

## Fissile Material Treaty: Negotiating Approaches

Tariq RAUF

Five years have elapsed since United Nations General Assembly resolution 48/75L, of 16 December 1993, called for the negotiation of a non-discriminatory, multilateral and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons and other nuclear explosive devices, in the most appropriate forum.<sup>1</sup> The Conference on Disarmament (CD) then decided on 25 January 1994 to appoint a Special Coordinator to solicit the views of the CD membership on such a treaty, and that it was the appropriate forum. After much confused and muddled discussion among CD members, a weak and incomplete negotiating mandate was finally agreed on 23 March 1995 just a few weeks prior to the opening of the 1995 Nuclear Non-Proliferation Treaty (NPT) Review and Extension Conference. The 24 March 1995 report of the Special Coordinator (CD/1299), Ambassador Gerald Shannon of Canada, contained an agreed mandate that basically repeated the operative language from resolution 48/75L together with the understanding that all issues pertaining to scope could be addressed in the context of the treaty negotiation — hence, the key differences were fudged, and the Shannon report and mandate reflected the maximum agreement possible at the time, given the sharp differences in the negotiating positions of states as well as in their objectives for a fissile material control treaty (FMT).

Both resolution 48/75L and the “Shannon report and the mandate contained therein” essentially glossed over certain crucial issues relating to the negotiation of any non-discriminatory and multilateral treaty controlling weapon-usable fissile material. Differences over the scope and other important issues prevented the adoption of any other General Assembly resolutions from 1994 through 1997, and stymied any progress at the CD until 11 August 1998 when preliminary negotiation started on the basis of CD/1299. On 4 December 1998, General Assembly resolution 53/771 was adopted by consensus and it encouraged the CD to resume negotiation on a FMT during its 1999 session on the basis of the Shannon report and its mandate — thus, in reality, while important progress has been achieved in reaching agreement at the CD on the expertise of Ambassador Mark Moher (Canada) to chair an Ad Hoc Committee on a FMT, in terms of the mandate we are no further ahead than the compromise of March 1995 and none of the key differences in approach, scope, objectives, etc. for such a treaty have been bridged.

While the article in this issue of *Disarmament Forum* by Victor Bragin and John Carlson deals with significant divisions in the scope debate, for the purposes of the present discussion it would be

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Tariq Rauf is Director of the International Organizations and Nonproliferation Project (IONP) at the Center for Nonproliferation Studies, Monterey Institute of International Studies. Currently he is working on issues relating to the future of the NPT regime, nuclear arms control and non-proliferation, regional security in the Asia Pacific and disposition of excess weapons fissile materials. The views expressed in this paper are purely personal and do not represent the views of any organization.

useful to list some of the basic issues underlying the scope of obligations for a FMT, some of which are:

- verifiable production halt;
- assured prevention of diversion of civilian fissile material to weapon use;
- verified accounting of all past production;
- assured prevention of rededication of excess weapons fissile material for reuse for military purposes;
- prohibition on sequestering weapon-usable fissile material for future military use; and
- inventory control and safeguarding of all existing stocks of weapon-usable fissile material (except for material contained within intact warheads, or material already especially manufactured for warheads but not yet shaped into cores/pits).

The present situation regarding unsafeguarded production of weapon-usable fissile material is that the United States, the United Kingdom and France have separately and unilaterally ceased production, while only France has permanently retired its production facilities. The Russian Federation claims that it is not producing, however two plutonium production reactors will remain operational at least until 2000. China's position remains unclear, though unsubstantiated high-level reports suggest a production moratorium. Both India and Pakistan apparently are still building up stocks, and Israel's position remains unclear. Production and/or use of highly enriched uranium (HEU) and plutonium in all other countries is under NPT-related IAEA safeguards (except for Cuba, which has not yet joined the NPT).

This paper discusses definitions of some terms relevant to the Shannon Mandate, outlines current approaches, assesses some of the inadequacies of the traditional approaches and suggests a new, pragmatic approach to a FMT negotiation with a view to securing a halt in new production, as well as achieving accountability and transparency regarding existing stocks and past production.

