons and associated policies contribute to the region’s approach to defence and security.
- Second, there is a civil society movement and domestic constituency in many of these countries with a strong anti-nuclear sentiment. This creates a context in which governments need to balance their commitment to an alliance in which nuclear weapons play a key role and the wishes of the electorate they serve.
- Finally, the NNWS that the UK has collaborated with on disarmament verification – outside of the 25 member IPNDV – are both European: Norway and Sweden.\(^{37}\)

The limitation of selecting Europe as a geographical boundary for this research is that, as a region, it is less critical of the UK’s disarmament policy than other parts of the world, creating a bias in the survey responses. Although Europe includes countries that have been supportive of the TPNW, such as Ireland and Austria (and survey responses were gathered from these countries), European countries are generally supportive of the UK’s disarmament policy.

The survey questions were designed in collaboration with YouGov, using its expertise to construct and format the survey. The questions were devised based on themes and questions that arose from the literature review. The survey used closed questions with the option for respondents to add comments to some of their responses if they desired, as well as a free text box at the end for any further comments. The closed question format was chosen to make the survey easy to complete and thus encourage a greater number of survey recipients to respond. Using closed questions meant the participants were not required to provide nuance and explanation to their responses throughout the survey. This allowed for the data to be quantified more easily. One limitation with this approach is that deeper questioning of respondents is not possible, and that respondents likewise cannot ask clarificatory questions to researchers which could result in respondents interpreting questions differently.

The distribution list was made up of existing contacts comprising academics, think tank researchers, civil society organisation staff, governmental officials (both from the UK and Europe), staff working in European embassies based in London with portfolios related to nuclear weapons issues and international security, UK parliamentarians and staff with a known or active interest in nuclear weapons issues, and related All-Party Parliamentary Groups and Committees (in both the House of Lords and House of Commons). This contact list comprised mainly those with policy rather than technical expertise, as a result of the research team’s pre-existing networks. Contacts across all these categories were included to ensure the sample comprised

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\(^{37}\) The survey was primarily focused on gathering responses from respondents in countries that are part of the EU. However, the distribution of the survey was not specifically restricted to EU nationals.
representation from all groups that play a role in nuclear weapons policy and have the opportunity to influence and impact the NPT process. Government officials from across Europe, including the UK and France, also featured on the distribution list as it was important to include the opportunity to understand any convergence between NWS and NNWS, to help identify common ground and therefore opportunities to progress nuclear disarmament. This list of pre-existing contacts in non-governmental organisations was added to through internet searches for other relevant individuals and organisations, guided by the EU Non-Proliferation and Disarmament Consortium organisation list. Parliamentarians in other European countries were also added to the distribution list using the contact details provided by the Parliamentarians for Nuclear Non-Proliferation and Disarmament (PNND) website. This resulted in a distribution list of 362 recipients in total.

The survey was distributed via email to these 362 recipients on 20 January 2020 and left open for two weeks. It was decided to share the survey with this list via email in order to keep the initial distribution targeted within the network of a selected community of experts and control the initial sample set to receive the survey. The research team also asked recipients to share the survey within their own network of experts via email. To ensure that initial recipients were able to pass the survey on to their own networks, unique survey links for each recipient were not generated. A total of 70 responses were received.

There are multiple limitations with this methodology. Delivering a survey via email meant that recipients on the initial distribution list were able to share the survey unrestricted, which subsequently restricted our ability to track how the survey was shared and which survey links had been opened and completed. Moreover, such an approach prevents the researcher and respondent from developing a rapport and therefore could limit the willingness of some respondents to engage with the survey or reduce the quality of their engagement. The benefit to this approach, however, is that respondents may provide more candid answers, as responding to an anonymous survey removes some of the desire to provide ‘socially desirable’ answers. This approach also allowed the research team to reach out to a wider network of key experts who would not have been reachable if a different methodology was used.

Although the number of respondents is sufficient to help us understand broader European perceptions, the limited number of responses for category or subgroup of respondents means that no subcategory can be deemed representative of broader attitudes for that group. This does not mean, however, that the results of the survey are not revealing of important potential trends in the European community that was surveyed. In fact, the results do provide us with

39. Parliamentarians for Nuclear Non-Proliferation and Disarmament, <http://www.pnnd.org/>. Many of the email addresses listed here were out of date or incorrect, but the network still provided a number of new contacts.
valuable insights that can be useful in better understanding the role of disarmament verification in advancing nuclear disarmament and upholding the NPT. The responses provide important and unique preliminary insights into perceptions of the UK’s disarmament verification work, how this might be valuable to the broader nuclear disarmament landscape and highlight further areas for future research.

**Survey Scope**

The purpose of this survey was to gather and assess data on how the UK’s prioritisation of technical verification work is perceived in the context of the NPT process and disarmament agenda. Technical verification work has been a primary and constant feature of UK disarmament policy since the early 2000s, and as an NWS within the NPT it is important to consider how the UK is perceived to be upholding its nuclear disarmament commitment.

