THE FISSILE MATERIAL CUT-OFF TREATY: A DEBATE IN PERPETUITY

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Ever since President Obama committed towards achieving a nuclear weapon free world at Prague (April 2009), the global zero syndrome seemed to have been catching up in the interactions among many countries. Since the pledge to reduce nuclear weapons till 2014 was taken by the United States, three major international level conferences have accentuated the significance of achieving disarmament. In addition, an international movement towards "The Global Zero" has already acquired endorsement by the United Nations. All this implies for the nuclear non-proliferation regime, the need and urgency to cement the safeguards and verification mechanisms aimed at preventing seepage of checks, leading to diversion of civilian nuclear technology. It is under this backdrop that arms control measures such as the Fissile Material Cut-off Treaty (FMCT) have made a comeback on the international negotiation table. The present article attempts at explaining the current willingness within the United States for negotiating such a treaty based on two factors: (i) the expansion of nuclear energy in the coming years as more countries look towards nuclear power as an alternative energy source; and (ii) a grim record of the nuclear non-proliferation regime acting as a catalyst towards devising newer check mechanisms. The main objective of the paper is to study the FMCT under the larger context of achieving

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nuclear disarmament, the inevitable development of nuclear power and the current non-proliferation regime.

BANNING FISSILE MATERIAL: THE WILL AND NECESSITY?

Since fissile materials such as Highly Enriched Uranium (HEU) and plutonium form an indispensable part of nuclear explosives, the use of these materials even for a peaceful purpose makes them vulnerable for diversion. The idea to ban their production for nuclear weapons capability was given by the Clinton Administration; followed by the UN General Assembly Resolution 1993, which recommended an international body to negotiate such a treaty. Since then, the efforts to negotiate the FMCT have been doing the rounds in the Conference of Disarmament (CD).

It is also since then that the treaty to ban the production of fissile material has been in limbo, mainly for two reasons. First, is the precondition of it being multilaterally negotiated; and second, that the FMCT ought to be made effectively verifiable. In 2009, however, the CD put forward a mandate to begin these negotiations but two years later (2011), the CD almost reached a stalemate, again due to Pakistan's blatant opposition. However, a joint resolution introduced by South Africa, Switzerland and Netherlands in the United Nations General Assembly's (UNGA's) first committee on disarmament demanded an end to the deadlock within the CD.

In the backdrop of these recent developments, combined with the disarmament commitment extended by President Obama in April 2009, some progress to finally negotiate an international treaty to ban the production of fissile material might become visible in the foreseeable future. However, for achieving this, the United States had to consistently push towards such a measure. This would mean one step forward in the right direction of nuclear disarmament. The Obama Administration has indeed set the tone for the United States towards engaging the international community in deliberating on the issues affecting nuclear security. Many nuclear experts also view this time as a ripe moment to negotiate long pending treaties such as the FMCT and Comprehensive Test Ban Treaty (CTBT) that are aimed at delivering the twin goals of nuclear disarmament and nuclear non-proliferation.

There is no doubt that the United States today assigns great importance to the FMCT as a part of the arms control measures. The treaty is viewed as a key mechanism within the nuclear non-proliferation regime. The realisation of the FMCT, according to many experts, would not only bring under control an arms race among China, India and Pakistan but, at the same time, build an international framework for reducing and eliminating future fissile material stocks. By reducing the availability of fissile material, the FMCT would also prevent acquisition of sensitive materials by the non-state actors. All this would construct a strong foundation for further non-proliferation goals. In the longer run, the conclusion of such a treaty would also add a positive environment, facilitating the larger goal of a world without nuclear weapons.

The American nuclear non-proliferation policy, in fact, for a long time had sought to prevent the misuse of these sensitive materials, domestically as well as internationally. In the 1980s, the United States initiated the Reduced Enrichment for Research Reactor (RERTR) programme that was aimed at minimising use of HEU in domestic civilian fuel reactors. The main objective of this programme implies a gradual elimination globally of HEU even for civilian purposes. President Obama reiterated his commitment towards the same during last year's Nuclear Security Summit. The HEU minimisation programmes plays an important role in preventing the diversion of civilian nuclear fuel. This objective is further supported by other initiatives such as the Global Threat Reduction Initiative (GTRI). These threat reduction programmes are responsible for the return of US origin HEU fuel from countries that have been engaged in nuclear commerce with the United States. Since the year 2004, under the GTRI programme, more than 320 kg[1] of HEU fuel has come back to the United States with an aim to minimise the possibilities of diversion. At the same time, about 200 reactors worldwide have been converted to Low Enriched Uranium (LEU) fuel reactors. Also, by 2020, around 200 reactors around the world have been targeted under the GTRI initiative to be converted into LEU fuel research reactors.

