Fissile Material Cutoff Treaty:
Views of the United States of America, pursuant to UNGAR 67/53 (2012)

Introduction
The United States believes that achieving a Fissile Material Cutoff Treaty (FMCT) would be an important milestone for nuclear nonproliferation, and is the next logical step in multilateral nuclear disarmament. The United States believes the fundamental obligation of an FMCT should be to ban the production of fissile material for use in nuclear weapons or other nuclear explosive devices. The FMCT text would need to define what “fissile material” is and what constitutes “production.” A number of supporting definitions would also have to be established. Finally, a verification regime would need to be negotiated as part of the treaty.

Definitions
Fissile Material is not a term defined explicitly in existing international agreements. As a focus for safeguards, the IAEA defines “special fissionable material” as, among other things, plutonium-239, uranium-233, and uranium enriched in U-233 or U-235. The IAEA also uses the term “direct-use material” to describe “nuclear material that can be used for the manufacture of nuclear explosive devices without transmutation or further enrichment”; this term covers U-233, “high enriched uranium” (uranium enriched to more than 20% U-235), and plutonium containing less than 80% Pu-238. It is these direct-use materials that would have to be captured in the definition of “fissile material” under FMCT.

The so-called Alternate Nuclear Materials – neptunium and americium – could also, in principle, be used in nuclear weapons. These materials have been considered by the IAEA in terms of their proliferation risk. The IAEA Board has not decided to define these as “special fissionable material” or to apply safeguards to them, but it has implemented measures to monitor their accumulation in non-nuclear weapon states, including monitoring their separation and international transfers. The United States does not believe that americium should be considered fissile material under an FMCT, and is still considering how neptunium should be treated under the FMCT.
For the definition of Production, highly enriched uranium is produced via isotopic separation, while plutonium and U-233 are produced via chemical separation of irradiated nuclear material. Enrichment and reprocessing then are the processing “choke points” necessary and sufficient to create weapons-useable fissile material. The United States believes that “production” of fissile material should be defined in terms of these key processes. While one could define production of plutonium in terms of irradiation, this would involve the monitoring of a large amount of spent fuel at hundreds of reactors, material which would in any event be accounted for at reprocessing plants if it were separated into a weapon-usable form. As a practical matter, the United States sees little benefit to monitoring large quantities of material that are not directly usable in nuclear weapons in states that have pre-existing stocks of separated fissile material.

Enrichment and reprocessing have important peaceful applications, which FMCT would not ban. Thus a treaty verification regime that monitored the output of all reprocessing and enrichment plants, and tracked any fissile material produced by those processes to provide assurance that it was not being used in weapons, would verify the production ban as described. There will have to be consideration of just how pure the output of a separation process must be in order to be material captured under the treaty.

It follows then that the FMCT will require the declaration of Production Facilities, including enrichment and reprocessing plants, as subjects of monitoring. It will be important to clearly identify and define what types of facilities constitute enrichment or reprocessing plants. The definition should incorporate thresholds for throughput level and the operational status of the facility. It probably does not make sense to consider analytical instruments to be subject to routine monitoring, even though they may separate very small quantities of fissile material.

Scope of the Treaty
The United States recognizes that there are differing views on the issue of the scope of an FMCT, in particular whether it should cover existing stocks of fissile material. This is a legitimate point for negotiation, a fact explicitly recognized in the Shannon Mandate and Report. However, the United States believes that inclusion of existing stocks will make an FMCT much more difficult to negotiate. Linkage of a cutoff to reductions in existing stocks will make both harder to achieve. Instead, the United States believes that existing stocks should continue to be dealt with through voluntary measures separate from an FMCT. Much progress
has been made in measures to eliminate existing stocks, and further progress should not be hampered by linkage to FMCT negotiations. The United States continues to consider voluntary measures it might take to address existing stocks.

One example would be the United States and Russia’s Plutonium Management and Disposition Agreement (PMDA). PMDA calls for the irreversible elimination of at least 34 metric tons of plutonium by each country. The United States, Russia and the IAEA are now working together to develop an IAEA verification regime for PMDA.