The scope of this survey was limited to addressing the technically focused initiatives. This did not include assessing the UN Group of Governmental Experts on disarmament verification, nor did it consider the multiple efforts designed to find ways to address the political challenges cited as hindering nuclear disarmament. In particular, assessing the politically focused efforts that the UK is involved in – notably the P5 Process and US CEND initiative – would provide a more comprehensive review of the UK’s approach to disarmament, and could be an interesting and useful task for future work.

This survey focused on testing some of the themes and assumptions highlighted in the literature and discussion outlined above specifically related to disarmament verification. The survey included six questions to capture the demographic data of the respondents, and 10 questions that focused on two themes:

- Whether the UK’s disarmament policy is viewed as credible as a result of the actions taken aligning with the UK’s claim it is committed to nuclear disarmament. This is important in answering the question of the value of the UK’s disarmament verification work because it will help inform perceptions of whether the UK is genuine about progressing nuclear disarmament.
- Whether the actions of the UK are perceived as valuable for furthering the international disarmament agenda right now by understanding how verification work may or may not be relevant for addressing the key hurdles to disarmament.

Most of the questions focused on issues directly related to disarmament verification and UK disarmament policy, but a broader question that asked respondents to prioritise the importance of key issues for the 2020 RevCon was also included. The full survey can be found in Annex I of this paper.

Understanding the priorities for the 2020 RevCon and where technical verification activities sit in these rankings helps provide information on the perceived value of these activities relative to other challenges. Although there is debate on whether technical work is valuable now or later,
understanding where this debate fits in terms of the level of importance for the progression of nuclear disarmament is key. In turn, it can help inform us as to whether or not the UK’s disarmament priorities are perceived as being at the forefront of current disarmament efforts, or whether respondents think the UK government needs to readjust its approach, either to better explain the current value of disarmament verification or highlight other ways in which the UK might contribute to nuclear disarmament.

Survey Data and Responses Received

Given that the focus of this research was technical disarmament initiatives and their contribution to a political process, it was important to attempt to include both those with and without technical experience in the initial distribution list. Diversity of professional affiliation in the distribution list was important to ensure that all stakeholders in the NPT process had the opportunity to be considered in the survey. Although a larger number of governmental representatives received the survey, this group of respondents may have been more hesitant to respond. The two largest groups of respondents were those working in non-governmental (25 respondents, or 36%) and academic (26, or 37%) roles, which could be a reflection of the willingness of individuals in these sectors to contribute to research activities. It may also reflect the stronger existing relationships between the research team and the non-governmental recipients on the distribution list. Annex II provides an overview of the data gathered about the survey respondents.

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41. See Annex II for further details on the breakdown of respondents.
II. Survey Results and Analysis

THIS SECTION WILL discuss the key findings from the survey and analyse what they mean in the context of understanding the perceptions of the UK’s disarmament verification work.

Survey respondents identified political – not technical – hurdles to nuclear disarmament as the top priority for the 2020 Revcon.

In understanding the priorities for the 2020 RevCon, responses to the survey were reflective of discussions in the literature that prioritise political issues to advancing disarmament. Respondents were asked to rank eight issues in order of importance for discussion at the 2020 RevCon, to help identify what issues are considered most important and where technical verification work ranks in terms of perceived priority. When considering the ‘most important’ category only, disarmament verification ranked fifth. Respondents ranked ‘nuclear risk reduction’ as the most important issue, and ‘conditions for nuclear disarmament’ as second. Figure 1 shows the distribution of responses. This demonstrates that respondents did not consider technical verification work as an immediate priority for the NPT process, or a priority solution for the disarmament impasse. It is worth acknowledging that the ranking of such issues is to some extent an artificial exercise, as they are not all mutually exclusive, and the survey did not provide a definition of each of these terms. For example, it is possible that respondents consider disarmament verification as a necessary component of the conditions for nuclear disarmament. However, as a standalone activity without explicit reference to aiding or contributing to broader issues – such as developing the conditions for nuclear disarmament – disarmament verification is represented as a mid-ranking issue.
Diplomatic and political impasses are rarely overcome with any involved party achieving their preferred outcome; compromise and efforts to find common ground are required. Disarmament is no different. The data collected in this survey was thus analysed to determine if there was a strong candidate issue that could help to find common ground as a potentially popular secondary priority. To do this, the research team aggregated the number of responses for the most important, second most important and third most important for each issue.

When aggregating the number of responses for first, second and third preferences for each issue, the top two rankings — nuclear risk reduction and conditions for nuclear disarmament — held their places as first and second, respectively. This clearly indicates that, for this set of respondents, these two political challenges are central to the current NPT process. Technical verification work scored higher, moving from being ranked fifth to third. If this observation remained true with a larger dataset, this could suggest that verification work could be a topic used to build agreement and consensus within the NPT process, as already acknowledged by the UK.42 Yet, political hurdles are clearly the primary challenge to disarmament progress, as demonstrated both in the survey results above and in the discussions in previous sections of this paper.