1. The Nuclear Threat Initiative, "Past and Current Civilian HEU Reduction Efforts", July 2011, accessed on September 26, 2011, http:??www.nti.org/db/heu/pastpresent.html

Non-proliferation efforts over the last few years have become a high priority issue for the United States.

It is significant that these non-proliferation efforts over the last few years have become a high priority issue for the United States and have been receiving a consistent flow of funding from the US Congress as well. This year too, the US Congress made a 9 percent increase to fund the federal government for the remaining fiscal year 2011. Congress agreed to provide approximately $2.32 billion to the National Nuclear Safety Administration's (NNSA's) non-proliferation related activities, representing an increase of about $200 million compared to the previous year's fiscal appropriations.[2] Thus, the efforts aimed at preventing the diversion of civilian nuclear technology at least in the Obama Administration have received increased attention in the last three years.

With regard to discouraging the production of fissile material for military purposes, the United States expects reciprocal action from other countries, as it has already ceased its production. This has become more evident since President Obama came to the White House. The need for such a step leading towards nuclear disarmament has become more pressing, especially after the conclusion of the new Strategic Arms Reduction Talks (START). It was argued that the conclusion of the START might invite similar arms reduction moves by other countries.

The conclusion of START before the nuclear Non-Proliferation Treaty (NPT) Review Conference (2010) was indeed a calculative step: first, the US was successful in projecting 30 percent cutback of its nuclear arsenal as a step towards global disarmament. Second, it helped the United States to convey to other states to do their bit, subtly implying that measures like the CTBT, FMCT are now important.[3] The idea was to divert attention towards matters that would directly invite attention from other non-nuclear weapon states such as India, Pakistan, and Israel. In the recent Conference of Disarmament

2. Robert Golan Vilella (2011), "Congress Boosts Non-Proliferation Funding", *Arms Control Association,* [Online: Web], accessed on November 22, 2011, http://www.armscontrol.org/act/2011_05/Funding
3. K. Subrahmanyam, "Prospects For a Nuclear Weapon Free World", *Indian Foreign Affairs Journal*, vol.5, no.2, April-June 2010, pp.172-180.

(2011), Rose Gottemoeller herself acknowledged, that the US would like to consider exploring other alternatives to begin FMCT negotiations if the CD languishes. The US Assistant Secretary, Bureau of Arms Control, supported *the idea of robust plenary discussions on broad FMCT issues*,[4] implying a US led role in the expert level technical discussions on FMCT related issues.

It is noteworthy that three years ago, Robert Einhorn a significant figure in the American non-proliferation policy since the Nixon Administration, too, had argued on similar lines. He proposed an alternative arrangement such as the Fissile Material Control Initiative (FMCI) that was targeted at the concerns emanating from the FMCT negotiations. The idea was to offer an alternative solution to ease repeated deadlocks in the CD. As one of the key issues in the CD negotiations deals with "scope over the existing stock of fissile material", the FMCI would facilitate a multilateral arrangement to enhance security, transparency and control over fissile material stocks. The purpose is to provide an alternative measure to *"any country that possessed fissile material, whether safeguarded or not, and was willing to sign onto a set of agreed principles"*.[5] Further the FMCI guidelines would ask the partners to declare their fissile material stock category, place excess material under International Atomic Energy Agency (IAEA) safeguards and ensure the highest standards of physical protection and accountancy to those stocks, concentrating on the existing stocks of fissile material and banning new production.[6] Thus, in praxis, the FMCI would independently work for the goal of the FMCT in parallel, while the negotiation continues at the CD.