### *Definition of Terms*

In the context of revisiting the FMT negotiation with a pragmatic approach, it would be appropriate to reach a common understanding on the definition of terms as they appear in the Shannon report and in General Assembly resolution 53/771.<sup>2</sup>

#### NON-DISCRIMINATORY

*Given the events of May 1998 and the undesirability of recognizing any new NWS, an appropriate interpretation of non-discriminatory could be in terms of a FMT as equally applicable to all states possessing unsafeguarded weapon-usable fissile material and to those states where all fissile materials are under safeguards.*

The traditional interpretation of this term refers to a FMT that would be equally applicable to all states, irrespective of their status as nuclear-weapon states (NWS), non-nuclear-weapon states (NNWS) or threshold states. However, given the events of May 1998 and the undesirability of recognizing any new NWS, an appropriate interpretation of non-discriminatory could be in terms of a FMT as equally applicable to all states possessing

unsafeguarded weapon-usable fissile material and to those states where all fissile materials are under safeguards. Another interpretation of non-discriminatory refers to the purpose of a FMT — is it aimed at nuclear non-proliferation or nuclear disarmament? While it is clear that some of the NWS regard a FMT as essentially a non-proliferation measure, now that proliferation has occurred in South Asia, there is no option other than regarding a FMT as serving the twin objectives of nuclear non-proliferation as well as nuclear disarmament. Hence, in order to be effective and credible, a FMT would have to ban future production and also bring all unsafeguarded stocks of weapon-usable fissile material under bounded or managed transparency.

Yet another meaning of non-discriminatory could be formulated in terms of not disadvantaging any among the five *de jure* NWS and the three *de facto* NWS. Thus, discrimination would need to be avoided at two levels: 1) in terms of available stocks of weapon-usable material — most of the five NWS already possess sufficient or even excess stocks, whereas both India and Pakistan apparently want to continue with production for some time, and Israel's position remains unclear; and 2) in terms of providing for international monitoring or safeguards that would apply equally and evenly in all states possessing unsafeguarded stocks of weapon-usable fissile material (as well as in those NNWS where such material either does not exist or, if it exists, is under safeguards). Thus, in practice, there appears no good or truly non-discriminatory way of reconciling the different interpretations that could be ascribed to the term non-discriminatory as it is used in CD/1299 or 48/75L, other than agreeing on a definition that uniformly treats all eight states with unsafeguarded weapon-usable fissile material. Consequently, a FMT would necessarily need to capture both a halt on future production as well as accountability and transparency of all existing stocks (except for material contained within intact warheads, or material already especially manufactured for warheads but not yet shaped into cores/pits), as well as establishing uniform verification and monitoring measures for weapon-usable material in all states parties. HEU for naval or space propulsion reactors would also require to be under appropriate accounting and transparency measures, as new technologies permit long-lived fuel, thus eliminating the need for refuelling.

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## MULTILATERAL

Again, the traditional interpretation would refer to a FMT involving multiple parties, which could mean all United Nations Member States, all CD members or all states with nuclear facilities or materials; or it could also mean “global” or “universal” — i.e. all NWS (*de jure* plus *de facto*) as well as all NNWS. A strict definition, however, would argue for a meaning of “multilateral” as referring to several international parties, but not necessarily to be global or universal. But it could also be ascribed a differential interpretation—i.e. that a FMT, in the first instance, could be negotiated “multilaterally” among the eight states operating unsafeguarded nuclear production facilities and possessing unsafeguarded stocks of weapon-usable fissile material (hereafter referred to as the U-8) or some combination thereof, in consultation with other countries both within and outside the CD, with other countries participating and contributing to the negotiation at a later stage prior to achieving a final treaty text.

## INTERNATIONALLY AND EFFECTIVELY VERIFIABLE

There seems to be general recognition that the IAEA would have to be closely involved with the verification of a FMT, and that the safeguards obligations must apply uniformly to all states, regardless of their NPT or safeguards status. (See article in this issue by Thomas Shea.) However, the applicability of the existing IAEA safeguards mechanisms to a FMT would need to be carefully assessed, because certain technical parameters such as “significant quantities”, “timeliness goal” and “material balance areas” might be different for a FMT than those under IAEA safeguards. Furthermore, it must be recognized that in many cases, facilities in NWS and in some other states were designed for military purposes exempt from safeguards, hence their monitoring will pose technical challenges and it will be important to prevent both tangible and intangible proliferation. In this context, the American-Russian working group on safeguards, transparency and irreversibility (STI) will have much to contribute regarding specific measures on improving confidence and increasing transparency and irreversibility of safeguards on weapon-usable fissile material. Furthermore, under the Trilateral Initiative involving the United States, the Russian Federation and the IAEA, consultations are ongoing to develop a model verification agreement for weapon-origin fissile materials, which would allow IAEA verification of any weapon-origin fissile material as well as any other material released from military programmes. Such verification techniques would also be relevant to a FMT.

