

Nuclear Weapons Verification
Text as basis for remarks by Tim Caughley (UNIDIR) at a side-event organised by New Zealand on 3
May 2017 in Vienna during the
NPT Preparatory Committee Meeting

I am grateful to New Zealand for this opportunity to showcase a paper on verification published recently by UNIDIR. This publication is the result of a project funded by the Government of New Zealand, and is available in this room. It can also be found on UNIDIR's website www.unidir.org.

The debate over how to move nuclear disarmament forward

Possible measures and processes for making progress on nuclear disarmament are receiving increasing attention in multilateral diplomacy, notably in this meeting of the NPT, the Prohibition negotiations, the 2016 Open-ended Working Group and in the last session of the UN General Assembly. Irrespective of *how* nuclear disarmament progress is made—and there are many views about that—one thing is universally recognised. That is, that along the path to eliminating nuclear weapons, possessors and non-possessors of those armaments will have to develop and agree on various means of verifying the destruction of nuclear armaments and prohibiting future existence of them and the fissile material that they contain.

In other words, irrespective of the outcome of the debate over the most effective means of taking nuclear disarmament forward, mechanisms will at some point be required to verify the destruction of nuclear armaments and their components. Obviously, nuclear-armed states cannot simply be dispossessed of their nuclear armaments against their will. However committed they may become to a world without nuclear armaments, their views will be integral to the success of negotiations on how to eliminate their arsenals, and they will have to consent to the outcome.

Inevitability of need for verification mechanisms

The inevitable need in due course for verification mechanisms for nuclear weapon elimination is widely appreciated. It is also broadly understood that negotiating those mechanisms is likely to be complex and militarily and politically sensitive. The problems surrounding the launch of negotiations just to ban fissile material production bears witness to that. The unsettled international security environment and the absence of any consensus on making the next moves towards nuclear disarmament are especially troubling. Fostering progress in these circumstances will itself present certain challenges. The question, however, is whether those circumstances should be regarded as an incentive rather than a hindrance for fostering progress. Complex agreements have in the past been reached in unpropitious circumstances (e.g., START 1, the CFE Treaty and the E3+3 agreement with Iran). In any event, we believed that there was scope to carry out a survey of verification experience, precedents and tools on which the international community would be able to draw for taking that particular element of nuclear disarmament forward when that time arrives.

The Survey as a stocktake

Precedents - past and present verification activities and proposals: The objective of this survey is to provide a general overview of past and present verification activities and proposals relevant to the elimination of nuclear weapons. We have looked beyond the current debate on nuclear disarmament towards the development of the mechanisms required to provide assurances that a nuclear-weapon-free world could be achieved and maintained. Reaching these objectives will be challenging, but, as our paper shows, feasible. I refer to chapter 4 of the survey in this regard where 18 key practical verification challenges are listed ranging from costs, to the availability of technical expertise, to baseline declarations, to transparency, intrusiveness and institutional questions. The paper also mentions confidence-building such as the 20-year long pre-negotiation efforts of the Group of Scientific Experts that laid the groundwork for the CTBT.

Definitions: This survey also explains what is meant by 'verification' and outlines the role that verification mechanisms are intended to play in ensuring that international obligations are fulfilled. We summarize—as possible precedents—existing verification commitments of relevance including those contained in treaties covering the two other categories of weapons of mass destruction (biological and chemical weapons). The part played by international organisations in promoting

states' adherence to these obligations, and in trying to hold them to account if they fail to do so, is also covered.

Initiatives by states: In addition, this overview identifies a range of initiatives by states, civil society, and academic and other specialist institutions that can be seen as preparing the ground for future negotiations on verification mechanisms for nuclear disarmament. For instance, we have drawn attention to the United Kingdom-Norway Initiative on dismantlement verification that began in 2007—the pioneering project that brought together a nuclear-weapon state and a non-nuclear-weapon state to collaborate on verification issues. It is significant that Norway and the UK believe that there are no *a priori* legal barriers, such as NPT obligations, to collaboration between nuclear-weapon states and non-nuclear-weapon states.

While the paper surveys the verification landscape, it does not, delve into technical aspects of verification or what the Stockholm International Peace Research Institute (SIPRI) has characterised as 'nuclear forensic analysis'. But it does draw on such initiatives, analogies and precedents to highlight key political and legal challenges to be overcome by the international community in order to provide assurance that obligations to remove nuclear weapons from military arsenals can be verified in practice.

As a result of the adoption by the UN General Assembly last year of Norway's resolution on nuclear disarmament verification, the UN Secretary-General has been asked to seek the views of Member States on the development and strengthening of practical and effective verification measures and on their importance in achieving and maintaining a world without nuclear weapons. UNIDIR's hope is that our survey will prove a useful resource to states as they prepare to submit their views to the Secretary-General.

In conclusion, the complexity and nature of political and military sensitivities around nuclear disarmament verification should not be under-estimated. And, verification will become increasingly complex at lower numbers of nuclear weapons, while requirements for accurately determining compliance will dramatically increase. Nevertheless, as surveyed in UNIDIR's paper, serious efforts are already being made to understand, address and overcome those sensitivities at a practical level.

It's clear from the survey that valuable work is already underway. In our view, it should focus on:

- developing productive ways to build confidence and engender an atmosphere of trust that facilitates increased transparency of all aspects surrounding possession of nuclear weapons;
- mitigating traditional concerns among possessing States and their militaries about intrusiveness into their military complexes, especially nuclear arsenals, to the extent that credible verification mechanisms can be agreed;
- improving understanding of the technical complexities that will arise in developing verification mechanisms and of the scope for new technologies that will allay concerns about intrusiveness;
- given the technical complexities involved, planning for the elimination of nuclear weapons will need to make provision for developing the expertise and skills that will be needed if the effectiveness of verification mechanisms is to be maximized; and
- costing the range of mechanisms and institutions that will be needed for effective verification.

Ultimately, all states, whether possessors of nuclear weapons or non-possessors, will need to be assured that such agreements establish verification processes that are credible, technically feasible and affordable. In the final analysis, the effectiveness of mechanisms that verify the elimination of nuclear weapons will depend on the collective will of the international community to achieve a world without nuclear weapons.