42. This reflects existing efforts by the UK to work with policy, technical and non-governmental communities in an effort to build consensus through working to ensure ‘undiminished security for all’. See John Duncan, ‘UK Statement to the 2010 Non-Proliferation Treaty Review Conference’, UK Permanent Representation to the Conference on Disarmament, 19 May 2010.
This could be useful – and valuable to the UK – for two reasons. First, it suggests that consensus on the utility of verification as a current priority among Europeans might be easy to reach, validating the UK’s approach to disarmament and not signalling a requirement to drastically change UK nuclear disarmament policy. Second, technical cooperation – which could stem from agreement on the importance of such initiatives – has been identified as having the potential to build relationships and develop trust and confidence. Trust and confidence are often cited as important parts of improving the relations required for practical action on reducing and removing nuclear weapons. Some of the key traits that will be vital to overcoming the political hurdles to disarmament can be fostered through collaborative work to develop verification technologies. In the European context, political challenges could result from the tension that arises following some countries showing domestic interest in signing the TPNW, such as Italy and Germany. Technical collaborations could be used to showcase demonstrable progress on activities directly relevant to implementing nuclear disarmament. Therefore, technical initiatives might have an important role to play in indirectly overcoming the political challenges and improving the health of the disarmament agenda. At present though, this effort is limited by the two actors considered most adversarial in the NPT community – China and Russia – not participating in collaborative technical initiatives.

This sample of respondents does not view technical disarmament verification as a standalone priority for the upcoming RevCon. It is possible that verification would be considered as a necessary component of conditions for nuclear disarmament, and thus respondents intended to capture the need for technical tools as part of a broader package of what is required for nuclear disarmament. Alternatively, respondents might not consider verification to be a short-term priority if they cannot envisage the world in which it would be useful because steps to get there are not occurring. This might lead respondents to assess that, given resource limitations, the focus should remain on more immediate issues such as ensuring the risk of nuclear use is significantly reduced.

Survey responses showed that respondents with more than six years of experience were less likely to hold positive perceptions of the UK’s contribution, and that governmental respondents were more likely to view UK policy positively than non-governmental respondents.

To consider whether there were any specific factors or attributes that might be contributing to respondents’ perceptions, answers to the survey questions were compared with the demographic data gathered in the survey. This highlighted two possible trends: those with diplomatic or civil


service affiliation were more likely to view the UK positively; and those with more than six years of experience were less likely to view the UK positively. The subcategory of respondents with more than six years of experience can be considered statistically significant as the sample size is 51 (out of the total 72) respondents, or 72%. For those with a governmental affiliation, this data cannot be considered statistically significant because of the small sample size (12 respondents, or 17%), but it does provide an interesting snapshot of data.

The data that tentatively suggests those with more than six years of experience hold less positive perceptions was observed when analysing responses to whether the UK is perceived as genuine in its commitment to disarmament. Responses to this question were evenly distributed:

- 27% (19) of respondents perceived the UK to be genuine, and 20% (14) see verification as a contribution to this.
- 24% (17) perceived the UK not to be genuine.
- 26% (18) perceived the UK to have gone as far as it can to progress nuclear disarmament and is now restrained by the international context.

**Figure 2: Views of Civil Servants and Those With More Than Six Years of Experience**

15 out of 17 of the more negative views were from respondents working on nuclear weapons issues for 6+ years.

Civil servants in government were more likely to have positive views.

*Source: Author generated.*
In cross-referencing responses to this question with demographic data, the research team found that of those who did not perceive the UK to be genuine in its disarmament intentions (17 respondents), the majority (15, or 65%) had been working on nuclear weapons issues for at least six years. If this trend were replicated with additional data, this correlation between the number of years working on nuclear issues and the perception that the UK is not genuine in its intentions to achieve nuclear disarmament could be interesting and useful to understand for two reasons. First, it raises the question of why the increase in years of experience might correlate with a decrease in positive perceptions of the UK’s disarmament intentions. Second, it would be worthwhile to consider this observation in the context of bolstering next-generation engagement in diplomatic processes, and what effect this might have on the NPT process and disarmament.

The second potential finding from analysis of the demographic data highlighted the possibility that those with civil service or diplomatic affiliations are more likely to hold a positive view of the UK. Out of the 20% (14) of respondents who see the UK as genuine in its commitment to disarmament (with verification supporting this), 60% (6) had defined the nature of their work as civil service or diplomatic. This is compared to just 12% (6) of those who work in think tanks or academia. In fact, none of the respondents who specified their professional occupation to be diplomatic or civil service in nature perceived the UK to not be genuine. Of those that defined their work as civil service or diplomatic (10 respondents, 14% of sample), 5 respondents (26%) identified as UK nationals. This might suggest a potential bias in the response if these respondents are judging a policy they have contributed to. This data cannot be considered reliable as a result of the small sample sizes for these subgroups of respondents. However, if this distribution of responses was replicated with a larger data set, it would suggest that positive perceptions of the UK and its approach to nuclear disarmament are more common for those with governmental affiliations.