## PRODUCTION

Does this refer exclusively to future production, to past production or to all production to date? While the 1993 and 1998 General Assembly resolutions refer to a “treaty banning the production of fissile material for nuclear weapons ...”, the Shannon report does not preclude any delegation from

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raising issues concerning past production during a FMT negotiation. It is unrealistic to believe that a FMT could be negotiated without discussing the concept of “production” in all its aspects and finding ways of capturing past production or indeed all production up to the entry into force of a FMT. A FMT that directly or indirectly serves to “grandfather”, “legitimize” or exclude existing unsafeguarded stocks of weapon-usable fissile material would not be worth the paper it’s written on and it would pose a grave threat to the integrity and efficacy of the present global nuclear non-proliferation regime structure.

## Negotiating Approaches

As regards the actual negotiation of a FMT, a number of approaches have been advanced over the years. These include the General Assembly resolutions of 1993 and 1998, the report of the Special Coordinator and the mandate contained therein, the positions of, for example, Egypt, India, Pakistan and the United States, and the Australian approach outlined at the 1998 NPT Preparatory Commission (PrepCom). At one level, the differences in approach emanate from the respective stated objectives of a FMT — nuclear non-proliferation and/or nuclear disarmament. At another level, differences pertain to the so-called incremental or phased approach to nuclear disarmament

versus a time-bound framework for the complete elimination of nuclear weapons. Recently, some Western NGO analysts have taken to asserting the “superiority” of a phased approach over a time-bound framework. From a purely pragmatic and functional perspective, neither approach is inherently superior to the other — both have their respective failings — hence the importance of avoiding rigidity, while favouring flexibility and pragmatism. In this context, a FMT must necessarily have the dual objectives of promoting both nuclear non-proliferation and nuclear disarmament if it is to have any relevance for enhancing global security and bringing transparency and accountability to weapon-usable fissile materials in the U-8 states.

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Devising an appropriate and practical negotiating approach for a FMT remains problematic. Thus far, the traditional approach has focused only on a simple production cut-off. Given the lack of progress, Australia and Japan have suggested a two-phase approach whereby a production cut-off would be followed by a second agreement dealing with transparency in stocks. Despite the stalemate in the CD from 1994 through mid-1998, a number of important developments have taken place on the sidelines with respect to increasing transparency and accounting of certain types of fissile materials — notably the American-Russian STI initiative and the plutonium management guidelines. Given the inadequacy of all of the present approaches, this paper proposes a new, pragmatic approach that seeks to bridge differences and pursues a FMT with the dual objectives of promoting both nuclear non-proliferation and nuclear disarmament, as achieving one is impossible without the other.

## TRADITIONAL APPROACH

The traditional approach as agreed in General Assembly resolution 48/75L would prohibit only future production and would bring existing production facilities under verification for non-production. This minimalist approach at one level reflected the American preference for utilizing a FMT as a non-proliferation vehicle to “capture” India, Israel and Pakistan — i.e. to limit their stocks of weapon-usable material to existing levels and to verifiably ban further production — while allowing the NWS to retain their respective stocks minus those quantities unilaterally declared excess for defence purposes. At another level, this minimalist approach reflected the maximum degree of agreement that could be achieved, given the strong objection to including existing stocks by the NWS, India and Israel. The potential advantages of this traditional approach would be to:

- verifiably halt further production, both in the NWS and in the non-NPT states;
- constitute a further step in the phased approach to nuclear disarmament, in keeping with the 1995 NPT Review and Extension Conference (NPTREC) principles and objectives; and
- bring some transparency to materials/facilities in the NWS, especially in the Russian Federation and China, as well as in the non-NPT states operating unsafeguarded production facilities.