These instances suggest a consistent willingness in the United States to push for efforts aimed at achieving concrete progress with regard to the nuclear non-proliferation regime. In fact, last year's Nuclear Posture Review (NPR) released by the Obama Administration, uncovered some similar facets in the American nuclear policy thinking. The NPR (2010),

4. 2011 Opening Statement to the Conference on Disarmament, Remarks by Rose Gottemoeller Assistant Secretary, Bureau of Arms Control, Verification and Compliance January 27, 2011, accessed on November 8, 2011, http://www.state.gov/t/avc/rls/155400.htm
5. Robert J. Einhorn, "Controlling Fissile Material and Ending Nuclear Testing", Achieving The Vision of A World Free of Nuclear Weapons: International Conference on Nuclear Disarmament, Oslo, February 26-27, 2008, accessed on November 18, 2011, www.ctbto.org/fileadmin/user_upload/pdf/.../paper-einhorn.pdf
6. Ibid.

The NPR (2010), clearly prioritised domestic and international actions that the United States would adopt in order to counter newer evolving nuclear threats.

clearly prioritised domestic and international actions that the United States would adopt in order to counter newer, evolving nuclear threats. It also called for "reinforcing the non-proliferation regime centred on the NPT along with IAEA safeguards combined with consistent persuasion of arms control mechanisms such as the FMCT and CTBT.[7] These developments taken together suggest the presence of thinking in the United States that is reflective of providing an impetus towards interdicting the endeavours by any state responsible for converting peaceful nuclear technology to military usage.

In international politics, the behaviour of the big powers matters. It matters not because it may or may not transcend into a stringent foreign policy action, but because it could be useful in anticipating a probable scenario that might emerge in the due course of time. The behaviour of the United States in this respect matters, as it could be interpreted as a way of implicit norm setting for the near future, which the other states might be expected to abide by.

Growing Nuclear Energy: A Driver?

The dawn of the 21st century was filled with narratives of a nuclear rennaissance characterised by a sudden renewed interest in nuclear energy, leading to increasing international cooperation with regard to nuclear commerce. As the world energy demand in the form of electricity is expected to grow at an exponential rate, combined with the global shift towards low carbon technologies, the prospects of nuclear energy making a contribution towards generation of electricity today, have indeed became brighter.

The green clean energy argument driven by the climate change lobby has also favoured the development of nuclear energy worldwide. The switch towards nuclear energy as clean energy has offered itself as an attractive

7. Manpreet Sethi "US Nuclear Posture Review" in Jasjit Singh, ed., *Asian Defense Review 2010* (New Delhi: Knowledge World, 2011), p. 20.

alternative for countries planning to diversify their energy needs. Climate change being conceivably damaging would require all absolute means to reduce greenhouse gases. This has added a sense of preventive responsibility which is likely to push countries to maximise efforts that would encourage the growth of nuclear power.

The international trend in generating electricity globally through the nuclear energy route has been catching up, especially in the Asian countries. It is noteworthy that despite the Fukushima accident, India and China have decided to go ahead with their civilian nuclear power development. Both countries have acknowledged the need to address the safety of their nuclear plants, but, at the same time, they plan to continue investing in nuclear power. In fact, "*the world's stock of 443 nuclear reactors could more than double in the next 15 years*"[8], according to the World Nuclear Association.

Over the last one year, countries such as China, India, South Korea, and France have shown enthusiasm towards the development of their nuclear industry to boost their energy mix, despite the Fukushima disaster. Other countries such as Switzerland, Italy, and Germany[9] that have planned for a phase-out of nuclear power could be seen as more of an exception rather than the rule. The Fukushima accident has indeed pushed the countries to review their safety standards but it would be misleading to suggest that this would ultimately lead to the collapse of the nuclear industry. The end of the nuclear industry that was predicted by many commentators post Fukushima is far from reality.

Nuclear power generation has been increasing continuously as a result of improved performance. *For instance, the share of nuclear power in global generation of electricity increased from 7.8 percent in 1980 to 15.5 percent in 2005, implying an increase of approximately 5.8 percent per annum in nuclear*

8. "India, China, to Move on With Nuclear Plants," *The NDTV Profit*, March 15, 2011; *The Nuclear Security Newsletter (*The Centre for Air Power Studies), vol.5, no. 11, April 01 2011, p. 21.
9. Germany's phase-out of all its existing nine nuclear reactors should not be viewed as a reaction against Fukushima, as the country has been against nuclear power since Chernobyl (1986), whose meltdown rained down contamination in the southeast of Germany. Also, the country's decision to phase-out nuclear reactors was not entirely new. For details, see Charles D. Ferguson, "Japan Meltdown , But That Doesn't Mean The End Of the Atomic Age," *Foreign Policy*, November 2011, pp.50-53.

