



FISSILE MATERIAL CUT-OFF TREATY: NON-PROLIFERATION MEASURE OR THE WAY TO NUCLEAR ZERO?

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Once the negotiations for FMCT start, a window of opportunity would open up for the Conference on Disarmament to develop a legally binding mechanism to eliminate fissile material and nuclear weapons from the face of the earth, attaining the objective of universal and comprehensive disarmament.

Introduction

The idea of a treaty to cut-off the production of nuclear fissile material was tabled as a resolution at the United Nations General Assembly (UNGA) in 1993, co-sponsored by India and the United States of America (USA). The agenda behind such a move was to prohibit further production of fissile material to be used in nuclear weapons or other explosive devices. The treaty, named as the Fissile Material Cut-off Treaty (FMCT), was referred to the Conference on Disarmament (CD) in Geneva, where it has remained a regular agenda item since 1994. Despite initial progress characterized by the Shannon Mandate of 1995, negotiations have remained in limbo ever since. Questions have since been raised about the very foundations of the Treaty itself, primarily by states under the Non-Aligned ambit, led by Pakistan. While the task ahead for the CD is to agree on 'a non-discriminatory, multilateral and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices,'¹ the challenges to achieve a consensus remain stark.

There has been a general consensus on the larger negotiating position among the five states recognised as *de jure* Nuclear Weapon States (NWS) under the Nuclear Non-Proliferation Treaty (NPT). While they continue to differ on certain technicalities (which it should be possible to iron out during the actual negotiation of the Treaty text), there is an understanding among the NWS that a prospective treaty banning any further production of fissile material is required. India, which became the sixth state to overtly declare the acquisition of nuclear weapons, has largely taken up a position quite close to the five NWS. However, Pakistan has adamantly opposed this position, so much so that it has blocked any attempts to even begin negotiating the proposed FMCT. With the CD working on the principle of consensus among all its member states, Pakistan's opposition (which has found backing at different times from various states) has been enough to stall any substantive progress on the proposed treaty.

Islamabad's worry, which has at different times found voice in no uncertain terms, centres on the possibility that without sufficient fissile material to build up nuclear weapons arsenal, the strategic parity it currently claims with neighbours, especially India, might get eroded. India and Pakistan, having four to five decades of lag on a full nuclear weapons program as compared to the NWS, have the least amount of fissile material in their stockpile, according to every estimate.² Hence, in a way, Pakistan's tactics could be seen as buying time until it is able to stockpile sufficient fissile material to feel comfortable with their security situation, *vis-a-vis* India. However, the argument

¹ "Report of Ambassador Gerald E. Shannon of Canada on Consultations on the most Appropriate Arrangement to Negotiate a Treaty Banning the Production of Fissile Material for Nuclear Weapons or Other Nuclear Explosive Devices", *Conference on Disarmament* (Geneva), CD/1299, 24 March 1995, see [http://www.unog.ch/80256EDD006B8954/\(httpAssets\)/6AE007387CF2B123C125799C00492848/\\$file/CD_1299.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/6AE007387CF2B123C125799C00492848/$file/CD_1299.pdf), accessed on 19 August 2014.

² This is disregarding North Korea, which is not a part of the 65-member CD and hence are not having a direct impact on the discussions. Also, while Israel is widely believed to have had a covert nuclear weapons program since the 1960s, there remains widespread ambiguity surrounding their status as a NWS.

that the Pakistanis have chosen to state their objection to beginning negotiations on an FMCT is that such a prospective treaty would only be a non-proliferation measure and not a disarmament one.

At face value, this argument carries significant meaning. The world has seen four and a half decades of the NWS paying lip service to the NPT obligations of moving towards complete disarmament while continuing to rely on nuclear weapons as a fulcrum of their security strategy. In the meanwhile, India, Pakistan, North Korea and Israel have demonstrated that states outside the NWS will also look to acquire nuclear weapons technology for their own national interests. Nor have they been the only states to consider a nuclear military program with Iraq, Iran, South Africa and Libya being just a few well known examples. Considering the destructive capacity of nuclear weapons, without complete nuclear disarmament the world would forever be under the threat of a destructive and disastrous war with grave consequences. Pakistan suggests that the way forward towards achieving nuclear disarmament should hence begin with a Fissile Material Treaty (FMT) that would bring existing stockpiles of fissile material under its ambit as well, instead of a prospective treaty banning only further production. If a time-bound disarmament plan, akin to the Rajiv Gandhi Action Plan of 1988, can be worked into such an equation, then the CD might finally start to live up to its real task -- of achieving nuclear zero.