**Verification**

The goal of the FMCT verification regime would be to provide assurance that the basic undertakings of the Treaty are adhered to, and to detect and deter noncompliance. This includes verifying that newly produced fissile material is declared, accounted for, and not diverted for use in nuclear weapons or any other nuclear explosive device thereafter, and verifying that all defined production facilities are declared.

Consistent with our definitions for “production” and “production facilities,” monitoring would start at enrichment and reprocessing facilities, and would track the movement of any new fissile material produced in those facilities.

The United States believes that the verification regime of an FMCT ought to be clearly defined during treaty negotiations; an agreed verification protocol or model verification agreement will be essential for a credible FMCT.

The IAEA is well-positioned to carry out the verification and monitoring functions of FMCT. Routine monitoring of these materials and facilities, using the established techniques of IAEA safeguards – nuclear material accountancy, containment and surveillance, and related measures – should suffice. In some cases the objectives of FMCT monitoring might be somewhat different than those of NPT safeguards. For example, the monitoring of LEU-declared enrichment plants where no fissile material is present would focus on verifying non-production of HEU. However, the IAEA is well-equipped to carry out such activities, and the United States anticipates that the IAEA would fulfill this role for the FMCT.

Monitoring of fissile material could terminate at or after certain stages, for example, when it is verified that highly enriched uranium has been down-blended to low-enriched uranium. Monitoring could also terminate when fissile material is sufficiently irradiated so that it would have to be reprocessed to separate out
weapons-usable material. There could be other reasons for termination of monitoring; for example dilution, or consumption.

Other measures beyond routine monitoring would be needed to verify that all defined production facilities are declared. How such non-routine inspections would be initiated and carried out would need to be considered in the negotiations. In all cases, verification procedures would need to protect confidential or sensitive information. Thus a “managed access” protocol would need to be developed for this purpose.

Organizational Issues
The United States assumes that an FMCT would need organizational arrangements, such as a periodic conference of States Parties that would allow those states to participate in and assess the implementation of the treaty. Beyond this, the FMCT will require organizational arrangements that allow it to carry out its ongoing verification provisions, including some means of conducting inspections and acting on the results of those inspections.

The United States believes that the IAEA is best suited and should be responsible for carrying out FMCT monitoring and inspections, and is considering ways to implement FMCT verification goals as part of the IAEA’s mission. There is no need to establish a new, independent organization that duplicates much of the IAEA’s expertise and capabilities. However, there would remain a need for higher-level decision-making on issues such as: broad policy for verification implementation, making and acting on findings of non-compliance, budgeting for verification, and reviewing Treaty implementation. The IAEA Board of Governors carries out these functions with respect to NPT-mandated safeguards, but whether decision-making related to the FMCT could also rest solely with the IAEA Board would have to be considered in light of the possibility that the makeup of the IAEA Board and States party to the FMCT could be different.

In principle, following the model of the Chemical Weapons Convention, the FMCT could also establish an FMCT Organization (FMCTO) drawn from States Party to the Treaty, with an Executive Council for decision making and a permanent Secretariat for administrative support, while still relying on the IAEA to implement FMCT verification measures. However, while an FMCTO could ensure that the FMCT decision making process is tailored to the unique circumstances of the Treaty, it would also raise questions of overlapping responsibilities between the IAEA Board and the FMCTO Council. Moreover, the IAEA Statute establishes a relationship between the IAEA and its Board of
Governors, and that relationship could not be altered by the creation of an FMCTO.

Duration and Entry into Force (EIF)
The U.S. does not believe it is necessary to lock in a position on the Treaty’s term at an early stage. This would be an appropriate subject for negotiations. The United States intends to support a term of long duration.

Though it will also be a subject for the negotiations, the United States believes that accession by the five NPT nuclear weapon states should be sufficient to bring the FMCT into force. Pressing for additional ratifications for the treaty to enter into force could further delay the start of negotiations. Ultimately, requiring additional ratifications could delay the entry into force itself.