Transparency, irreversibility, and verification

Action 2:
All States parties commit to apply the principles of irreversibility, verifiability and transparency in relation to the implementation of their treaty obligations.

Action 5:
The nuclear-weapon States commit to accelerate concrete progress on the steps leading to nuclear disarmament, contained in the Final Document of the 2000 Review Conference, in a way that promotes international stability, peace and undiminished and increased security. To that end, they are called upon to promptly engage with a view to, inter alia:
(g) Further enhance transparency and increase mutual confidence.

Action 19:
All States agree on the importance of supporting cooperation among Governments, the United Nations, other international and regional organizations and civil society aimed at increasing confidence, improving transparency and developing efficient verification capabilities related to nuclear disarmament.

Action 20:
States parties should submit regular reports, within the framework of the strengthened review process for the Treaty, on the implementation of the present action plan, as well as of article VI, paragraph 4 (c), of the 1995 decision entitled “Principles and objectives for nuclear non-proliferation and disarmament”, and the practical steps agreed to in the Final Document of the 2000 Review Conference, and recalling the advisory opinion of the International Court of Justice of 8 July 1996.

Action 21:
As a confidence-building measure, all the nuclear-weapon States are encouraged to agree as soon as possible on a standard reporting form and to determine appropriate reporting intervals for the purpose of voluntarily providing standard information, without prejudice to national security. The Secretary-General of the United Nations is invited to establish a publicly accessible repository, which shall include the information provided by the nuclear weapon States.
Irreversibility, verifiability, and transparency of recent reductions

Treaty obligations for non-proliferation are monitored under the International Atomic Energy Agency (IAEA) safeguards system, but no such international body exists to monitor disarmament efforts under the NPT. Since the adoption of the NPT Action Plan, only three of the five NPT nuclear-armed states have announced reductions of nuclear arsenals.

Information available on nuclear weapons differs greatly between NPT nuclear-armed states. A special concern regarding lack of transparency involves warheads that are not covered by any control regime. For example, information on the stockpiles of tactical nuclear weapons (TNW) for Russia and United States is not available or is cursory. Further transparency and confidence-building measures from all NPT nuclear-armed states are limited.

China

China has not reported any reductions since the 2010 NPT Action Plan was adopted. According to a recent article in the Bulletin of the Atomic Scientists, China even is slowly increasing the size of its nuclear weapons arsenal.6

Further measures

China's 2013 white paper does not give any official data on China's nuclear stockpile. China has never released any official data on its nuclear arsenal1 and any discussion of the Chinese inventory is based on estimates made by Western governments and non-governmental organizations.

France

France has not carried out any reductions of nuclear warheads since the adoption of the 2010 NPT Action Plan. But it has been reported that the French stockpile is expected to decrease to around 290 warheads within the next few years.7 No plan for the verification or irreversibility of this reduction has been reported.

Further measures

France has released the total numbers of all its nuclear weapons, not just deployed ones, through public speeches and legal documents attached to procurement laws and defence budgets.4 It has also dismantled the fissile material production facilities in Marcoule and Pierrelatte as well as former nuclear testing facilities, in a reportedly transparent manner.5

Russian Federation and the United States

The New Strategic Arms Reduction Treaty (START) data exchange, which, under the terms of the Treaty, had to take place within 45 days of its entry into force, indicates that Russia had 1,537 deployed strategic warheads, 521 deployed strategic delivery vehicles, and 865 launchers. The United States had 1,800 deployed strategic warheads, 882 deployed strategic delivery vehicles, and 1,124 launchers. From February 2011, both countries have seven years to meet the Treaty's targets. The data are to be updated every six months.7 On-site inspections offer access to additional data on missiles and bombers. When an intercontinental ballistic missile, submarine-launched ballistic missile, or air base is inspected (which may take place up to ten times each year, as noted above), in what the Treaty labels "Type One" inspections, the inspectors will be told and shown where each missile is and told how many warheads are deployed on it.

The verification system for New START has been called “the most intrusive verification system ever implemented for counting nuclear warheads” and for the first time includes verification of actual deployed warhead numbers, rather than counting delivery vehicles as carrying a pre-determined number of warheads based on maximum loading.

