



Scientific and Technical Collaboration

On nuclear disarmament verification

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Methodology

- The report based on a series of four consultations held in Austria, South Africa, Japan, and Brazil. Each meeting comprised academics, non-governmental and governmental representatives: all were, however, speaking in personal capacity.
- We're grateful for our partners, **VCDNP**, **NPS-Global** and **Tokyo Tech**.
- We're also grateful to the funder, the **Norwegian Ministry of Foreign Affairs**.
- In total, **63 delegates**, not counting our own staff, participated in the meetings.
- The group discussed the merits and pitfalls with the establishment of a **Group of Scientific Experts on Nuclear Disarmament Verification**.
- In addition, one regional delegate were asked to produce one paper on the benefits of scientific and technical collaboration for their own region.

Introduction

- More than a decade of NDV research initiatives.
- To date: **no formal process**.
- Nuclear abolition **will require a verification regime** capable of handling not only the verified dismantlement of nuclear explosive devices, but also the disposition of fissile material, and mechanisms design to prevent the re-emergence of nuclear weapon.
- This will require sustained and predictable **investment**, technical **innovation**, and **increased capacity levels** across all states.
- Future work will also need to **draw on past work** in this area, understand the work of existing initiatives, and **leverage the technical expertise** these groupings contain.
- It would also need to **make use** of the expertise of existing regional organisations.

Introduction, cont.

- The establishment of a multilateral scientific and technical group devoted to the examination of nuclear disarmament verification would have to overcome some challenges, including:
 - the formulation of an agreed **mandate** for a programme of work;
 - the current **lack of existing capacity** to undertake innovative research by many non-nuclear armed states, and especially by countries of the 'Global South';
 - **Lack of agreed understanding** of what nuclear disarmament activities would need to be verified, what processes transparent nuclear disarmament requires, and what steps are entailed to achieve credible and irreversible nuclear disarmament; and, securing sustainable financial resources.
- However, a globally coordinated programme of work would have significant utility in enabling all states—both nuclear armed and non-nuclear armed—to collaborate on both short and long term problems. It would complement and reinforce past and on-going initiatives and partnerships.

Benefits

- **Increase** the international **knowledge-base** of verification options;
- **Enable** all states to **actively collaborate** in developing practical methods that would contribute to the verification of irreversible dismantlement of nuclear weapons, related (including fissile) material and associated facilities;
- **Provide a platform** for long-term sustainability, capacity-building and consolidation;
- **Support sustained dialogue** between technical experts, diplomats and policy-makers within and between the nuclear- and non-nuclear armed states in the quest for agreed verification measures;
- **Be apolitical and accountable**;
- **Foster a sense of ownership and legitimacy**, as all UN members would be provided with the opportunity to participate in ways that take advantage of their existing and potential national expertise and which could also take into account regional contexts.

Utility

- Enhance **cooperation** between states, **reduce tensions** between the nuclear weapon 'haves' and the 'have-nots' and take advantage of the relationships forged between technical experts.
- **Complement** past and on-going initiatives and partnerships such as UKNi, QNVP, IPNDV, the US-UK Technical Cooperation Programme; and salvage the work of the United States/Russian Federation/IAEA Trilateral Initiative.
- Would also increase and **consolidate** the international knowledge-base of verification options and provide a sustainable, inclusive platform for long-term work.
- Would be more **inclusive** than current partnerships and would provide **added value** for the purpose of building global capacity.

Existing initiatives

- Work conducted to date remains incredibly important.
- At present there is **no umbrella forum** to share results.
- Questions arise as to their **sustainability**, coherence **and lack of inclusivity**.
- **Funding** dependent on a few; not able to commit resources indefinitely.
- Desire for a **long-term strategic approach** based on the end-goal of developing an agreed set of tools for nuclear disarmament verification.
- For this, one needs not only **a coordinated approach** but also one that is **comprehensive**, assured of long-term **investment** (funding and other resources) and **inclusive of all stakeholders** globally.

Mandate

- Mandate would aim to enable all states—both nuclear armed and non-nuclear armed—to **collaborate on a near-equal footing** in developing practical methods for the verification of the irreversible dismantlement of nuclear weapons, related material and associated facilities.
- Important to craft a mandate that appeals to states in- and outside the NPT.
- One possibility when formulating the mandate is to borrow language from broadly accepted resolutions. Of principal interest is **UN General Assembly Resolution 71/67** entitled 'Nuclear disarmament verification'.
- A broader remit could be useful if it is used as a '**framework mandate**' under which interested governments could 'request' examination of particular sub-issues, similar to the process under the UN General Assembly's Committee on the Peaceful Uses of Outer Space (COPUOS).