These advantages, however, are eclipsed by the disadvantages, as such a limited FMT would:

- retain excessively large stocks of unsafeguarded weapon-usable fissile materials in the NWS, with no limitations on their reintroduction into new weapons;
- not bring about transparency regarding quantities or composition of weapon-usable fissile material; and

- serve to “grandfather” or “legitimize” existing stocks in the non-NPT states, thus creating not only another layer of discrimination but also enhancing proliferation risks.

## TWO-PHASE (AUSTRALIAN/JAPANESE) APPROACH

At the 1998 NPT PrepCom, Australia presented a “concept paper” on 29 April, which argued that “a fissile material cut-off treaty should not be seen as a stand-alone instrument — like the Comprehensive Nuclear-Test-Ban Treaty (CTBT) — which seeks to address fissile material issues in one fell swoop, but rather as a framework instrument which evolves into a comprehensive regime governing the production, stockpiling, management and disposition of fissile material.”<sup>3</sup> This would involve a first step codifying a ban on production—which can and should be taken now; followed by a second agreement providing for greater transparency over fissile material inventories and gradually bringing fissile material stocks under strict and effective international control. This second agreement too would be an “evolving instrument” that tracks other nuclear disarmament measures and progressively brings direct-use fissile material into the scope of a fissile material regime. This two-phase approach regards a FMT “as an essential and unavoidable step towards the elimination of nuclear weapons”. The principal rationale underlying this approach is to “lock in” and “fix in a legally binding multilateral instrument” the current moratoria by the NWS on weapon-usable fissile material production, before the moratoria have a chance of dissipating. In addition, it seeks to capture unsafeguarded production facilities in non-NPT states, as it believes that a FMT “which did not include these states would have little or no chance of succeeding”. Furthermore, if a FMT “is to be a genuine disarmament measure ... then it will have to be capable of evolving in tandem with other disarmament measures” — hence a first step of achieving only a ban on further production. And since “sooner or later, multilateral verification of both fissile material production facilities and fissile material stockpiles” would need to be included, a second agreement would be necessary.

In a “(draft) working paper” circulated at the 1998 NPT PrepCom, Japan proposed “universal transparency of fissile material”<sup>4</sup> to follow the conclusion of a FMT, taking into account the need to prevent disclosure of sensitive information in the context of nuclear non-proliferation.

At first glance, the Australian (and Japanese) approach seems reasonable and possibly achievable. However, it does not fully meet an important criterion identified in the Australian paper, i.e. “we have to recognize and take into account ... national security imperatives, and regional security dynamics, which underlie the different positions that the non-NPT states have adopted on the proposal for a cut-off treaty.” It is unrealistic to assume that India, Israel or Pakistan would readily agree to a treaty banning only future production without some linkage to some other issue, be it nuclear disarmament, regional security or differences in existing stocks. Furthermore, there is no

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certainty that were only a ban on production to be agreed, the NWS or the non-NPT states would then automatically go on to agree to a far-reaching second agreement on stocks. Given the backtracking of the NWS regarding their promises and commitments made at the 1995 NPTREC, it would take an unusual leap of faith in the credibility of the NWS to deliver on a second agreement once they had a production halt in the bag! And it is unrealistic given the reluctance of India to place its stocks on the table absent a negotiation on a time-bound framework for nuclear disarmament, the opposition of Israel to discussing its stocks or production outside the context of a comprehensive regional security system, and Pakistan’s fear of being permanently locked into a position of material inferiority *vis-à-vis* India.