In the recent years, many countries such as Saudi Arabia and United Arab Emirates have expressed interest in acquiring nuclear power plants.

power's contribution to electricity generation.[10] According to the World Nuclear Association's statistics, the coming 20 years would require greatly clean generated electricity; the overall demand of which would likely rise to 76 percent to 2030.[11]

In the recent years, many countries such as Saudi Arabia and United Arab Emirates have expressed interest in acquiring nuclear power plants. Middle Eastern and North African countries such as Jordan have expressed interest in nuclear power plants. In fact, by 2019, Jordan's first nuclear reactor would be operational, adding approximately 1,000 MW to its electricity generation capacity. In Southeast Asia as well, the demand for nuclear power has been raised by countries such as Indonesia, Philippines, Thailand, and Vietnam.[12]

The United States itself has remained motivated enough to continue expanding its nuclear industry despite Fukushima. US Energy Secretary Steven Chu clearly conveyed the need to include nuclear power in the country's future energy mix. Even one month after the Japanese crisis, the United States did not officially identify any area that required immediate action in terms of nuclear safety. On the contrary, US Deputy Secretary Daniel Poneman reiterated American commitment towards nuclear energy. He stated, "*Nuclear power must be considered as a part of any energy strategy.*"[13]

The option of nuclear energy as an alternative energy source would persist for one more reason: the availability of uranium; the high energy density of the uranium fuel combined with the diverse and stable geo-political distribution of the uranium resource. *"Uranium is ubiquitous and*

10. Energy, Electricity and Nuclear Power: Developments and Projections 25 Years Past and Future, IAEA, accessed on November 8, 2011, www-pub.iaea.org/mtcd/publications/pdf/pub1304_web.pdf
11. World Energy Needs and Nuclear Power, September 30, 2011, accessed on November 8, 2011, http://world-nuclear.org/info/inf16.html
12. Charles D. Ferguson, *Nuclear Energy: What Everyone Needs to Know* (Oxford University Press, 2011), pp. 64-67; and *The Jordan Times*, "Nuclear Reactor to be Operational in Jordan by 2019", [Online: Web] , accessed on November 18, 2011, http://m.albawaba.com/en/node/394001
13. Mycle Schneider, Antony Froggatt, Steve Thomas, "2010-2011 World Nuclear Industry Status Report," *The Bulletin of the Atomic Scientists,* 2011, pp.60-73.

many countries have workable deposits that could be exploited."[14] Globally, approximately 4.7 million tonnes of uranium remains to be economically exploitable. According to the Nuclear Energy Agency report, sufficient uranium has been identified, implying that even with the current usage rate, uranium would provide fuel supply for reactors for approximately 100 years.[15] Hence, one may argue that growth of the nuclear energy industry is inevitable despite events such as Fukushima. The Japanese nuclear accident has indeed affected public opinion regarding nuclear safety, and the cost at which the nuclear industry ought to be expanded. However, to suggest that this should directly imply a phase-out of nuclear energy is an "*overreaction*"[16].

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The direct relation between the growing demand for nuclear energy and the increasing risks of diversion of nuclear energy, logically creates space for improving, and introducing, more stringent international verification mechanisms. Under this backdrop, it is likely that the larger nuclear non-proliferation goals such as the FMCT will be met. Since 2001 onwards, one of the key elements of the US nuclear non-proliferation policy has been the prevention of access to sensitive material by potential proliferators. The cut-off treaty also in a way contributes towards this goal. By imposing a quantitative limit on the amount of fissile material for military purposes, it reduces its availability for proliferators to divert.