FMCT: A Background

The destructive power of nuclear weapons was demonstrated by the USA towards the end of the Second World War. With the onset of the Cold War dynamics, efforts were made from early 1946 onwards to limit the proliferation of nuclear weapons. One idea which was central towards that effort was the move for banning or stopping production of fissile material for nuclear weapons or other explosive devices. Despite finding mention in the first United Nations General Assembly resolution³ and in proposals such as the Baruch Plan, this idea never took off in the Cold War framework. The Union of Soviet Socialist Republics (USSR) challenged the American monopoly in the nuclear sector and by 1949 USSR had tested its first nuclear device. The ensuing nuclear arms race saw the United Kingdom (in 1952), France (in 1960) and the People's Republic of China (in 1964) test nuclear explosive devices subsequently. With the USA, USSR and UK seeking to dissuade other states from undergoing a military nuclear program, the decade of the 1960s saw a raft of discussions under the nuclear disarmament and non-proliferation banners.

The Partial Test Ban Treaty (PTBT) in 1963, and the NPT, which came into effect in 1970, went some ways towards meeting these objectives. The NPT in particular also

³ United Nations General Assembly Resolution 1 (1), Establishment of a Committee to Deal With the Problems Raised By the Discovery of Atomic Energy, 24 January 1946.

allowed those three states (with the addition of France and China, who joined at a later date) to carry on with their nuclear programs by legitimizing their strategic programs with an assurance given to the Non Nuclear Weapon states (those who had not tested a nuclear explosive device before 1 January 1967) to work, in good faith, towards global nuclear disarmament.⁴ While not much substantive work in this regard has been achieved so far, there have been certain reduction mechanisms, mostly at a bilateral level, that the nuclear weapon states have undertaken. Still, one significant step taken was a self-imposed moratorium on fissile material production that four of the five NWS have declared, with the exception of China, whose status remains ambiguous.

Table 1: Military Fissile Material Stockpile⁵ (Metric Tons) (October 2012)

Country	Plutonium	HEU
China	1.8 ± 0.5	16 ± 4
France	6	30.6 ± 6
India	0.52 ± 0.17	2.0 ± 0.8
Israel	0.82 ± 0.15	0.3
Pakistan	0.135 ± 0.045	2.75 ± 1
Russia	128 ± 8	737 ± 120
UK	3.2 weapons, 4.4 declared excess	21.2
USA	81.3 weapons, 43.4 declared excess	263

There have been other significant efforts made to halt or at least curb an international nuclear arms race. Going back to 1946, the nascent United Nations (UN) was a major negotiating platform through which access to nuclear weapons technology was sought to be restricted. Among the various proposals put forward was the Report on the International Control of Atomic Energy or the Acheson-Lilienthal Report⁶. The Report, made public by the US State Department on 28 March 1946, proposed to place the complete nuclear fuel cycle for Uranium and Thorium under the ambit of an international authority or institution.

⁴ Article VI, The Treaty On the Non-Proliferation of Nuclear Weapons, see <http://www.un.org/en/conf/npt/2005/npttreaty.html>, accessed on 2 September 2014.

⁵ Nuclear Threat Initiative, see http://www.nti.org/media/pdfs/military_fissile_material_stockpile_1.pdf, accessed on 10 July 2014.

⁶ The Acheson-Lilienthal & Baruch Plans, 1946, U.S. Department of State, see <https://history.state.gov/milestones/1945-1952/baruch-plans>, accessed on 08 August 2015.

The Baruch Plan, based largely on the Acheson-Lilienthal Report, was put forward to the UN in June that year.⁷ The Plan failed to materialize given the irreconcilable rivalry between the two superpowers, the USA and the USSR. Some tenets of the Plan, including providing for sharing scientific knowledge in nuclear sciences and international regulation of nuclear power for peaceful purposes, certainly had merit. However, inclusion of proposals for stringent verification and punishment for states found to be in violation without the possibility of a United Nations Security Council (UNSC) veto made it impossible to bring the USSR on board. Moscow in turn came up with the Gromyko Plan, which called for a complete stop to production of nuclear weapons and destruction of all existing stocks (at that time only the USA had nuclear weapons) within three months.⁸

The Gromyko Plan crucially differed from the Baruch Plan in a way that it called for an elimination of nuclear arsenals before the establishment of an international control facility. Under the American proposition, all activities related to control of fissile material would be brought under an international institution before existing weapons were destroyed. This would have allowed the USA to hold on to its monopoly over nuclear weapons at least for a few years. This is a crucial pointer to the way the USA in particular has approached any issue with relation to nuclear weapons or technology. Decades later, in the efforts made initially by President Bill Clinton to start negotiations on an FMCT, this intention of limiting the rest of the world while having achieved fissile material stockpiles in plenty was seen yet again.