## COMPLIMENTARY SIDELINE APPROACHES

Separate from the CD track, some important progress has been achieved on the sidelines.<sup>5</sup> The United States took the lead in declassifying the total amount of weapon-grade plutonium produced since 1945, consumption over time, disposition and location, and quantities declared surplus to defence requirements that would be placed irreversibly under voluntary safeguards.<sup>6</sup> Reportedly, it will soon release a similar accounting of its HEU. The United Kingdom, as part of its recent Strategic Defence Review, has provided some details on its holdings of weapon-usable fissile material.<sup>7</sup> France too has provided some information. However, neither China nor the Russian Federation has yet provided an accounting of their respective stocks. Furthermore, under their 1995 “declarations on transparency and irreversibility”, the United States and the Russian Federation have agreed not to reuse excess weapons fissile materials for new nuclear weapons, not to use any newly produced materials in weapons, and not to divert fissile materials from civil nuclear programmes to weapons use. And in September 1998, the two countries signed a joint statement of principles for management and disposition of plutonium designated as no longer required for defence purposes, including a commitment to develop acceptable methods and technology for transparency measures, as well as appropriate international verification measures. Furthermore, under their Trilateral Initiative, the United States, the Russian Federation and the IAEA are working on developing a model verification agreement that would allow the verification of weapon-origin fissile material. In a separate but related development, on 1 December 1997, plutonium management guidelines were agreed among nine states: Belgium, China, France, Germany, Japan, the Russian Federation, Switzerland, the United Kingdom and the United States.<sup>8</sup> These guidelines cover separated plutonium, plutonium contained in unirradiated mixed oxide fuel elements, plutonium contained in other unirradiated fabricated goods, and plutonium in the course of manufacture or fabrication or contained in unirradiated goods in the course of manufacture or fabrication; and apply to the management of all plutonium in all peaceful nuclear activities, and to other plutonium after it has been designated as no longer required for defence purposes. The guidelines require annual reporting on all plutonium subject to the guidelines, implementation of physical protection measures, as well as an effective system of nuclear material accountancy and control. On 11 November 1998, the IAEA published data on “annual figures for holdings of civil unirradiated plutonium” and for “estimated amounts of plutonium contained in spent civil reactor fuel” provided by Belgium, France, the Russian Federation and the United Kingdom.<sup>9</sup> Earlier, on 30 October 1998, the IAEA published “annual figures for holdings of civil highly enriched uranium” provided by the United Kingdom.<sup>10</sup> Even though these gross declarations refer to civil holdings of fissile material, the modalities agreed in these guidelines could be useful in devising a framework for declarations of weapon-usable fissile material with relevance to a verification regime for a FMT. Together, these developments indicate the beginning of a serious discussion on transparency, verification and accountability of special fissionable material among a small number of key advanced industrial states, which could be of direct relevance to a FMT negotiation in the appropriate context.

### *Inadequacy of Existing Approaches*

The FMT negotiation as presently conceived remains fraught with serious problems and deficiencies. Any FMT that does not explicitly and specifically deal with all existing stocks in the U-8 states would neither serve a non-proliferation goal nor a disarmament objective. While in theory a two-phase approach seems attractive — a production halt followed by transparency in stocks — in reality there is no certainty that a second, follow-on agreement on stocks could be reached. This

is the fatal flaw in such an approach, as there would be little incentive for the three non-NPT states with unsafeguarded weapon-usable material to negotiate a production halt without foolproof assurance that the NWS would indeed place their respective stocks under a transparency regime.

It is an orthodoxy of the Cold War era, unthinkingly legitimated since 1993, that a FMT necessarily must be multilaterally negotiated along traditional lines. The CTBT experience suggests that the days might be over for multilaterally negotiated grand nuclear arms control agreements. The NPT and the CTBT adequately capture the NNWS, which are prevented under the NPT from having nuclear weapons and under the CTBT from any type of nuclear explosive testing. Hence, a further restriction upon them under a FMT would be redundant and their active participation in a line-by-line negotiation

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based on a consensus rule would not necessarily contribute much and could possibly delay the conclusion of a FMT. In the context of the FMT negotiation, would it not be practical and starkly realistic to define “multilateral” in the first instance as meaning those states operating unsafeguarded production facilities and possessing unsafeguarded stocks of weapon-usable fissile material (the U-8) rather than the entire membership of the CD or of the United Nations?

It would be far more efficient and practical for the U-8 to take the lead in preparing a FMT draft — in consultation with the CD membership to ensure comprehensiveness and

transparency — that would deal with both a prohibition on any new production and include provisions for bounded transparency on existing stocks. Under present circumstances, it should not be an absolute requirement for a FMT to include provisions on the disposition of existing stocks. As such, a FMT should concern itself with halting further production and bringing existing stocks and production facilities under managed monitoring. The final disposition and eventual destruction of existing stocks and stocks emanating from dismantled weapons could be deferred to a future treaty dealing with the prohibition of nuclear weapons.

