Australia’s views on a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices

Summary

An effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices, a Fissile Material Cut-Off Treaty (FMCT), has the potential to deliver substantial benefits for the security of all States, furthering the twin goals of nuclear disarmament and nuclear non-proliferation.

Australia sees the Group of Government Experts (GGE) established through General Assembly resolution 67/53 as a valuable opportunity. Technical work to develop practical elements for a treaty can be advanced without touching on broader political issues. This should be the case, for example, for many aspects of verification of a treaty.

Australia considers that the key undertaking of States Parties to an FMCT should be not to produce fissile material for nuclear weapons or other nuclear explosive devices. Parties would also dismantle or convert to other uses facilities formerly used to produce fissile material for nuclear weapons purposes. Australia would support the inclusion in the treaty of provisions on stocks of fissile material, whether produced for civil or military purposes. Such provisions should address the status of pre-existing stocks, as well as mechanisms under which States could choose to submit excess military stocks to irreversible peaceful use and verification commitments.

Fissile materials whose production would be controlled by an FMCT should be those relevant to the manufacture of nuclear weapons or other nuclear explosive devices. A good basis for discussion of what constitutes such material is the definition of “direct-use materials” used by the International Atomic Energy Agency (IAEA).

Australia considers that the cost-effective verification of an FMCT could best be achieved by focusing on facilities for enrichment of uranium and for separation of plutonium, including those formerly used for nuclear weapons purposes, and on facilities processing or using fissile material subject to the treaty. We recognise nevertheless that it may be necessary also to gain assurance of compliance through declaration and inspection of some other nuclear material and activities. Verification against undeclared production of relevant fissile material would need to be an essential element of the treaty. Australia notes that most of the verification requirements of a treaty could already be met for many States Parties by the application of comprehensive IAEA safeguards together with an Additional Protocol that meets the requirements of INFCIRC/540.

Introduction

1. Australia welcomes the establishment through General Assembly resolution 67/53 of a Group of Government Experts (GGE) on possible aspects of a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices. Australia believes that the cessation for all time of the production of fissile material for nuclear weapons is a key milestone toward our goal of achieving and maintaining a world without nuclear weapons. To this end, a Fissile Material Cut-Off Treaty
(FMCT) with effective verification provisions has the potential to deliver substantial benefits for the security of all States, furthering the twin goals of nuclear disarmament and nuclear non-proliferation. An effectively verifiable ban on the production of fissile material for use in nuclear weapons and other nuclear explosive devices would not be an end in and of itself. However, the conclusion of an FMCT will be a significant step in irreversible nuclear disarmament.

2. As a leading exporter of uranium, Australia has long been a strong and active advocate for measures to ensure that nuclear material supplied for use in civil nuclear activities is not diverted for use in nuclear weapons. IAEA safeguards already play a key role here, but these would be materially strengthened by an effectively verifiable ban on the production of fissile material for use in nuclear weapons and other nuclear explosive devices. More broadly, Australia contributes actively to efforts in international fora to develop and strengthen nuclear arms control measures, both at political and technical levels. Australian experts lead groups developing particular verification policy and procedures for the International Atomic Energy Agency (IAEA) and the Comprehensive Nuclear-Test-Ban Treaty Organization.

3. Australia regrets that the Conference on Disarmament (CD) remains unable to commence negotiation of an FMCT, including in fulfilment of the consensus decisions of the NPT States Parties in 1995, 2000 and 2010 and as provided for in CD/1864. Australia continues to support efforts to start negotiation. Although negotiation of an FMCT continues to be delayed, Australian experts have consistently contributed to discussions on the issue both inside and outside the CD. Australia has developed and presented concepts and approaches that we consider could be part of the framework of a future treaty, including in CD/1895 and CD/1896 and in particular in relation to verification. In this paper, we further outline these concepts and approaches to reflect Australia’s preferences, but also to help provide a vision for many aspects of a treaty.

4. Australia sees the GGE as a valuable opportunity. The 2011 Australia-Japan FMCT Expert Side Events in Geneva (whose reports are contained in CD/1906, CD/1909, CD/1917 and CD/1919) demonstrated the potential for useful expert work to develop options for particular aspects of a future treaty. Australia considers that many of the matters discussed and issues raised under that initiative could offer useful starting material for the work of the GGE. Technical work to develop practical elements for a treaty can be advanced without touching on broader political issues. This should be the case for many aspects of verification of a treaty. For example, options for definitions and routine verification under an FMCT could be outlined through technical work and could be developed as discrete tasks. Possible parameters for more sensitive aspects of verification might also be explored and options proposed.

**Summary of Australia’s views on an FMCT**

*BASIC UNDERTAKINGS*

5. Australia considers that the key undertaking of States Parties to an FMCT should be not to produce fissile material for nuclear weapons or other nuclear explosive devices. Parties would also dismantle facilities formerly used to produce fissile
material for such purposes, or convert these for permitted uses. Parties should commit to demonstrate compliance with this through appropriate verification measures.