Other major initiatives to curb the production of fissile material included India's first Prime Minister Jawaharlal Nehru's proposition for a Standstill Agreement at the UN in 1954. Nehru's appeal contained various provisions which would go on to form the bulwark of future treaties such as the PTBT, the NPT and the Comprehensive Test Ban Treaty (CTBT). Taking on from Nehru's moves, US President Dwight Eisenhower in 1956 proposed a bilateral cut-off of fissile material production, which was rejected by the USSR.⁹ Notable contributions towards achieving a nuclear weapon free world, and by extension, stopping the production of fissile material for nuclear weapons or other explosive devices were made in subsequent years particularly at the three UN Special Sessions on Disarmament. At the third special session in 1988, India's Prime Minister Rajiv Gandhi presented a time-bound Action Plan for complete elimination of nuclear arsenals by 2010.¹⁰

⁷ Going for Baruch: The Nuclear Plan That Refused to Go Away, Arms Control Today, see <http://www.armscontrol.org/print/2064>, accessed on 08 August 2015.

⁸ Address by the Soviet Representative (Andrei Gromyko) to the United Nations Atomic Energy Commission, 19 June 1946, see <http://fissilematerials.org/library/GromykoPlan1946.pdf>, p. 2.

⁹ Savita Pandey, "Fissile Material Cut-off: The Cold War Years", *Institute for Defence Studies and Analyses* (New Delhi), February 1997.

¹⁰ Address by His Excellency Mr. Rajiv Gandhi, Prime Minister of the Republic of India, Fifteenth Special Session, *United Nations General Assembly*, 09 June 1988, see <http://fissilematerials.org/library/gan98.pdf>, p. 14.

However, the detailed plan was rejected outright by the USA, even though it was welcomed by the declining superpower, the USSR. Despite a commitment made to the world to work towards complete disarmament of nuclear arsenals under the NPT framework, the USA in particular has never sought to delegitimize or de-emphasise the value of nuclear weapons in their security calculus. It was only after the demise of the USSR and the beginning of the American dominated unipolar moment that the USA moved ahead with plans for a new non-proliferation agenda through the CTBT and the FMCT. Still, its opposition to include a time-bound phased plan for achieving disarmament in the preamble of the CTBT, another proposition made by India, shows that its real intention lies only in limiting the rise of other states which could conceivably pose a threat to their national security. However, the fate of both the CTBT and FMCT shows that garnering the required consensus for pushing a non-proliferation agenda without giving in to demands of other major players is becoming increasingly difficult.

Further, particularly with the FMCT, the consensus based voting system in the CD is such that a vote against a motion by a single country is enough to hold up progress of the talks. Despite various methods tried to circumvent the lack of consensus, such as by trying proposals for 'discussions' instead of 'negotiations,' the FMCT has in effect progressed nowhere since 1993 when the idea was initially mooted.

The objective of the FMCT is noted by UNGA Resolution 48/75L¹¹, adopted on 16 December 1993, which states: "Prohibition of the production of fissile material for nuclear weapons or other nuclear explosive devices." The UN Resolution 48/75L urge nation states to pursue the "negotiation in the most appropriate international forum of a non-discriminatory, multilateral and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices." It notes that the Treaty would be a "significant contribution to nuclear non-proliferation in all its aspects" and requests "the International Atomic Energy Agency to provide assistance for examination of verification arrangements for such a treaty as required." On 25 January 1994, the CD appointed a Special Coordinator, Ambassador Gerald Shannon of Canada, to investigate the views of member states on the most effective way to negotiate a treaty which met the requests of the UN General Assembly.