### *A New, Pragmatic Approach*

Since 1993, for the most part, the discussion on FMT issues both within and outside the CD has tended to focus on the traditional approach to dealing multilaterally with nuclear non-proliferation matters. Hence, the traditional trichotomy of categorizing states as NWS, NNWS and threshold states. The eleven nuclear detonations in South Asia last May have forever changed the nuclear non-proliferation dialectic and are forcing a change in how the world casts the distinctions between NWS and NNWS. While it would be imprudent to recognize any additional NWS, the realities are there for all to see in South Asia. Therefore, for the purposes of a FMT negotiation it is now necessary to “think outside the box” — to devise a practical, new approach that focuses on states with unsafeguarded direct-use weapon-grade fissile materials and those without, rather than the traditional categorization of NWS, NNWS and threshold states. Hence, the United States, the Russian Federation, the United Kingdom, France, China, India, Israel and Pakistan fall into the category of states with unsafeguarded stocks of weapon-usable fissile materials (the U-8). All other NPT states would continue to be regarded as NNWS, with all special fissionable material under IAEA safeguards.

The creation of a U-8 category of states, for the purpose of a FMT negotiation, has the advantage of getting beyond the vexatious problem of *de jure* and *de facto* NWS, or that of NWS in addition to the P-5, or of “rewarding” proliferators. It would also conform to the edict for a “non-discriminatory”



FMT — from a practical perspective, the distinction must be between states which possess unsafeguarded weapon-usable fissile material and those which do not, rather than between the standard NWS and NNWS.

The priority for any FMT must be to convert the existing production moratoria in some of the NWS into a binding, verifiable commitment, as well as to secure a similar commitment from the other NWS and from the three non-NPT states. Furthermore it must capture past production and current stocks in a realistic transparency regime.

Setting aside traditional thinking and moving to a pragmatic approach would suggest a FMT negotiation based on several interlinked components, as follows:

- Unilateral, reciprocal binding commitments by the U-8 to halt new production as of a certain date, for example, 1 January 2000 — this could take the form of a common agreed text;
- IAEA monitoring of the external perimeter of all production facilities as of a certain date, such that no feed material enters and no finished material exits (including warhead components or warheads), except for material designated for naval or space propulsion reactors (in which case the quantity and isotopic composition would need to be declared, the material tagged and monitored in transit through deployment into propulsion reactors, tagged upon recovery as spent fuel through monitored storage, or the naval reactors sealed and tagged if left in there for long-term storage. With the end of the Cold War there is no longer any credible case for exempting such material from accountability and transparency measures; furthermore long-lived naval nuclear fuel now permits new core designs to last in excess of thirty years or the normal life of a ship, thus eliminating the need for refuelling);<sup>11</sup>
- Establishment of “sanctuaries” comprising storage sites for existing stocks, with IAEA perimeter portal monitoring to ensure no outbound movements of stocks (except as provided for in the preceding paragraph above), inbound movement of excess weapons fissile material would be permitted;
- Exchange of baseline data on existing stocks between the U-8, which could also include isotopic declarations;
- Agreement on a target date of 1 April 2000 for conclusion of a composite working draft of a FMT text — which would be prior to the opening of the 2000 NPT Review Conference;
- The final disposition (and destruction) of production facilities and existing stocks (including excess weapons material) would be dealt with separately through a multilateral, legally binding instrument on the total prohibition of nuclear weapons;
- Two-phase negotiation leading to a FMT: first, through the Ad Hoc Committee, the CD should agree on a framework of indicative treaty headings; second, this would be followed by drafting of treaty language, primarily by U-8 but in full consultation with CD membership.