But, it has also been noted that while the Treaty reduces the legal limit for deployed warheads, it does not impose a reduction in the number of warheads, as no limits are set for non-deployed warheads (the Treaty does not require the destruction of non-deployed warheads). Additionally a new counting regulation attributes one weapon to each bomber, rather than the actual number of weapons assigned to the bombers. It has been argued by nuclear experts that such “fake counting rules free up a large pool of warhead spaces under the treaty limit that enable each country to deploy many more warheads than would otherwise be the case.”8

New START lacks any requirements for warheads to actually be dismantled or destroyed. While it does mark a significant departure from the system of counting “attributed” warheads, it is only through the actual dismantlement of warheads and destruction of their fissile material components and delivery vehicles that disarmament can realistically be irreversible.9

Further measures

Public information on Russia's nuclear weapons is limited. Russia's strategic nuclear weapons are thought to be on Russian soil, but there is no available information on the numbers or location.10 Also, the availability of information on non-strategic nuclear weapons is limited. However, the US and Russia have, through the entry into force of New START, exchanged information on strategic nuclear weapon delivery systems.11

The United States has released the most detailed information on its nuclear weapons, although it does not reveal deployment locations or exact numbers of total inventory of warheads.12 In May 2010, the United States revealed the total size of its operational nuclear stockpile. In January 2014, it released the full aggregate numbers of strategic offensive arms under New START. The data comes from the biannual exchange of data required under New START.13 At the NPT Preparatory Committee in New York in May 2014 the United States announced its updated "active" nuclear warhead numbers of 4,804, reflecting a reduction of 309 warheads since 2009.14
On 4 December 2014 the United States announced the creation of the International Partnership for Nuclear Disarmament Verification. The partnership is based on collaboration between both nuclear-armed states and non-nuclear-armed states in order to better understand the technical problems of verifying nuclear disarmament agreements, and to develop solutions. The initiative will expand on the work already done by the United Kingdom and Norway and the Nuclear Threat Initiative will be a main partner.15

United Kingdom

In May 2010, the United Kingdom announced for the first time the approximate size of its nuclear stockpile, and provided some information of the operational status of warheads.16 Describing what he called a “more open” policy, Foreign Secretary of State, William Hague said Britain’s total number of nuclear warheads would not exceed 225, including the maximum 160 already declared as “operationally available”. Later that year, on 9 June 2010 the Foreign Office Minister Alister Burt stated, “We have no plans to establish procedures to allow the international community to verify the UK’s nuclear warhead stockpile.”17 In January 2015, it was announced to the British Parliament that all submarines “on continuous at-sea deterrent patrol now carry 40 nuclear warheads and no more than eight operational missiles. We have therefore achieved our commitment to reduce the number of operationally available warheads to no more than 120.”18

Further measures

The United Kingdom, together with Norway, has conducted research on the verification of warhead dismantlement. This UK-Norway initiative started in 2007 and is monitored by the Verification, Research, Training and Information Centre (VERTIC). The project’s main goal is to investigate the verified dismantlement of nuclear warheads and to formulate recommendations for future work. The UK-Norway process has also inspired new projects currently in development by several countries19. In December 2010, the United Kingdom hosted a workshop in London to share experiences with non-nuclear weapons states20 and in April 2012 the UK hosted a similar meeting to share the outcomes of the research project with the other NPT nuclear-armed states.21 During 2013, VERTIC published a briefing paper on “Nuclear disarmament verification: the case for multilateralism”22 and a representative participated in a panel to the OEWG in May.23

NPT nuclear-armed states “confidence-building efforts”

None of the five NPT nuclear-armed state have published a full account of specific nuclear weapons modernization programmes and their costs. The official statement from the NPT nuclear-armed state Paris meeting in 2011 indicated that they “continued their previous discussions on the issues of transparency and mutual confidence, including nuclear doctrine and capabilities, and of verification, recognizing such measures are important for establishing a firm foundation for further disarmament efforts.”24 In their joint statement from June 2012, they informed about their continued discussion on above mentioned topics and added they “will continue their discussions in multiple ways within the P5, with a view to reporting to the 2014 PrepCom, consistent with their commitments under Actions 5, 20, and 21 of the 2010 RevCon final document.”25 After their meeting in April 2013, they again confirmed this commitment and stressed “the importance of this work, which will increase P5 mutual understanding and facilitate further P5 discussions on nuclear matters.”26 During the meeting they shared information on their respective experiences in verification and decided to continue such exchanges.27 Similarly in April 2014, the NPT nuclear-armed states continued their discussions and shared information on transparency, confidence-building measures, and experiences in verification as well as shared their reports for the 2014 PrepCom. 28

Regular reports under the NPT

Step 12 of the 13 Practical Steps for the implementation of Article VI adopted by the 2000 NPT Review Conference calls for regular reports by all states parties on the implementation of Article VI and paragraph 4 (c) of the 1995 Decision.