The report, CD/1229¹², came to be known as the "Shannon Mandate¹³", proposed that an ad hoc committee be convened to pursue negotiations and settle several of the

¹¹ United Nations General Assembly Resolution on General and Complete Disarmament, A/RES/48/75, 16 December 1993, see <http://www.un.org/documents/ga/res/48/a48r075.htm>, accessed on 08 August 2015.

¹² Report Of Ambassador Gerald E. Shannon Of Canada On Consultations On The Most Appropriate Arrangement To Negotiate A Treaty Banning The Production Of Fissile Material For Nuclear Weapons Or Other Nuclear Explosive Devices, *Conference on Disarmament*. CD/1299, 25 March 1995, see <http://www.unog.ch/cd/fmct>, accessed on 08 August 2015.

outstanding issues. Ultimately, a lack of consensus over verification provisions, as well as overwhelming desires to hold parallel negotiations on outer space arms control issues, prevented negotiations from getting underway. However, the Shannon Mandate remains the basis on which many nation states begun their positions for future negotiations. Since then, various draft texts of the FMCT have been put forward by states as well as non-state bodies, but without much avail to them.

A draft treaty which is to make any headway into even beginning negotiations on a treaty to ban production of fissile materials for nuclear weapons or other explosive devices would hence have to reconcile with the positions of the NWS and *de facto* nuclear weapon states, with India and Pakistan gaining considerable significance. The next section takes a look at particular negotiating positions and conditions raised by the major players, as well as their strategic objectives.

Objectives of a Fissile Material Cut-off Treaty

A Fissile Material Cut-off Treaty seeks prohibition of the production of fissile material, which finds applications in the development of nuclear weapons and other nuclear explosive purposes. The treaty is subject to verification, with the verification mechanism focussing on detecting non-compliance in the form of future production or diversion of fissile material. The verification mechanism is envisaged by the Non-Nuclear Weapon States (NNWS) as an opportunity to rectify the discriminatory demarcations imparted by the NPT. The NPT ensured that the nuclear fuel cycles of the NNWS were brought under IAEA safeguards while NWS were exempt from such requirements. A verifiable and non-discriminatory FMCT will fulfil the objective of strengthening the global non-proliferation regime by bringing in the nuclear activities of the acknowledged NWS along with India, Pakistan and Israel under verification and safeguards.

A Fissile Material Cut-off Treaty is envisaged to attain the following objectives:

- i) Prohibition of the production of fissile material for nuclear weapons or other nuclear explosive devices after the cut-off date.
- ii) A global non-proliferation measure.
- iii) Verification mechanism to detect production of fissile material or diversion of fissile material to proscribed purposes and allow production of fissile material for non-proscribed purposes.

¹³ The Conference On Disarmament And A Treaty Banning The Production Of Fissile Materials For Use In Nuclear Weapons, *United Nations Office for Disarmament Affairs*, September 2012, see <http://www.un.org/disarmament/HomePage/factsheet/Geneva/CD Fissile Materials Fact Sheet.pdf>, p.2.

- iv) Rectify the discrimination between Nuclear Weapon States and Non-Nuclear Weapon States (as recognised by the NPT) in terms of IAEA safeguards and verification meant for nuclear facilities of all the states party to the treaty.
- v) Bring the nuclear activities of acknowledged Nuclear Weapon States (United States, United Kingdom, Russian Federation, France and China) along with India, Pakistan and Israel under non-proliferation regime.

The Shannon Mandate of 1995 laid down the character of an FMCT in the form of “a non-discriminatory, multilateral and internationally and effectively verifiable treaty”. Since 1995, the debates and discussions on FMCT have rested on four tenets or building blocks: The treaty should be inclusive of the security and nuclear energy needs of each member state and be acceptable to all. The treaty should come into force after accession by all the members of the Conference on Disarmament. The treaty should be negotiated and adopted in a multilateral forum and any non-compliance should be addressed through multilateral consultations. The treaty shall apply to all the negotiating parties and not be restricted to a select group of states having nuclear weapons or a civilian nuclear program. The treaty should not create disparity between party states based upon their Nuclear Weapon State or Non-Nuclear Weapon State status (as recognised by the NPT). The obligations should be identical to each party to the treaty. The treaty should have an international verification mechanism to ensure that each party adheres to the treaty and to report non-compliance to the multilateral forum. The verification mechanism would be an effective confidence building measure to inculcate trust among the states’ party to the treaty. Additionally, it would primarily act as an early warning mechanism and a deterrent to non-compliance.