While it would be desirable to extend the production moratoria to cover all eight states with unsafeguarded production facilities and unsafeguarded weapon-usable material, present realities would suggest that such a multilateral (U-8) moratorium could only be achieved over time. As such, a deadline could be set for 1 January 2000 for securing unilateral production moratoria in the U-8, preferably through a common agreed text or through a FMT. However, during this period the NWS would agree neither to resume new production, nor to slow the pace of declaring surplus weapon fissile material, and the three non-NPT states would agree not to accelerate their production. The stocks of the NWS remain considerably in excess of the three non-NPT states and the gaps could be reduced but not closed by January 2000. Verification of non-production would take place through

external perimeter monitoring by the IAEA; any methodologies developed through the Trilateral Initiative could be employed toward this end. Existing storage sites for weapon-usable fissile material would be designated as “sanctuaries”, but no material could leave the sites (except as already discussed above). As a confidence-building measure, the U-8 could agree to exchange categorized and isotopic declarations (described below). Given the injunction of the 1995 NPTREC on a FMT, it would be politically important to set a deadline of 1 April 2000 for agreement on a basic draft text of a FMT, subject to final revision and agreement. A FMT under this approach would accomplish two objectives:

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it would verifiably halt further production and it would create bounded transparency and accountability of all existing U-8 stocks. The treaty would not be burdened with provisions governing final disposition and elimination of stocks of weapon-usable fissile material, which would belong to a future multilateral treaty prohibiting nuclear weapons.

The actual negotiation should be a seamless two-phase process. The CD should re-establish an Ad Hoc Committee to negotiate a FMT. In phase I of this pragmatic approach, the Ad Hoc Committee would draft and agree upon a framework of indicative headings for a FMT. This would involve agreeing on the framework of the scope of obligations as well as on the scope of verification and monitoring regimes, in addition to other procedural and technical aspects of a treaty. In the next phase, also with the involvement of the chair of the Ad Hoc Committee, the U-8 would take on the primary responsibility for drafting treaty language, but this would need to be done in close consultation with other states.

Given the technical nature of the subject, it would be essential for delegations to include scientific advisors and other technically qualified personnel in the negotiation. Furthermore, sensitive and complex issues would need to be discussed in working or technical groups, however, it would be equally important not to allow technical discussions to bog down the negotiation. For negotiation on a FMT to be credible, it would be necessary to create a suitable climate of confidence by providing comprehensive disclosure of fissile material inventories designated by isotopic composition—this can be achieved without necessarily compromising sensitive design information or contributing to intangible proliferation. Some suggestions for disclosure are discussed next.

## DECLARATION OF FISSILE MATERIAL

In the framework of a FMT as discussed above, data exchanges<sup>12</sup> by the U-8 on current stocks or past production of weapon-usable fissile material could take the form of any one of the types of declaration outlined below — the only exemptions would be for material contained within intact warheads, or material already especially manufactured for warheads but not yet shaped into cores/pits.

### *Multilateral Comprehensive Declaration*

- Categorized declaration of all weapon-usable fissile material inventories, categorized in terms of military and non-military stocks;
- Isotopic declaration of all weapon-usable fissile material inventories, categorized in terms of military and non-military stocks.

### *Phased Comprehensive Declaration*

- Register of fissile material: phased or step-by-step gross declarations of all weapon-usable fissile material produced and currently held in all inventories;
- Categorized declaration of weapon-usable fissile material: phased or step-by-step comprehensive declarations of all weapon-usable fissile material produced and currently held in all inventories, categorized in terms of all military and non-military stocks;
- Isotopic declaration of weapon-usable fissile material: phased or step-by-step comprehensive declarations of all weapon-usable fissile material produced and currently held in all inventories, categorized by isotopic composition in all military and non-military stocks.

### *Unilateral Declaration*

- Unilateral, simultaneous gross declarations of all fissile material produced and currently held in all inventories (the unilateral declaration by the United Kingdom as part of its Strategic Defence Review could serve as an illustrative example);
- Unilateral, simultaneous categorized declarations of all fissile material produced and currently held in all inventories, categorized in terms of military and non-military stocks;
- Unilateral simultaneous (phased) declarations of all fissile material produced and currently held in all inventories, categorized by isotopic composition in all military and non-military stocks.

