

THE NEW U.S. APPROACH TO THE FISSILE MATERIAL  
CUTOFF TREATY: WILL DELETION OF A VERIFICATION  
REGIME PROVIDE A WAY OUT OF THE WILDERNESS?

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I ask you to stop and think for a moment what it would mean to have nuclear weapons. . . . in the hands of countries large and small, stable and unstable, responsible and irresponsible, scattered through the world. There would be no rest for anyone then, no stability, no real security and no chance of effective disarmament.<sup>1</sup>

## I. INTRODUCTION

Nuclear proliferation<sup>2</sup> and the concomitant potential for nuclear terrorism is the greatest threat to the United States in the twenty-first century. President Kennedy's remarks, prescient as they were, did not foresee the threat from non-state actors and their quest for nuclear weapons. America must do all it can to prevent terrorist acquisition of nuclear capability. Unfortunately, the United States has no choice in the matter. Indeed, as Leon Trotsky once said, "you may not be interested in war, but war is interested in you."<sup>3</sup>

Potential terrorist acquisition of nuclear capability confounds a guiding principle of international relations since the Peace of Westphalia, roughly four hundred years ago, when the nation-state system emerged in Europe. The principle is that only another state, with its power of vast armies and navies, could threaten or harm another state.<sup>4</sup> Today, a few terrorists armed with a nuclear weapon or other weapons of mass destruction (WMD) can pose a threat equal to or greater than the military might a sovereign state can summon.

No other device can compare to the power of a nuclear weapon to inflict unfathomable destruction. Other WMD, such as chemical or biological weapons, horrific as they are, seem less threatening by comparison. All WMD can destroy human life, livestock and animal life, and crops. But only nuclear weapons also destroy buildings and physical infrastructure, and do so on a vast scale.

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1. *Statement by President John F. Kennedy*, July 26, 1963, U.S. ARMS CONTROL AND DISARMAMENT AGENCY, DOCUMENTS ON DISARMAMENT, 1945-1959, at 396.

2. Nuclear proliferation initially meant the acquisition of nuclear weapons by states that did not already possess them. Now the term refers to "horizontal" proliferation while "vertical" proliferation refers to greater numbers of nuclear weapons of increasing sophistication by states that already have them. See Richard L. Williamson, Jr., *Law And The H-Bomb: Strengthening The Nonproliferation Regime To Impede Advanced Proliferation*, 28 CORNELL INT'L L.J. 71, 77 (1995). The author notes that some believe that biological weapons may be equally or more devastating due to the possibility of a pandemic spreading far beyond the impact area of a nuclear weapon.

3. *Quoted in* George F. Will, *The Doctrine of Preemption*, IMPRIMIS, Sept. 2005, at 1.

4. *Id.*; see also STEPHEN D. KRASNER, SOVEREIGNTY (1999).

If Al Qaeda was to rent a van to carry [a] ten-kiloton Russian weapon into the heart of Times Square and detonate it adjacent to the Morgan Stanley headquarters at 1585 Broadway, Times Square would vanish in the twinkling of an eye. The blast would generate temperatures reaching into the tens of millions of degrees Fahrenheit. The resulting fireball and blast wave would destroy instantaneously the theater district, the New York Times building, Grand Central Terminal, and every other structure within a third of a mile of the point of detonation. The ensuing firestorm would engulf Rockefeller Center, Carnegie Hall, the Empire State Building, and Madison Square Garden leaving a landscape resembling the World Trade Center site. From the United Nations headquarters on the East River and the Lincoln Tunnel under the Hudson River, to the Metropolitan Museum in the eighties and the Flatiron building in the twenties, structures would remind one of the Alfred P. Murrah Federal Office Building following the Oklahoma City bombing.<sup>5</sup>

Fissile material, here defined as highly enriched uranium (HEU) or plutonium (Pu), is the indispensable ingredient of a nuclear weapon, and the most difficult to obtain and manufacture. It is the availability of this material, *inter alia*, that the United States and nearly every other responsible nation seek to constrain in order to enhance global security by reining in nuclear proliferation.