In the lead up to the 2010 NPT Review Conference, only 23 out of 189 states parties submitted such national reports. China and Russia were the only two NPT nuclear-armed states to do so. So far only seven non-nuclear-armed states29 have submitted reports to the current review cycle. The reports focus on the implementation of the 2010 outcome document and those of previous Review Conferences, the implementation of Article VI of the treaty and the establishment of the zone free of nuclear weapons and other weapons of mass destruction in the Middle East.30
Reporting by the nuclear weapons states

While several of the NPT nuclear-armed states disclose information about their nuclear weapons reductions, each of them has different counting rules on their arsenals, which complicates comparisons.32

The issue of reporting was mentioned in the joint NPT nuclear-armed states statement from their Paris meeting in June 2011. The statement said that the NPT nuclear-armed states “met with the determination to work together in pursuit of their shared goal of nuclear disarmament under article VI of the NPT, including engagement on the steps outlines in action 5, as well as reporting and other efforts called for in the 2010 Review Conference Action Plan.”33 During their Washington meeting in June 2012, they “continued their previous discussions on the issues of transparency, mutual confidence, and verification, and considered proposals for a standard reporting form.”34

In the joint statement after their fourth meeting in Geneva in April 2013, the NPT nuclear-armed states reaffirmed their advancement on “discussions of an approach to reporting on their relevant activities” as well as their objective to submit a “glossary of key nuclear terms” to the 2015 NPT RevCon.

In accordance with the 2014 reporting deadline set by the Action Plan the five NPT nuclear-armed states submitted their reports on implementation of action 5, 20, and 21 of the NPT action plan. The reports follow a fixed set of headings but the content varied widely and limitedly new facts were shared mainly covering past activities before 2010 and each states focusing on certain issues only.35

A report by the Royal United Services Institute for Defence and Security Studies argues that the lack of progress in the NPT nuclear-armed states process is due largely to the complex relationships among the NPT nuclear-armed states, which make some reticent to alter their current policies. Domestic constraints continue to limit what the NPT nuclear-armed states are willing to do in the course of these discussions, which has “led the group to begin work in those areas considered relatively easy,” note the report authors. They point out that transparency among the NPT nuclear-armed states remains elusive and that the lack of outcomes and progress has led to skepticism about the utility of the NPT nuclear-armed states “process”.36

On 22 September 2010,37 the NPDI was formed.38 In 2011, NPDI developed a draft standard nuclear disarmament reporting form, as promoted by action 21 in the Action Plan. The reporting form has been shared with the five NPT nuclear-armed states during their meeting in 2011 in Paris but has not received any official response from the five NPT nuclear-armed states.

It was submitted as a working paper to the 2012 PrepCom.39

The United Nations Office for Disarmament Affairs has set up a website to function as a repository of information provided by the NPT nuclear-armed states in accordance with the 2010 NPT Action Plan, where the 2014 reports are made available.40

The International Panel on Fissile Material (IPFM) has focused on measures to increase transparency of nuclear warhead and fissile material stocks in its latest Global Fissile Material Report from October 2013.41 Among other things, IPFM proposes that nuclear-armed states could make baseline declarations of the total numbers of nuclear warheads in their possession as of a specific date and commit to subsequent annual updates; they could agree on a shared terminology with regard to nuclear warheads and all related aspects; all non-military fissile material could be placed under IAEA safeguards; and approaches for verifying warhead dismantlement could be developed.42

For more information on verification and irreversibility, please see chapter on nuclear material.

References:

2. I. Kearns, Beyond the United Kingdom: Trends in the Other Nuclear Armed States, BASIC paper, November 2011, p. 9.
The NPT Action Plan Monitoring Report March 2015


10 Ibid.

11 Ibid, p. 3.

12 Ibid, p. 5.

13 U.S. Department of State, New START Treaty Aggregate Numbers of Strategic Offensive Arms, 1 January 2014.


16 For more information go to US Department of States Fact Sheet; http://www.state.gov/r/avc/rls/234680.htm.


19 Written Ministerial Statement by UK Secretary of State for Defence, Mr Michael Fallon, delivered to parliament by the Parliamentary Under-Secretary of State, Ministry of Defence, Lord Astor of Hever, on 20 January 2015; http://www.publications.parliament.uk/pa/ld201415/ldhansrd/text/150120-wms0001.htm (retrieved 2015-02-08), column WS103 and 104.


21 Statement in UNGA First Committee, delivered by United Kingdom on 7 October 2011.


28 Ibid.


30 Algeria, Australia, Austria, Brazil, Canada, Chile, China, Cuba, Finland, Iran, Ireland, Japan, Kazakhstan, Mexico, Morocco, New Zealand, Norway, Poland, Republic of Korea, Russian Federation, Sweden, Ukraine, and Uruguay.

31 Australia, Austria, Canada, Islamic Republic of Iran, New Zealand, Republic of Korea, and Switzerland.


33 I. Kearns, Beyond the United Kingdom: Trends in the Other Nuclear Armed States, BASIC paper, November 2011, p. 9.


38 Berlin Statement at the Conference on Disarmament, CD/1908, delivered by Foreign Ministers on nuclear disarmament and non-proliferation on 17 May 2011.

39 Australia, Canada, Chile, Germany, Japan, Mexico, the Netherlands, Poland, Turkey and the United Arab Emirates. In September 2013 Nigeria and the Philippines joined the group.

40 UN Document NPT/CONF.2015/PC.I/WP.12, Transparency of nuclear weapons: the Non-Proliferation and Disarmament Initiative.