Other challenges

- Relative **lack of existing capacity** to undertake research work on these issues—especially within non-nuclear armed states from the Global South;
- **Lack of mandates** of institutions that could provide scientific and technical expertise;
- **Limited financial resources** available within the UN system.
- Finding sustainable resources, including funding sources, would also present a challenge in a global environment that is financially constrained
- It may therefore need to be funded through a combination of national contributions and a **Voluntary Trust Fund**.

Capacity building

- All states have an **equal right to participate** in the process of international verification of agreements to which they are party.
- Because of this, **medium- to long-term capacity-building processes** and programmes on verification techniques and mechanisms ought to be a key aspect of an international efforts on nuclear disarmament and arms control.
- The need for capacity building is recognised in several forum, such as the NPT review conferences *and* the UN General Assembly.

Leveraging existing expertise

- Nationally, a matter of committing funding, releasing expertise, or receive assistance and exhibit willingness to build capacity for the future.
- The principal challenge when attempting to leverage multilateral expertise on disarmament verification relates to respective organisational **mandates**.
- Regionally, drawing on the European Union's Joint Research Centre (JRC) is an appetizing option as JRC involvement would also include associated organisations, such as the European Safeguards Research and Development Association (ESARDA).
- The Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC) represents a regional centre of excellence in South America.
- Relevant expertise could also be found in functionally related areas, the OPCW technical function closely resembles what one would expect from a nuclear disarmament regime.

Future bodies

- Option A. To continue as before, with principal effort at the national level, supplemented by various research initiatives on the international level.
- Option B. To establish a group that reports to the UN Secretary-General.
- Option C. To establish a group that reports to the UN General Assembly.
- Option D. To establish a group that reports to the Conference on Disarmament.

UNSG/UNHQ option

- That the UN Secretary-General, should investigate the feasibility of establishing such a group in the form of an 'Advisory Group on Nuclear Disarmament Verification' modeled on the Standing Advisory Group on Safeguards Implementation (SAGSI)
- The group should be open to all UN member states, meet at least once a year, and should report to the Secretary-General on a biennial basis, providing:
 - Advice on the technical objectives and implementation parameters of proposed and envisioned nuclear disarmament verification measures, to ensure their technical, legal and political validity; and
 - Advice on technical aspects of proposed multilateral verification arrangements, related to the dismantlement of nuclear weapons, disposition of related material, and the peaceful uses of remaining nuclear assets.
- Costs should be borne by UNODA and supplemented by contributions of participating member states.

UNGA option

- That the UNGA First Committee pass a resolution calling for the establishment of a Group of Scientific Experts on Nuclear Disarmament Verification by the General Assembly.
- A group of scientific experts' scope of work could be derived from the resolution 71/67's operative paragraphs 3 and 4.
- This group would interact with other groups such as the High Level Fissile Material Cut-Off Treaty (FMCT) Expert Preparatory Group.
- Costs should be accessed through the normal UN budget.

CD option

- The Conference on Disarmament (CD) should consider establishing a nuclear disarmament verification working group reporting to it and other relevant bodies (such as the UNGA and the IAEA) on an annual basis.
- A nuclear disarmament verification working group could be composed of two distinct sub-groups: one, composed of scientists focusing on the technical aspects of nuclear disarmament verification and the other consisting of international law experts examining the legal and policy implications of nuclear disarmament verification.
- Membership of these sub-groups should be open to all CD members as well as observer states and other states who request participation.
- Costs should be accessed through the regular UN budget.

IAEA

- The International Nuclear Energy Agency (IAEA) currently has a pivotal role in safeguards verification and potentially could be more involved in disarmament verification.
- The IAEA should proactively offer its services to existing initiatives such as the Quad Nuclear Verification Partnership (QNVP) and the International Partnership for Nuclear Disarmament Verification (IPNDV) as well as the Group of Governmental Experts being established under UNGA/RES/71/67.

Regional organisations

- While regional organisations such as the Agency for the Prohibition of Nuclear Weapons in Latin America (OPANAL), the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC), the European Atomic Energy Community (EURATOM) and the African Commission on Nuclear Energy (AFCONE), may currently not have a mandate to undertake disarmament verification activities, expertise resides within their staff complement.
- As such, these organisations should investigate the possibility of including in their mandates, involvement in multilateral nuclear disarmament verification initiatives.
- Depending on the modus operandi of a group of scientific experts, these organisations could further be tasked to coordinate and undertake research programmes and capacity-building initiatives at the regional level.