Unmet Expectation by the IAEA

President Obama's commitment towards global zero has not only invited international attention but also set the stage for the world community to take subsequent action towards the realisation of that goal. The fact that precisely one year later, Washington held a successful nuclear security

14. Trevor Findlay, *Nuclear Energy and Global Governance: Ensuring Safety, Security, and Non-Proliferation* (Routledge Publication, 2011), p.9.
15. Ibid.
16. Charles Ferguson," Do Not Phase Out Nuclear Power: Yet", [Online: Web], accessed on November 23, 2011, http://www.nature.com/news/2011/110323/full/471411a.html

Experts have argued that the NPT itself indirectly guides the states through a peaceful proliferation cycle of activities by providing them with the right to develop civilian nuclear technology.

summit is a sign that conveys the American insistence towards global disarmament.

The failure of the IAEA in keeping a check on the nuclear security efforts of the member states is another reason that has created space for efforts to scrutinise diversion of peaceful nuclear technology. For a long time now, issues such as a limited political mandate, combined with member states' reluctance in cooperating towards verification, and differences in opinion have dominated the IAEA's functioning.

It is often argued that the Agency has been hijacked by the West to fulfil their own security needs. All in all one, may conclude that the institution has not been a success due to a number of reasons. Besides political problems, practical monetary constraints have crippled the effective working of the Agency.[17] The IAEA was created in the 1960s with a view to promote the peaceful use of nuclear energy. It was envisioned by the progenitors of the institution that the spread of dual technology for a non-military purpose would serve as a means to ultimately achieve global disarmament. However, the initiative backfired long ago when a number of states acquired weapons capability. Today, numerous factors hinder the effective functioning of the IAEA. The task of maintaining nuclear security under the Agency's guidelines has been conditioned to member states' responses. It has been almost 55 years since its inception; the success rate of nuclear security programmes carried out under the purview of a confined mandate of the Agency is hardly commendable. Experts have argued that the NPT itself indirectly guides the states through a peaceful proliferation cycle of activities by providing them with the right to develop civilian nuclear technology. This had been used by states such as Iran as a cover to convert dual use technology into military ends. As it is, the IAEA could not adequately monitor every site,

17 Jack Boureston and Tanya Ogilvie White, "Expanding the IAEA's Security Mandate", *The Bulletin of the Atomic Scientists*, vol. 66, no. 5, September –October 2010, pp. 55-64.

and this challenge of monitoring and safeguarding would only multiply if more countries turn towards nuclear energy.[18] The problem is that mostly non-binding and voluntary measures are being used to check the issue of nuclear proliferation. The institutionalisation of the nuclear regime is done in a manner that allows the seepage of strict surveillance of the proliferation activities globally. The international measures launched to prevent nuclear proliferation, thus, transcend into an "intricate constellation of international instruments*…overlapping efforts and initiatives combined with overwhelming bureaucratic burden…that lack consensus on many issues*".[19] The successful functioning of the non-proliferation regime depends upon the collective endeavours undertaken regularly by countries. A number of small steps in the arms control mechanism would advance the non-proliferation regime, leading to the ultimate goal of disarmament. Many nuclear strategic experts like Stewart Patrick view the failure of the FMCT negotiations as a critical gap in the US led non-proliferation regime. He has argued that since the IAEA cannot possibly oversee every nuclear site, the verification of NPT safeguards ought to be made through an alternative arrangement. A review of the NPT (2010) failed to reach consensus on US efforts to make the Additional Protocol mandatory. The IAEA is the globe's technical agency in charge of ensuring that countries maintain safeguards on their peaceful nuclear programmes. Safeguards help deter a country from diverting nuclear technology and materials from peaceful to military programmes. The major concern is that safeguards capabilities have not kept up with the increased use of nuclear power and the projected expansion of nuclear power to many countries. In the words of the Bush Administration's head of the NNSA, "... safeguards equipment is outdated and personnel preparedness declining as the Agency failed to replace retiring experts with new hires." There is a realisation among many countries regarding the inadequate monitoring of the dual technologies. The failure of the IAEA in effectively keeping a check

18. Stewart M. Patrick (2010), "The Global Nuclear Non-Proliferation Regime", Council On Foreign Relations [Online: Web], accessed on August 30, 2011, http://www.cfr.org/proliferation/global-nuclear-nonproliferation-regime/p18984
19. Irma Arguello, "Regime Change for Nuclear Security," *The Bulletin of the Atomic Scientists*, September 2011, Fissile Material Working Group, accessed at http://www.thebulletin.org/web-edition/columnist/fissile-materials-workinggropu/regime-change-nuclear-security

One of the main reasons why the FMCT has not been able to actualise is due to its precondition of being internationally verifiable.

on diversion of peaceful nuclear technology and the inevitable expansion of nuclear power globally raises the possibility for the United States to consistently provide impetus to long pending arms control measures such as the FMCT. However, as much as there is a need and a willingness for controlling the diversion of civilian nuclear technology in the US, an equal degree of contradiction prevails, which prevents the materialisation of the same.