6. Australia would support the inclusion in the treaty of provisions on stocks of fissile material, whether produced for civil or military purposes. Such provisions should address the status of pre-existing stocks, as well as mechanisms under which States could submit excess military stocks to irreversible peaceful use and verification commitments. Provisions should also aim to avoid the production of excessive stocks of fissile material for civil purposes where this may pose a risk to the object and purpose of the treaty.

What is fissile material and what is production?

7. Australia considers that the fissile materials whose production would be controlled by the treaty should be those relevant to the manufacture of nuclear weapons or other nuclear explosive devices. Broadly speaking, these are high enriched uranium (HEU), plutonium-239 and uranium-233. Consideration should also be given to whether certain isotopes of americium and neptunium should be included in the definition of relevant fissile material.

8. The definition of fissile material should be clear and practical. A good basis for discussion of such a definition is the definition of “direct-use materials”, which is used by the IAEA for safeguards purposes to refer to nuclear material that could be used for the manufacture of nuclear explosive devices without transmutation or further enrichment.

9. Proscriptions on the production of fissile material for nuclear explosive use should apply to production activities relevant to the manufacture of nuclear weapons. These are enrichment of uranium in the U-235 isotope to produce fissile material and separation of plutonium-239 or uranium-233 from irradiated material.

10. Australia notes that although definitions applied by the treaty to proscribe production of fissile material for nuclear explosive use should be explicit, and might be relatively narrow in scope, nuclear materials and activities outside these definitions might also be relevant for effective verification of the proscription.

Verification

11. Australia considers that appropriate and effective verification arrangements for a treaty would be vital to the full realisation of the benefits of a ban on the production of fissile material for nuclear explosive use. Each State Party to the treaty would need to commit to demonstrate its compliance through such arrangements by providing information on certain activities, as well as inspection access rights, to a designated verification agency.

12. Australia considers that verification of the treaty would need to address four main objectives:

(a) that any production of fissile material is as declared;
(b) that fissile material that is subject to the treaty is not diverted for use in weapons;
(c) the absence of undeclared production of fissile material; and
(d) conversion or dismantlement of fissile material production facilities formerly used for nuclear weapons purposes.

13. Australia considers that to facilitate verification, each State Party to the treaty would need to provide declarations and information about fissile material and related facilities and activities to a verification organisation, and provide the organisation access to these through inspections and related measures.

14. Australia considers that cost-effective verification of the treaty could best be achieved by focusing on facilities for enrichment of uranium and for separation of plutonium, including those formerly used for nuclear weapons purposes, and on facilities processing or using fissile material subject to the treaty. We recognise nevertheless that effective verification may require assurance of compliance through declaration and inspection of some other nuclear material and activities. We note, for example, that monitoring of enriched uranium in the form of uranium hexafluoride, even if it does not meet the definition of fissile material for nuclear explosive use, could be part of the verification of fissile material production activities.

15. The detection of undeclared production of fissile material would be an essential element of verification for an FMCT. In order to gain assurance in this area, a verification organisation would gather additional information about nuclear and related activities. In addition to providing appropriate declarations, each State Party would allow inspection access, including on short notice and at undeclared locations. Environmental sampling and monitoring measures would be essential elements of this verification.

16. Australia anticipates that in addition to routine inspection processes, additional measures would be applied from time to time to clarify specific compliance concerns. A range of options could be available, including consultation and clarification procedures, short notice inspections and special inspection processes such as challenge inspection (i.e. an inspection called at the request of a State Party).

17. Special arrangements would be appropriate under the treaty for declaration and verification of fissile material and activities used in military non-explosive purposes, including naval propulsion, in order to verify that such material was not diverted for nuclear explosive use.

18. Australia recognises that some verification measures could be considered by a State Party to be intrusive in that they posed a risk for unauthorised disclosure of sensitive information unrelated to the purpose and objective of the treaty. It would be important therefore that effective managed access measures were available to prevent the disclosure of such information, and that any sensitive information disclosed through verification activities was adequately protected.

19. Australia notes that discussion will be required to determine appropriate institutional arrangements for implementation and verification of the treaty. It is clear, however, that much of the needed machinery and verification tools already exist in the
IAEA. In particular, Australia notes that most of the verification goals of a treaty could already be met for many States Parties by the application of comprehensive IAEA safeguards together with an Additional Protocol that meets the requirements of INFCIRC/540.

*Entry-into-force*

20. Australia considers that the provisions of the treaty should not be such as to delay its effective implementation if some States have not yet ratified. In this respect, we note that a significant majority of States have already committed to most of the undertakings likely to be required under the treaty through adherence to the NPT and IAEA safeguards.