The Genesis of FMCT: Views, Voices and Vacuum

The UNGA directed the CD in Geneva to negotiate a FMCT, which would fulfil the above mentioned objectives and since then, it has remained a key discussion item every year at this 65-member body. However, an agreement on even the nature and scope of the Treaty or on key technical definitions has not been achieved since initial talks began in 1994, hampering progress at the CD.

The Shannon Mandate left the fundamental questions regarding the nature and scope of the Treaty open for discussion. While it was then hailed as a landmark achievement, the Shannon Mandate has been repeatedly quoted by states such as Pakistan to successfully defend their practice of blocking negotiations on FMCT. Pakistan, backed by certain members of the Group of 21 (G-21) Non-Aligned states, has insisted that the nature of the Treaty should be retrospective, and it should take into account existing stockpiles of fissile material, and not merely be prospective as a ‘Cut-off’ would entail. Hence, a Fissile Material Treaty (FMT) should be negotiated instead of an FMCT.

Pakistan's views have been largely read as one fuelled by concerns about India's strategic program and wanting to limit the capacity of its neighbour. While such considerations have been given voice by Pakistan's delegates to the CD, the larger merit of the argument itself needs to be acknowledged. The argument that is raised is that the proposed treaty should follow a disarmament objective rather than a non-proliferation one. Considering the large quantities of fissile material already at the disposal of the Nuclear Weapon States, a mere cut-off would be superficial and a continuation of the Cold War-era treaty making process which ensured that the super-power blocs could keep near exclusive control of nuclear weapons technology. An FMCT may even have made sense in 1993 when it was first proposed, but since then most of the *de jure* NWS have voluntarily stopped production of fissile material while the two states which were then deemed as most likely to go nuclear, India and Pakistan, have both done so.

Hence, in actual effect, an FMCT coming into play in the current global scenario will largely restrict the strategic sectors of just the two *de facto* nuclear weapons states, India and Pakistan, both of whom are currently believed to be expanding their nuclear arsenal. An argument could be raised that states such as North Korea or Iran could be possible targets, but as the former has shown, international treaty obligations need not limit a state's action under conditions of supreme national interest, while in the case of the latter, the existing Nuclear Non-Proliferation Treaty, which it still is a party to, has not really proven to be any guarantee to perceptions about its intentions. Even if Iran was to ratify an FMCT, whether this dispels notions about its supposed nuclear weapon program would be a matter of conjecture.

Although the NPT was indefinitely extended in 1995, the fact remains that May 1998 made it an out-dated mechanism, not consistent with global realities. A new treaty should go some way towards righting this wrong, not just by ostensibly increasing the number of *de jure* NWS, but also by acting on that oft-quoted but hardly ever truly meant concept of global nuclear disarmament. Banning further production of fissile material, when the USA or Russia alone have a nuclear inventory enough to wipe the world out many times over, would be fulfilling an archaic understanding of non-proliferation control for all non-NWS, leaving the NWS to continue on their path while paying mere lip-service to the NPT Article VI -- conception of disarmament.

In the present form, the FMCT seeks prohibition of the production of fissile material meant for development of nuclear weapons and other nuclear explosive purposes. At the Conference on Disarmament, various voices have emerged on the nature and scope of FMCT. A Fissile Material Cut-off Treaty meets the non-proliferation objective by prohibiting the production of fissile material after the agreed upon cut-off date. On the other hand, a Fissile Material Treaty brings in the existing stockpiles of fissile material under the ambit of the treaty, a disarmament measure, yet far away from nuclear zero.

Factors Influencing Consensus Building in the Nature and Scope of FMCT

The debates surrounding the nature and scope of FMCT encompass various aspects of fissile materials such as the definitions, verification clause and the treatment of existing fissile material stockpiles. The members of the CD have different definitions of what exactly constitutes fissile material. For instance, Russia has proposed to limit the FMCT to “weapon-grade” Uranium and Plutonium, while the U.S. Draft Treaty text of 2006 limits the definition of Fissile Material to Plutonium except that which has 80 percent or more of Pu-238, and Uranium having 20 percent U-235 or U-233¹⁴, same as how the UK defined fissile material in their parliamentary papers in 2013¹⁵. Furthermore, the elements of actinide series find applications in the design and development of nuclear weapons. Whether to bring elements of the actinide series under the ambit of FMCT, in order to further reduce the proliferation risks, has emerged as another point of divergence among the member states.