## **Conclusion**

The issue of a multilateral FMT has acquired a certain orthodoxy harking back to the Cold War. Through the Cold War, a FMT was conceived of primarily as a nuclear disarmament measure — a step by which to cut-off the material for the production of nuclear warheads by the five original nuclear proliferators. With the ending of the Cold War and the deep cuts in nuclear warheads under the INF and START agreements between the United States and the former Soviet Union, a FMT was portrayed by some of the NWS, notably the United States, as serving primarily a nuclear non-proliferation purpose. Furthermore, the impasse at the CD between those favouring an incremental, step-by-step approach to nuclear disarmament and those pushing for a time-bound framework for the elimination of nuclear arms, led to an artificial hierarchy of measures — i.e. the CTBT, followed by a FMT, accompanied by the START series of agreements and negotiations in good faith leading to nuclear disarmament and general and complete disarmament. Lost in this discourse was the practical, common-sense approach focusing on the roots of the proliferation/disarmament conundrum — i.e. the NWS and the three non-NPT states. While a grand FMT negotiated along the lines of the CTBT might be desirable, there is no pressing logic for following that tortuous and time-consuming path. In the aftermath of South Asian proliferation, one must liberate the arms control process from the lingering binds of the Cold War and shed the “old think” that has so heavily influenced the thinking on a FMT by both officials and NGO experts. Pragmatism and flexibility would recommend that a FMT, in the first instance, be drafted by the U-8 or whomever among their number are amenable to join a negotiation (without regard to their official or unofficial status). However this must be in consultation with other NNWS, so that there can be agreement on the general parameters of a treaty. For a FMT to be effective and credible, it must deal both with verifiably halting further

production and with bringing transparency and accountability to existing stocks. And it must provide the framework and context leading in time to a global, legally binding instrument on the prohibition of nuclear weapons.

## Notes

1. For the purposes of this paper, the term weapon-usable fissile material will apply to “fissile material for nuclear weapons and other nuclear explosive devices”, i.e. highly enriched uranium and plutonium.
2. Ambassador Mark Moher provided his interpretation in a presentation to a workshop on “The Fissile Material Cut-off Treaty: Issues and Prospects”, Geneva, 14 February 1997.
3. Statement delivered by H.E. Mr. John B. Campbell, Head of the Australian Delegation to the Second Preparatory Committee of the 2000 Review Conference of the States Parties to the Treaty on the Non-Proliferation of Nuclear Weapons: Fissile Material Cut-Off Treaty, Geneva, 30 April 1998; and *Fissile Material Cut-off Treaty: Concept Paper*, 29 April 1998.
4. *(Draft) Working Paper (Japan): Some additional elements to be incorporated in the recommendations to the 2000 Review Conference*, Geneva, 29 April 1998.
5. For an interesting discussion, see George Bunn, Making Progress on a Fissile-Material Cut-Off Treaty after the South Asian Tests, *The Nonproliferation Review*, Spring/Summer 1998; see also Noboru Oi, Plutonium Challenges: Changing Dimensions of Global Cooperation, *IAEA Bulletin*, vol. 40, no. 1, March 1998, online at [www.iaea.org](http://www.iaea.org).
6. See *Fact Sheet* on “U.S. Commitment to the Treaty on the Non-Proliferation of Nuclear Weapons”, United States Arms Control and Disarmament Agency, 22 April 1998, pp. 5–8; and *Intervention by Mr. Norman A. Wulf, U.S. Delegation Head, Second NPT Preparatory Committee Meeting, Cluster I Discussion*, Geneva, 30 April 1998, pp. 7–13.
7. See Pearl Marshall, U.K. Pu Declaration Aimed at Boosting Geneva Fissile Material Talks Next Month, *Nuclear Fuel*, 14 December 1998, pp. 10–11.
8. See *Communication Received From Certain Member States Concerning Their Policies Regarding The Management of Plutonium*, INFCIRC/549, 16 March 1998, IAEA.
9. INFCIRC/549/Add.3/1 (Belgium), INFCIRC/549/Add.5/1 (France), INFCIRC/549/Add.9 (Russia), INFCIRC/549/Add.8/1 (United Kingdom).
10. INFCIRC/576.
11. See Glenn R. George and Lisa Megarle George, The Naval Reactors Program: From Nautilus to the Millenium, *Nuclear News*, October 1998, p. 31.
12. For useful discussions on disclosure, see *Comprehensive Disclosure of Fissionable Materials: A Suggested Initiative*, Discussion Paper by the Carnegie Commission on Preventing Deadly Conflict, New York, June 1995; and Brian G. Chow, Richard H. Speier, Gregory S. Jones, *The Proposed Fissile-Material Production Cut-Off: Next Steps*, RAND, 1995.