The research team also observed the same tentative pattern of responses to another question that asked how each of the technical initiatives that the UK is involved in individually aligns with UK disarmament policy as stated in the 2015 SDSR. When looking at the percentages for those who responded that individual technical initiatives support the SDSR to ‘a great extent’ or by ‘a fair amount’ by breakdown of professional category, those working in the civil service or diplomacy had consistently higher response rates across all initiatives, although there was less divergence for UK–US bilateral work:

45. This could be a direct expression of dissatisfaction with the UK’s disarmament policy and a perception that this has not resulted in concrete disarmament progress. Alternatively, it could be the result of frustration with the broader disarmament agenda. Despite UK efforts on developing verification tools, the world in which they can be applied is still a long way off, potentially resulting in a more negative perception of disarmament verification. It is beyond the scope of this paper to discuss this further.

46. Respondents were provided with a paragraph of relevant text from the 2015 Strategic Defence and Security Review in the survey. See Annex I, Question 8.
Beyond the Disarmament Impasse

Table 1: Percentage of People Who Responded ‘a Great Amount’ or a ‘Fair Amount’ When Asked How Each Technical Initiative Aligns With the 2015 SDSR

<table>
<thead>
<tr>
<th>Technical Initiative</th>
<th>Civil Service/ Diplomacy</th>
<th>NGO/Academia</th>
</tr>
</thead>
<tbody>
<tr>
<td>UKNI</td>
<td>70% (7)</td>
<td>45% (23)</td>
</tr>
<tr>
<td>IPNDV</td>
<td>70% (7)</td>
<td>47% (24)</td>
</tr>
<tr>
<td>QNVP</td>
<td>70% (7)</td>
<td>35% (18)</td>
</tr>
<tr>
<td>UK–US Bilateral Work</td>
<td>50% (5)</td>
<td>41% (21)</td>
</tr>
</tbody>
</table>

Source: Responses to author’s survey.

It should be noted that the survey was limited to gathering data on respondents’ current professional affiliations and did not take into consideration past professional experiences. However, these potential trends are still interesting to consider. If it were true that those in governmental roles are more likely to have a positive perception of the UK, this would mean that the extent to which its policy is viewed as valuable would be limited to a smaller group of stakeholders within the nuclear disarmament community. This raises questions as to why this might be. Answering this question is beyond the scope of this paper, but could be worthy of future research.

A substantial percentage of the respondents did not know how the QNVP supports the UK’s disarmament policy.

In order to assess how respondents perceive the UK’s prioritisation of technical work in relation to its own messaging and declared disarmament policy, the research team included a question in the survey aimed at understanding whether respondents perceive the UK to have a policy that is coherent and thoughtful in relation to nuclear disarmament, or whether technical work has been prioritised without purpose.

When considering how each of the initiatives – UKNI, IPNDV, QNVP and UK–US bilateral work – separately aligns with the UK’s 2015 SDSR, more than 40% of respondents (at least 30) thought that each individual initiative aligns with the SDSR either to a ‘a great extent’ or by ‘a fair amount’. When also considering responses that selected ‘to some extent’, this increases to between 60–77%. For the UKNI, QNVP and IPNDV, only 1–3% answered ‘not at all’, and 10% (7) provided this response for the UK–US bilateral work. The data therefore suggests that respondents broadly perceive the UK’s disarmament policy and technical efforts to be coherent, and agree that the UK government’s work on disarmament verification is in support of its stated nuclear disarmament policy, as written in the 2015 SDSR.

When observing the distribution of responses, however, it is clear that respondents were most unsure of how the QNVP supports the UK’s declared policy in the 2015 SDSR, with 37% (26) of respondents selecting ‘don’t know’ for this initiative. The QNVP has been a large part of the UK’s technical verification work in this current NPT review cycle, with this initiative running
Letterpress, the first ever multilateral disarmament verification exercise. It is therefore important to look at other data points that could provide context for this high number of ‘don’t know’ responses. When comparing these responses to other data points gathered on the QNVP in this survey, the research team observed that the QNVP also had the lowest engagement scores, with 59% (41) of respondents having never engaged with it.

Figure 3: Percentage of Respondents That Do Not Know How the QNVP Supports the SDSR

37% of respondents don’t know how the Quad Nuclear Verification Partnership (QNVP) supports UK disarmament policy as outlined in the SDSR

Source: Author generated.

In comparison, for the UKNI, 46% (32) had no engagement, and for the IPNDV, 34% (24) of respondents had no engagement. If the trends this survey suggests are true, then engagement with the QNVP is lower than with the UKNI and IPNDV, despite it being a key part of the UK’s technical work over the last five years. Although this low level of engagement does not explain respondents’ perceptions on the connection, or lack thereof, between the QNVP and the SDSR, there might be a correlative relationship worth exploring. This could result in respondents not knowing the details of the QNVP’s aims and activities, and thus the inability to compare this with the text from the SDSR provided in the survey. The limited knowledge of this particular initiative could result from limited outward communication by the four governments involved. It could also simply be a result of the QNVP being a newer initiative, meaning it has not had much time for broad engagement, especially with those in the non-governmental community.

