**SWEDEN’s views in response to RES 71/67 “Nuclear disarmament verification”**

**Executive Summary**

Sweden’s recommendations to the group of governmental experts (GGE) are the following:

- Build on, but not duplicate previous bilateral and multilateral initiatives and experiences.
- Important to formulate a clear vision/end result for the GGE. Should the GGE raise awareness or develop concrete methods/arrangements?
- Engagement of P5 and possessor states crucial for success. One added value with the GGE would be the inclusion of possessor states
- The principles of irreversibility, transparency and verification should guide the work
- Recognise that verification is not a goal in itself, but a tool for disarmament
- Strengthen cooperation between NNWS and NWS
- Focus on technical solutions for effective verification, starting from the assumption that there is political will. A concrete task for the GGE could be to assess how verification approaches change when going from high numbers of nuclear weapons to low numbers, and to eventually reach and maintain a world free of nuclear weapons.

**Verification and disarmament**

1. Verification - not a goal but a tool

Sweden supported the General Assembly resolution 71/67 on Nuclear disarmament verification. The Nuclear Weapons States have through article VI in the NPT Treaty undertaken to accomplish the total elimination of their nuclear weapons. While verification is not a goal in itself it is a tool to help build confidence and transparency in disarmament.

Sweden has a long history of working for international disarmament, and not least nuclear disarmament. Our goal is a world free of nuclear weapons. When advocating disarmament we also stress the need for effective verification. Both political will and technical solutions are needed to take disarmament forward.

2. Principles of verification - Irreversibility, transparency and verification

Verification is a necessary part of any disarmament agreement. The principles of irreversibility, transparency and verification should guide the work, as agreed in the 13 steps at the 2000 NPT Review Conference and the 2010 Action Plan. Verification is needed along the way, in connection with every building block we put in place in disarmament and non-proliferation. It is also needed when we have reached zero, to maintain a nuclear weapon-free world.

3. Building on previous experience – focusing on technical solutions

Verification regimes have often been developed as an integral part of arms control treaties, as part of the overall negotiations. A political agreement on the norm has often preceded the development of verification methods and tools, as being the case for the START treaties and the INF Treaty.
There are, however, examples where the technical solutions have preceded and paved the way for a treaty. Technical solutions have in these instances helped to create confidence needed and helped parties to agree politically. The Comprehensive Nuclear-Test-Ban Treaty (CTBT) is such an example. The Group of Scientific Experts (GSE) under the Conference on Disarmament was established under Swedish chairmanship in Geneva in 1982. For 14 years, the expert group elaborated on a comprehensive verification regime that would be capable of detecting all nuclear explosions and that would be able to enforce a total ban on nuclear explosions. The work in the GSE helped make the CTBT that we finally reached agreement on in 1996, a reality. The experiences from the GSE can provide useful guidance when setting up working groups on any future verification regime on disarmament.

When conducting the work in the GGE it would be important to draw on lessons learned from previous verification experience as well as initiatives such as the US-UK technical cooperation for arms control and the UK-Norway initiative. There has also been work done by civil society organizations such as NTI Verification Pilot Project and UK-based Verification Research, Training and Information Centre (VERTIC) in which Sweden has participated.

The GGE should build on but not duplicate what has been achieved within the International Partnership for Nuclear Disarmament Verification (IPNDV). The IPNDV has primarily focused on warhead dismantlement. Sweden is an active member of the IPNDV and co-chair of the working group on Technical Challenges and Solutions. Nuclear warhead verification will require extensive collaboration, technology development and testing of different technologies. The Working Group has built a toolbox of technologies covering different methods, from radiation measurements on the fissile material and the surrounding high explosives, to chain of custody technologies and change detections.

Sweden is also engaged in a multi-year arms control simulation initiative together with the United States, the United Kingdom and Norway called the Quad Nuclear Verification Partnership. The aim is to provide the international community with; Capacity-building, a testbed for exercising and evaluating monitoring technologies, and a model verification protocol.

In order to complement previous initiatives it could, for example, be useful if the GGE were to assess how verification approaches change when going from high numbers of nuclear weapons to low numbers and to eventually reach and maintain a world free of nuclear weapons. For example, the verification intrusiveness and timeliness could be two aspects affected. In addition, the technical solutions would presumably depend on whether the verification is concerned with verifying a reduction of nuclear weapons, a limitation on the total numbers, or verifying that there is no ongoing development or production of nuclear weapons.

4. NWS and NNWS working together

While the Nuclear Weapons States (NWS) bear the responsibility in reducing and eventually eliminating their nuclear arsenals, non-nuclear weapons states (NNWS) also have a role to play in international verification processes to ensure credibility and to ensure that all states and their
citizens have confidence in the process.

As an illustration, it has been key for the credibility of the IAEA that its inspectors come from different corners of the world and routinely perform verification at nuclear sites in member states. The IAEA verification system has also been provided with a broader mandate by the introduction of the Additional Protocol. It is essential for the credibility of the CTBTO that NNWS contribute with monitoring technologies and techniques. Sweden, for example, has developed the noble gas detection system SAUNA, which is crucial for detecting radioactivity emanating from underground nuclear explosions.