The major diverging issue, on which the scope of FMCT rests, is the treatment of existing stockpiles of fissile material. This particular issue has blocked the commencement of FMCT negotiations, led by the G-21 Group of nations with Pakistan standing out with the argument of having a Fissile Material Treaty which brings in the fissile material stockpiles of all the members under the purview of the treaty. On the other hand, India, U.S., U.K, Russia and China have a prospective outlook, and they are looking for cessation of production of fissile material after the cut-off date of the treaty. The debate further explores the wider objective of the treaty to be a nuclear disarmament measure or nuclear non-proliferation measure. If the treaty comes into force with the obligation for states party to the treaty to bring the existing stockpiles under its purview, it serves the objectives of nuclear disarmament, while it is bound to be a non-proliferation measure if the existing stockpiles are excluded from the treaty.

Furthermore, the verification measure would be a major point of divergence as the negotiations of a FMCT commence. As per the Shannon Mandate, the treaty should be effectively verifiable. The verification mechanism targets the fissile material production activities of all the parties to the treaty, including the NWS and the NNWS. However, the nation states having an active military nuclear program are clearly not in favour of any clause which would bring all of their nuclear activities under the verification of any international organization or the IAEA safeguards. For instance, the verification clause was missing from the 2006 draft FMCT text published by the U.S. While the nuclear activities of the NNWS are already carried out under the IAEA safeguards, they would

¹⁴ U.S. Department of State, “Texts of the Draft Mandate for Negotiations and the Draft Treaty -- Conference on Disarmament”, see <http://2001-2009.state.gov/t/isn/rls/other/66902.htm>, accessed on 10 July 2014.

¹⁵ The Foreign and Commonwealth Office of the United Kingdom, “Fissile Material Cut-Off Treaty”, 16 May 2013, see http://data.parliament.uk/DepositedPapers/Files/DEP2013-0862/Fissile_Material_Cut-Off_Treaty_-_UK_note.pdf, accessed on 10 July 2014.

push for equal obligations for all the parties to the treaty, in accordance with the non-discriminatory tenet of the Shannon Mandate.

FMCT: NPT 2.0 or More?

The NPT has over lived its life and it has failed to attain the objective specified under Article VI: “to pursue negotiations on a treaty on general and complete disarmament”. The Treaty has been alleged to be discriminatory as obligations differ for nation states in possession of nuclear weapons and those who do not. The NWS, as recognised by the NPT, are not bound to the safeguards and verification mechanism of the IAEA, which the NNWS are subject to. The voices from NNWS frequently allege that the NWS are moving at a snail’s pace towards universal nuclear disarmament.

A Fissile Material Cut-off Treaty would pave the way for: a) Prohibition of the production of fissile material for nuclear weapons or other nuclear explosive devices after the cut-off date; b) Rectify the discrimination between Nuclear Weapon States and Non-Nuclear Weapon States (as recognized by the NPT) in terms of safeguards/verification for nuclear facilities of all the states party to the treaty, and c) Bring the nuclear activities of acknowledged Nuclear Weapon States (United States, United Kingdom, Russian Federation, France and China) along with India, Pakistan and Israel under non-proliferation regime. Additionally, FMCT would open a window of opportunity for the global community to develop a legally binding mechanism to eliminate nuclear weapons from the face of the earth. This aspect of FMCT, hardly explored, could be the way forward for universal and comprehensive nuclear disarmament.

The Way to Nuclear Zero

Since the negotiations for FMCT are yet to begin, the Conference on Disarmament should work forward to interlace disarmament with the treaty. This would provide an impetus for the NWS to deliver on the comprehensive and global disarmament front, consequently reducing the salience of nuclear weapons in the national security calculus. Nevertheless, disarmament would have a trickledown effect, compelling *de facto* nuclear weapon states to bring down their stockpiles and nuclear weapons to absolute zero. In the subsequent part of the paper, a disarmament plan is proposed. If the FMCT is able to include such a time bound disarmament targets, nuclear zero could be a reality.

The parties to the treaty should vow to reduce fissile material stockpiles under their possession in a phased manner. The objective of global nuclear disarmament could be achieved within 35 years from the date of entry into force of the Treaty. The parties to

the Treaty should be encouraged to undertake national, bilateral, multilateral or international disarmament measures, in addition to the targets set at each phase.