These responses imply that the respondents view the UK’s nuclear disarmament policy and technical verification work as broadly coherent, and thus demonstrate the likelihood of a

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Beyond the Disarmament Impasse

A purposeful approach to nuclear disarmament. This might help influence the extent to which the UK’s verification work is viewed as a positive, valuable contribution to the NPT process because it fosters the perception that the UK is taking its disarmament commitments seriously through the development of a coherent strategy. However, this data could cause concern when considering the QNVP, which received the highest number of respondents not knowing how this work contributes to the UK’s disarmament policy. If the UK government believes that coherence is a positive perception it wants to maintain/increase, a more detailed look at how the nuclear community engages with and understands the QNVP might be warranted.

The majority of respondents felt that China was the most important additional actor for the UK to work with on disarmament verification, followed by Russia and non-NPT nuclear-possessing states.

In addition to considering the importance and purpose of technical work in the survey questions, the research team also included questions aimed at exploring how the respondents perceive the impact of this work based on the actors involved. Interestingly, when asked ‘which additional actors, if any, do you think the UK most needs to work with in order to advance disarmament verification work?’, the top three responses were NWS: 56% (39) named China, 49% (34) named Russia, and 46% (32) thought non-NPT NWS.48 NNWS were fourth with 37% (26) of respondents stating that the UK needs to work most with this category to advance disarmament verification work.

48. Neither China nor Russia currently participate in the IPNDV, but they have been observers in the past. Pakistan is an observer. India, Israel and North Korea do not participate or observe.
Figure 4: China, Russia and non-NPT Nuclear States Identified as Important UK Collaborators

- 56% China
- 49% Russia
- 46% Other Non-NPT Nuclear-Possessing States (Israel, North Korea, Pakistan, India)

Source: Author generated.

It should be noted, however, that the survey did not provide the respondents with a definition of what the research team meant by ‘advancing disarmament work’. This could have, therefore, been interpreted by respondents to either mean engaging in further technical advancements, or advancing the impact of the current verification work on the disarmament agenda more broadly, for example, through improving existing relations or encouraging more states to participate in technical initiatives.

Engaging with friendly NNWS in the first instance to explore tools and mechanisms that can be used to reduce distrust between NWS and NNWS is constructive. Although this survey is not comprehensive enough to make definitive conclusions, it suggests that respondents perceive
a gap in the UK’s disarmament policy in its limited collaboration with adversarial nuclear states, and that there might be scope for technical work to expand and contribute to further disarmament progress.

The UK has noted that poor relations with Russia impact nuclear disarmament. Given the potential political benefits technical cooperation has through developing trust and confidence, as previously mentioned, it might be most effective for the UK to engage with Russia on technical work. Of course, the UK cannot impose such an approach on Russia, but it might be worthwhile to consider the circumstances under which collaboration might occur. Such thinking might already be present in internal UK government discussions, especially as they pertain to the purpose of political efforts that are beyond the scope of this paper.

The survey data suggests that, without practical disarmament steps, the perceived value of disarmament verification is at risk of declining.

Although many respondents perceived technical work to have value at present, the data demonstrated that there is a risk that the number of positive responses will decline if steps are not taken to implement practical disarmament measures. However, if practical disarmament measures are implemented, the value of technical verification work would likely increase.

Figure 5: Possible Change in the Perceived Value of Disarmament Verification (2020–30)

At the moment (2020) 37% of respondents do not see the value in disarmament verification. This could increase to 57% by 2030 if practical disarmament steps are not taken.

Source: Author generated.

At present, most respondents see value in technical disarmament verification work whether or not NWS are concurrently taking practical disarmament steps (54%, 38 respondents). However, upon further interrogation of the data, the results from this survey suggest that the positive perception of the majority of participants could be limited to the short term and that there is a risk that more negative perceptions towards the value of technical work could increase across the next two NPT review cycles.

Currently, 37% (26) of respondents do not see value in disarmament verification work. This has the potential to increase to approximately 57% (40 respondents, compared to the 54%, or 38 respondents, that answered verification has value irrespective of practical steps) if those that currently see value change their perception as a result of a lack of practical steps being pursued or implemented. When those who currently see value were asked a follow-up question on what might change their perception from positive to negative, 29% (11) of respondents said their positive perception of disarmament verification work would decline if practical steps were not taken between 2020–25. Three (8%) respondents stated that value would decline if practical steps were not taken between 2020–30. Therefore, without being complemented by practical disarmament steps, there is a risk that the number of those who do not see value in verification work will rise.