INHERENT CONTRADICTIONS

Verifiability

One of the main reasons why the FMCT has not been able to actualise is due to its precondition of being internationally verifiable. The issue of verifiability is important from the standpoint of ensuring the efficacy and credibility of the FMCT regime. Without a check provision on any sort, the treaty would be meaningless. The predicament with this mechanism lies in the verification approach that might be adopted when ultimately the FMCT would be actualised.

For instance, verification could be attempted through two methods such as satellite imaging, which most countries would prefer, or through the process of on-site inspection. Satellite imaging may play a role in monitoring large plants such as in the US and Russia; however, this verification approach would play little role where the surveillance of smaller reprocessing units is concerned. Thus, if effective verification is sought, which incorporates inspection of the smaller units, an alternative approach ought to be addressed. Hence, if one desires to ensure the adequacy of the verification regime, the on-site inspection would be the better method, as it would fill the gap in the verification process that might arise due to satellite imaging. However, the procedure of on-site inspection might have a drawback as conducting the inspection requires the site environment sampling method. This might result in disclosure of sensitive information about the past

plutonium activities of a state. For instance, the power level at which production reactors had operated and how much plutonium the reactors may have produced in the past, especially in the case of reprocessing and enrichment facilities placed side by side. This would mean a potential loss of information that would necessarily not have to be declared under the FMCT. Thus, some nuclear states could worry that sensitive information at their defence-related nuclear processing sites about past plutonium production activities might be revealed.[20]

It is for these considerations of security and losing sensitive data that states are reluctant to accept effective verification of the FMCT, even though it may be deemed necessary for its sound functioning. For instance, the United States does not support international verification of the FMCT; however, it is willing to verify the FMCT through national means and standards. This would be logically unacceptable to other states and strongly against the principle of the supremacy of law. Moreover, one of the prerequisites of the FMCT emanating from the Shannon Mandate demands that the treaty be multilaterally negotiated so that it may be made non-discriminatory in nature. Thus , an effective verification mechanism needs to be sought accordingly.

Universality

It is quite paradoxical that two of the most salient features of the FMCT such as being universally negotiated and effective verifiability have been acting as impediments in its progress. American arms control experts such as Christopher Ford have argued that the FMCT ought to be negotiated bearing the views of all the discussants. The verification rules too would have to be formulated on the basis of consensus of the parties. Under this context, it is likely that the verification rules would be framed on the basis of the lowest common denominator. The kind of verification system that would be likely to emerge out of this arrangement would then reflect provisions that had already been reduced to the least effective standards. It might be

20. Hui Zhang, 2008, "Should and Can FMCT Be Verified?", *INESAP Bulletin*, April 2008, pp 50-55, accessed on October 25, 2011, belfercenter.ksg.harvard.edu/files/Hui_Zhang_FMCT_INESAP.pdf

For the past two years, the CD negotiations have been deadlocked due to Pakistan's opposition.

possible that further these provisions would weakly reflect similar safeguards as in the Model Additional Protocol of the IAEA. It is important to note that the Additional Protocol is currently in force with *102 NPT states parties, and 32 states-parties have signed additional protocols.*[21] Under this context, an FMCT verification regime reduced to the lowest common denominator would provide alternative safeguards that states would want to adhere to. This would devalue the IAEA Model Additional Protocol and would ultimately undermine the nuclear non-proliferation regime. The FMCT governed verification system would then become an available pretext for the states to decline the IAEA Additional Protocol.[22] In this manner, the FMCT would prove to be counter-productive.