The Parties to the Treaty shall undertake progressive reduction measures to eliminate fissile material in use or designated for use in nuclear weapons or other nuclear explosive devices as follows:

Phase I: (5 years from the date of entry into force of the Treaty):

The Parties to the Treaty in possession of fissile material in use or designated for use in nuclear weapons or other nuclear explosive devices amounting to more than 100 Metric Tons (M.T.), shall convert 50 percent of the amount of fissile material in excess of 100 M.T. for use in peaceful purposes, within 5 years from the date of entry into force of the Treaty.

Phase II: (6-10 years from the date of entry into force of the Treaty):

The Parties to the Treaty in possession of fissile material declared for use in nuclear weapons or other nuclear explosive devices amounting to more than 100 M.T., shall convert 75 percent of the amount of fissile material in excess of 100 M.T. (declared at the time of entry into force of the Treaty) for use in peaceful purposes, within 10 years from the date of entry into force of the Treaty.

Phase III: (10-15 years from the date of entry into force of the Treaty):

The Parties to the Treaty in possession of fissile material declared for use in nuclear weapons or other nuclear explosive devices amounting to more than 100 M.T., shall convert 100 percent of the amount of fissile material in excess of 100 M.T. (declared at the time of entry into force of the Treaty) for use in peaceful purposes, within 15 years from the date of entry into force of the Treaty.

Phase IV: (15-25 years from the date of entry into force of the Treaty):

The Parties to the Treaty shall reduce their fissile material stockpiles declared for use in nuclear weapons or other nuclear explosive devices to 25 M.T. within 25 years from the date of entry into force of the Treaty, by converting the excess amount of fissile material for use in peaceful purposes.

Phase V: (25-35 years from the date of entry into force of the Treaty):

The Parties to the Treaty shall reduce their fissile material stockpiles declared for use in nuclear weapons or other nuclear explosive devices to 0 M.T. within 35 years from the date of entry into force of the Treaty, by converting the fissile material for use in peaceful purposes.

The first three phases, in total of 15 years, target the US and Russia primarily because commitment to universal disarmament should ideally start from the members in possession of the highest quantity of the fissile material and nuclear weapons. Of course, it has to be mentioned that the USA and Russia have already entered into bilateral reduction measures during and after the Cold War. However, in spite of these

reductions, these two states continue to possess significant amount of fissile material in comparison to any other state. Once these two NWS show commitment towards disarmament by converting the amount of fissile material in excess of 100 M.T. (designated for use in nuclear weapons or other nuclear explosive devices), it would become quite easy for the Conference on Disarmament to bring other Nuclear Weapon States, both *de facto* and *de jure*, to meet their obligations under the treaty. The later phases, from 15 to 35 years, bring in all the members under obligatory conversion of their fissile material stockpiles for utilization in peaceful purposes. Two phases of 10 years each would require all the members to bring down their stockpiles to 25 M.T. in the first 10 years and then to 0 M.T. by the end of the next 10 years.

The time frame of 35 years gives sufficient time for the nation states to absorb any impact on their energy security. If the above plan is enshrined in a treaty prohibiting the production of fissile material for nuclear weapons or other nuclear explosive devices, the obligations should be legally binding on the members, verified by utilizing the expertise of IAEA. With four out of five acknowledged NWS already having a self-imposed moratorium on production of fissile material, an FMCT would be viewed as an attempt to curtail the nuclear weapons program of India and Pakistan, or at least bring them under the IAEA ambit. However, an FMCT with a time-bound disarmament plan woven into its fabric would be seen as a genuine attempt at nuclear disarmament, treating each and every nation-state equally. It would rectify the discrimination brought in by the NPT; the nuclear activities of Nuclear Weapon States would also be subject to IAEA verifications, building the much desired “trust” amongst the members of the Conference on Disarmament. FMCT in the present shape might address the concerns of “non-proliferationists”, but it would certainly remain mute on the global issue of nuclear disarmament. A time and legally bound mechanism, under the auspices of IAEA, interlaced with the FMCT would pave the way for nuclear zero. The window of opportunity is small and the task is uphill, but the Conference on Disarmament should grab it with both hands.

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Published by: Society for the Study of Peace and Conflict. Post Box: 10560, JNU Old Campus, New Delhi-110067. Website: www.sspconline.org

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Designed and typeset by Excel Solutions