The 26 respondents who did not currently see value in disarmament verification work were also asked a follow-up question about what would change their negative perception to a more positive one. The most common answer was that the value of technical verification work will only increase when NWS start to take tangible steps to reduce the number of nuclear weapons, with 18 (69%) respondents giving this response. Therefore, if practical steps were to occur, the majority of respondents in this sample would be more likely to see value in technical verification work.
Conclusions

By conducting a literature review and a survey, this paper examined the extent to which the UK’s prioritisation of disarmament verification is perceived to be a currently valuable contribution by the NPT community, with a focus on Europe as an initial sample.

The literature review suggested that there is a variance in views on the value of disarmament verification to the NPT process and disarmament agenda in the near term, and a clear difference of opinion on when such work should be prioritised. Both the literature review and survey data suggest that for many respondents, verification is not considered an immediate priority for the disarmament agenda or a solution to the most immediate hurdles the progression of nuclear disarmament faces. In the longer term, the value of verification might change depending on the progress of other disarmament efforts.

The survey results indicated a broadly positive view of the UK’s disarmament verification contribution in relation to the disarmament agenda. Although the survey data can neither be considered conclusive nor statistically significant for the subcategories of respondents, three key, tentative findings emerge:

1. Greater experience on nuclear issues is associated with a decline in positive perceptions.
2. Those currently in governmental positions are more likely to perceive verification work as valuable.
3. Without practical disarmament steps being taken in the next two NPT review cycles, the perceived value of disarmament verification work could decline significantly.

The value of technical work is not innate, nor does the benefit of this work exist in a silo. Although these survey results cannot be considered representative of the sub-communities respondents belong to, they have provided some interesting data points to consider. Overall, the survey demonstrates a broadly positive view of the UK’s technical verification work, especially as a necessary activity for the long-term feasibility of nuclear disarmament.

The data gathered has also highlighted some potential shortcomings in the role that technical work plays in advancing nuclear disarmament, and how the QNVP is perceived to be contributing to this. Respondents overwhelmingly stated that China, Russia and non-NPT NWS should be the focus of any expansion of disarmament verification work. Responses also indicated that without efforts to overcome the political impasses in disarmament, the value of technical work is at risk of declining.
As a result of these findings, the UK government should:

- Retain verification as a core part of its disarmament policy.
- Undertake efforts to improve outreach and communication about these initiatives, especially regarding the QNVP and with the non-governmental community. The QNVP has been central to the UK’s disarmament verification work since 2015. Yet, survey responses suggested that engagement with the QNVP was low, and respondents were mostly unsure about how this initiative contributes to the UK’s disarmament policy and goals. Work to improve the perceptions of the QNVP would be worthwhile, especially if the UK intends to keep it as a central feature of its disarmament work. This could include efforts to improve the broader awareness about the aims and activities of the QNVP, especially in the non-governmental community.
- Consider ways in which it might become possible to engage with Russia, China and/or other non-NPT nuclear-possessing states in technical verification work. This could serve as a useful way to understand what the current limitations and opportunities are in this regard, both from the perspective of the UK and that of any potential new collaborators. It should not necessarily become the policy of the UK to prioritise such engagements, but having a better understanding of the context in which this might be feasible might help to identify aspects of these relationships that are limiting current engagements, and highlight potential ways to overcome them.

This work has also identified two key areas that should be considered for future work:

- This survey has not provided insight into why those with governmental affiliations might appear to hold more positive views, or why more experience might correlate with more negative perceptions. Answering these questions will be valuable for shaping government–non-government engagements, as well as for the inclusion of next-generation voices in disarmament processes.
- Without solutions to the political challenges that nuclear disarmament faces, and thus practical steps to further disarmament, technical verification work is at risk of declining in perceived value. It might therefore be worthwhile to consider the value of the political disarmament initiatives the UK is involved in. Does the NPT community see the P5 Process aligning with UK policy set out in the SDSR? Does UK policy currently have an appropriate balance of both technical and political disarmament initiatives?

Improving perceptions of the QNVP and exploring what circumstances might allow for collaboration between the UK, Russia, China and/or non-NPT nuclear-possessing states should be considered the most important outcomes of this work for the UK government. Working on technical questions with Russia, China and/or non-NPT nuclear-possessing states might be a way for the UK to use its experience of technical collaborations to improve political relationships and thus support broader aspects of the nuclear disarmament agenda. Furthermore, ensuring the QNVP is well understood will be important in maintaining both the view that UK disarmament policy is coherent and, subsequently, the positive perceptions of the UK’s technical work.
About the Author

Cristina Varriale is a Research Fellow in the Proliferation and Nuclear Policy team at RUSI. Prior to joining RUSI in 2016, she worked in nuclear policy at the International Centre for Security Analysis and with the British American Security Information Council. Cristina holds an MA in Non-Proliferation and International Security from King’s College London. She was part of the 2018 Nuclear Scholars Initiative at the Center for Strategic Studies, and regularly contributes to media outlets such as BBC World News and Sky News.
Annex I: Survey Questions

Demographics

For how many years have you worked on nuclear issues?
- Three years or less
- More than three years but less than six
- More than 6 years but less than 10
- More than 10 years

What is your nationality?