Also, the provision of multilateral negotiations has added a number of overlapping and antagonistic arguments preventing the actualisation of the treaty. Pakistan has already opposed the FMCT on the ground that it compromises the country's national security. Pakistan's representative to the UN, Mr. Raza Bashir, told the first committee of the UNGA's Disarmament and International Security very categorically, "FMCT that purported only to ban future production of fissile material would permanently freeze a strategic disadvantage for Pakistan and was, therefore, unacceptable."[23] For the past two years, the CD negotiations have been deadlocked due to Pakistan's opposition. While Pakistan insists on including the ban not just on future production of fissile material but also on the existing stocks as well, states already possessing huge amounts of fissile material stand against it. India too would be affected in the case of banning of future fissile material production as it is does not own hedge stocks. Thus, keeping its security considerations in mind, it could not possibly give in to this arrogation.

21. *The 1997 IAEA Additional Protocol At a Glance,* The Arms Control Association, [Online:Web] accessed on November 4, 2011, http://www.armscontrol.org/factsheets/IAEAProtoco
22. Christopher A. Ford (2009), "Five Plus Three: How to Have a Meaningful and Helpful Fissile Material Cut Off Treaty," *Arms Control Association* [online: Web], accessed on November 2, 2011, http://www.armscontrol.org/act/2009_03/Ford
23. Masood Haider, "Ban On Fissile Material Opposed", *The Dawn*, October 13, 2011, [Online: Web], accessed on November 8, 2011, http://www.dawn.com/2011/10/13/ban-on-fissile-material-production-opposed.html

Considering the fact that *Pakistan finds the banning of fissile material before capping its weapons related application illogical*,[24] it would be probable to argue that it would seek to maximise its stocks of sensitive material. This, in turn, would raise the security concern for India, the reaction to which would only invite Pakistan to augment its nuclear deterrence; thereby leading to a vicious circle. Ultimately, the cycle of action and reaction would further strengthen the need to press for the FMCT on the negotiation table. If the world is moving towards achieving global disarmament, Pakistan's augmenting its nuclear deterrence becomes contradictory to the objective. Hence, the idea of limiting one's capability would actually give rise to the maximisation of efforts to build more capability. It is under this backdrop that the FMCT negotiations would remain in perpetual limbo; moving from one contradiction to another, unless a compromise is achieved on the two important facets.

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CONCLUSION

Even though the United States would consistently push for an FMCT, there are issues that need to be settled in order for it to take final shape. For instance, the scope defining the stock of fissile material that ought to be covered under the FMCT is still pending. Also questions regarding the cost of verification, its sponsorship and its implementation, intensity and standards are not yet settled. Experts are divided on whether the verification ought to made operable based on the IAEA safeguards implying that the IAEA would be responsible for FMCT verification or to devise a separate verification organisation dedicated to FMCT verification.[25] An

24. Khalid Iqbal, "Pakistan's Upright Stance on FMCT", *The Frontier Post*, October 21, 2011, Online: Web], Accessed on November 8, 2011, http://www.thefrontierpost.com/?p=70465
25. John Carlson, "*The Fissile Material Cut-Off Treaty – A Discussion*", Australian Safeguards and Non-proliferation Office, International Commission on Nuclear Non-Proliferation and Disarmament, Research Paper, www.icnnd.org/Documents/Carlson_FMCT-090706.pdf

international trend favouring the FMCT is clearly visible. In addition, there is the availability of consistent American will and support. As the world moves towards diversifying energy needs, nuclear energy would sustain its place with an appropriate percentage in the energy mix of countries. As long as countries seek nuclear energy, the dangers related to it being diverted for other purposes would prevail. This would, in turn, facilitate an environment that would invite more stringent control mechanisms. The need for the FMCT that emanates out of the need to bulwark diversion and nuclear proliferation is increasingly evolving; parallel to that are evolving the inherent contradictions of the FMCT. Sure, the consistent will of the United States would continue and that would push towards an FMCT; however, compromises ought to be sought even by the United States itself on any of the issues. The deadlock between the US and Pakistan ought to be solved before negotiations can proceed any further. Also, any possible direction on the progress of the FMCT is difficult to anticipate, especially once the Obama Administration leaves the White House. How will the Republicans handle the questions of verifiability? Once again, the FMCT would be left at the negotiation table. Despite these shortcomings, one conclusion could be derived as certain. The will of the United States towards the eventual realisation of the Fissile Material Cut-Off Treaty under the backdrop of nuclear disarmament has come out clearly in the last two years.