To which gender do you identify most?
- 
- Prefer not to say
Which of the following, if any, best describes your professional affiliation?
- Non-governmental organisation
- Government i.e. civil service
- Elected representative / Parliamentarian
- Military
- Academia
- Other (please specify) (please specify)

Which best describes the nature of work you do on nuclear issues?
- Civil service / diplomatic
- Advocacy
- Think tank / NGO / Academia
- Military
- Politician
- Other (please specify) (please specify)

Do you consider yourself of a scientific, engineering or technical profession?
- Yes
- No
Survey

Question 1

YouGov

Which of the following, if any, best describes your relationship between the Non-Proliferation Treaty (NPT) and Nuclear disarmament issues with your professional work?

- The NPT and nuclear disarmament issues are the main focus of my professional work
- The NPT and nuclear disarmament issues are a part of my professional work
- The NPT and nuclear disarmament issues are background topics that help inform my work
- I do not work on nuclear disarmament issues
- Other (please specify) (please specify)

Question 2

YouGov

Thinking about the following initiatives, have you...

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Regular participant</th>
<th>Have attended meetings</th>
<th>Used their work to inform my own</th>
<th>None of these</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN Group of Governmental Experts meeting on Disarmament Verification</td>
<td></td>
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<tr>
<td>United Kingdom Norway Initiative (UKNI)</td>
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<tr>
<td>International Partnership for Nuclear Disarmament Verification (IPNDV)</td>
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<td>Oued Nuclear Verification Partnership (ONVP)</td>
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</table>
Question 3

**YouGov**

Which of the following statements, if any, best describes your view on the UK’s position toward nuclear disarmament?

- The UK is genuine about working towards a world free of nuclear weapons and its verification work supports this
- The UK is genuine about working towards a world free of nuclear weapons, but its verification work to date does little to advance this aim
- The UK has done as much as it can to reduce its own nuclear weapons given the slow pace of nuclear disarmament and the security environment
- The UK is not genuine about working towards a world free of nuclear weapons and disarmament verification work is a distraction from addressing other core issues
- Other (please specify) (please specify)
- Don’t know

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Question 4

**YouGov**

Thinking about the following issues likely to be discussed at the 2020 Non-Proliferation Treaty Review Conference in April/May this year, please rank the following issues in order of importance.

<table>
<thead>
<tr>
<th>Issue</th>
<th>1 - Most Important</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8 - Least Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fissile material cut-off treaty</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<td>Disarmament verification</td>
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<td>○</td>
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<td>Conditions for nuclear disarmament</td>
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<tr>
<td>Comprehensive Nuclear Test Ban Treaty</td>
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<tr>
<td>Nuclear risk reduction</td>
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<tr>
<td>Nuclear weapon free-zones</td>
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<tr>
<td>Entry into force of the Treaty on the Prohibition of Nuclear Weapons (i.e. legal bounding)</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Gender in disarmament</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

---
Question 5

YouGov

Is technical verification work useful in the absence of negotiations on a treaty or other agreement in which it is intended to be employed?
- Extremely useful
- Somewhat useful
- Neither useful nor useless
- Somewhat useless
- Completely useless
- Don’t know

Question 6

YouGov

To what extent, if at all, do you either agree or disagree that...
"The technical activities the UK is undertaking is hastening nuclear disarmament in general"?
- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree
- Don’t know
Question 7

YouGov

Which additional actors, if any, do you think the UK most needs to work with in order to advance disarmament verification work? Please select the three most important.

- Non-NPT nuclear weapons possessor states (India, Pakistan, Israel and North Korea)
- China
- France
- Non-nuclear weapons states
- Group of Scientific Experts or equivalent initiative with UN mandate
- UK should continue to engage with the existing initiatives but no new initiatives are needed
- Russia
- Other (please specify) (please specify)
- Not applicable – the UK working with others will have no effect on the advancement of disarmament verification
- Don’t know

Question 8

YouGov

In the 2015 Strategic Defence and Security Review and the 2019 NPT Preparatory Committee meeting, the UK government has clearly outlined that it is a responsible nuclear weapons state committed to the long-term goal of a world without nuclear weapons, and that it will continue to build trust and confidence between Nuclear and Non-Nuclear Weapon States to take tangible steps towards creating an environment where countries with nuclear weapons feel able to relinquish them.

To what extent, if at all, do the following initiatives support the UK’s technical work on disarmament verification the government’s declared nuclear disarmament policy?

<table>
<thead>
<tr>
<th>Initiative</th>
<th>A great extent</th>
<th>Fair amount</th>
<th>To some extent</th>
<th>Not at all</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quad Nuclear Verification Partnership (QNVP)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>International Partnership for Nuclear Disarmament Verification (IPNDV)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>United Kingdom Norway Initiative (UKNI)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>UK-US bilateral work</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Question 9

YouGov

Which of the following, if any, best describes your position on the value of disarmament verification work?

- It is already valuable, even if there currently aren’t any practical steps
- It is currently not very valuable, however it could become valuable if more practical disarmament steps were underway
- The work is ultimately not valuable as nuclear weapons states have no real desire to disarm
- The work is not valuable as I don’t believe disarmament should be a desired goal
- Other (please specify) (please specify)
- Don’t know

Question 10 (a)

YouGov

You said that disarmament verification work is valuable. Which of the following reasons, if any, best summarise why you feel this way?

- Verification work will always have value irrespective of practical disarmament actions
- While I think verification work currently has value, this will start to decline if practical disarmament actions are not begun in the next NPT review cycle (2020-2025)
- While I think verification work currently has value, this will start to decline if practical disarmament actions are not begun within the next two NPT review cycles (2020-2030)
- Other (please specify)
- Don’t know
Question 10 (b)

YouGov

You said that disarmament verification work is not valuable. Which of the following preconditions, if any, would you need to see in order to see value in disarmament verification work?

- Only when nuclear weapons states start to take tangible steps to reduce the number of nuclear weapons again
- Only when disarmament is being negotiated
- Only when a disarmament treaty has been concluded and ratified by nuclear weapons states
- Other (please specify): [blank space]
- Not applicable - do not believe disarmament should be a desired goal
- Don’t know

YouGov

If you have any further comments about the topics raised, please add them here.
Annex II: Survey Demographic Data

<table>
<thead>
<tr>
<th>Professional Affiliation</th>
<th>Number of Respondents (Out of 70)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-governmental</td>
<td>25 (36%)</td>
</tr>
<tr>
<td>Government representatives</td>
<td>12 (17%)</td>
</tr>
<tr>
<td>Parliamentarians</td>
<td>4 (6%)</td>
</tr>
<tr>
<td>Academia</td>
<td>26 (37%)</td>
</tr>
<tr>
<td>Other</td>
<td>3 (4%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nature of Work</th>
<th>Number of Respondents (Out of 70)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil service / diplomatic</td>
<td>10 (14%)</td>
</tr>
<tr>
<td>Think tank / non-governmental organisation / academia</td>
<td>51 (73%)</td>
</tr>
<tr>
<td>Military</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>Advocacy</td>
<td>6 (9%)</td>
</tr>
<tr>
<td>Politician</td>
<td>4 (6%)</td>
</tr>
<tr>
<td>Other</td>
<td>5 (7%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technical, Scientific or Engineering Profession</th>
<th>Number of Respondents (Out of 70)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>19 (27%)</td>
</tr>
<tr>
<td>No</td>
<td>51 (73%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years of Experience Working on Nuclear Issues</th>
<th>Number of Respondents (Out of 70)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three years or less</td>
<td>9 (13%)</td>
</tr>
<tr>
<td>More than three years but less than six</td>
<td>10 (14%)</td>
</tr>
<tr>
<td>More than six years but less than 10</td>
<td>17 (24%)</td>
</tr>
<tr>
<td>More than 10 years</td>
<td>34 (48%)</td>
</tr>
</tbody>
</table>

50. Two respondents were in the ‘other’ category and specified their affiliations as ‘industry’ and ‘publicly funded research institute’.

51. The five respondents that selected ‘other’ specified the nature of their work as: research, technical (two respondents), industry and legal/ diplomatic.
52. This question was set up as free-text box and it was not compulsory to answer. One respondent did not provide an answer to this question.

53. The dual nationalities were French/Swiss and Polish/German.

54. As noted above, answers to this question were provided in a free text box and this reflects the answers provided.

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Number of Respondents (Out of 69)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austrian</td>
<td>1</td>
</tr>
<tr>
<td>Belgian</td>
<td>1</td>
</tr>
<tr>
<td>Czech</td>
<td>1</td>
</tr>
<tr>
<td>Dual national (both European)</td>
<td>2</td>
</tr>
<tr>
<td>Dutch</td>
<td>1</td>
</tr>
<tr>
<td>European</td>
<td>1</td>
</tr>
<tr>
<td>Finnish</td>
<td>1</td>
</tr>
<tr>
<td>French</td>
<td>4</td>
</tr>
<tr>
<td>German</td>
<td>9</td>
</tr>
<tr>
<td>Irish</td>
<td>3</td>
</tr>
<tr>
<td>Italian</td>
<td>8</td>
</tr>
<tr>
<td>Norwegian</td>
<td>3</td>
</tr>
<tr>
<td>Polish</td>
<td>1</td>
</tr>
<tr>
<td>Romanian</td>
<td>1</td>
</tr>
<tr>
<td>Slovakia</td>
<td>1</td>
</tr>
<tr>
<td>Swedish</td>
<td>3</td>
</tr>
<tr>
<td>Swiss</td>
<td>2</td>
</tr>
<tr>
<td>British</td>
<td>19</td>
</tr>
<tr>
<td>Rest of world</td>
<td>7</td>
</tr>
</tbody>
</table>