A Fissile Material Cutoff Treaty (FMCT),<sup>6</sup> viewed by many as the next multilateral measure to halt nuclear proliferation, would limit the amount of fissile material available for nuclear weapon use by banning any further production of fissile material for nuclear weapons or nuclear explosive purposes. As such, it would be an additional means of halting nuclear proliferation, added to an existing nuclear nonproliferation regime.<sup>7</sup> FMCT

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5. GRAHAM ALLISON, NUCLEAR TERRORISM, THE ULTIMATE PREVENTABLE CATASTROPHE 3-4 (2004).

6. Some refer to this proposed treaty as a Fissile Material Treaty (FMT) in order to highlight the fact that many states have not given their support to the idea of a "cutoff." This issue is discussed in more detail, *infra*.

7. The term "regime" in the nuclear nonproliferation context is a bit misleading, although it is widely used and will also be used in this Article. The nuclear nonproliferation regime encompasses a diverse mix of treaties, agreements, and organizations including the NPT, CTBT, Nuclear Weapon Free Zones, Export Control legislation and regulations, Security Assurances, the Nuclear Suppliers Group, the Zangger Committee, and the International Atomic Energy Agency. The term usually connotes order and regulation by a hierarchical system of some sort. That is not the case with the nuclear nonproliferation regime. No single individual or organization is "in charge." See Ben Sanders, A Short History of Nuclear Non-Proliferation, Programme for Promoting

negotiations could produce confidence building measures and declarations from all states with nuclear weapons and fissile material.<sup>8</sup>

Stated simplistically, the goal is to continue adding restrictions until all proliferation possibilities have been foreclosed although that is unrealistic and overstates the goal. The true goal is to prevent, delay, and discourage proliferation through a broad array of mutually reinforcing measures. The United States supports FMCT negotiations and should continue to do so.<sup>9</sup> A FMCT would cap certain classes of fissile material and reduce the number of enrichment and reprocessing facilities that might be terrorist targets. The new U.S. position, no longer supporting a verification regime for FMCT,<sup>10</sup> may well be the impetus that finally permits negotiations on this treaty to progress.

## II. ROADMAP

This Article will review the Administration's new approach to FMCT along with a history of FMCT, discuss why the United States should continue to pursue a FMCT, and examine the issues surrounding the new U.S. position which is to support negotiations on such a treaty, but without a verification regime.<sup>11</sup> The Article will argue that this is the correct approach which increases the chance for the treaty to move forward. It also examines the relevance of a FMCT in the overall nuclear nonproliferation and arms control context. Additionally, it will address the states whose participation in a FMCT is vital and argue for the participation of those states. It will discuss what activities a FMCT would likely prohibit and authorize. Key provisions of a FMCT will be reviewed, including suggested definitions of key terms such as "fissile material" and "enrichment/reprocessing facilities." The Article will consider what a verification scheme would entail and why it is problematic, unreliable and costly, to include discussion of a "national security exclusion," a

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Nuclear Non-Proliferation, available at <http://www.nea.fr/html/law/nlb/Nlb-62/sandslov.pdf> (last visited Aug. 31, 2006). But as more measures, treaties, groups, and organizations exist with the goal of preventing nuclear proliferation, most of the holes in the leaky sieve which existed have been plugged. Ultimately, as more measures are put into place, proliferation should ideally cease or become very difficult.

8. Daryl G. Kimball, *Act Now on Fissile Material Treaty*, 34 ARMS CONTROL TODAY (2004), available at [http://www.armscontrol.org/act/2004\\_04/Focus.asp](http://www.armscontrol.org/act/2004_04/Focus.asp).

9. See Sanders, *supra* note 7.

10. U.S. Department of State, Fissile Material Cutoff Treaty Policy, July 2004, Statement of U.S. Representative to the Conference on Disarmament, Jackie Sanders at the CD, July 29, 2004.

11. The Conference on Disarmament has considered a FMCT annually now for ten years.

controversial proposal that only would be relevant to a treaty without a verification regime. The Article will also review the histories of other related agreements and conclude that the Administration's new non-verification approach to FMCT, in spite of widespread criticism, may yet to prove its merit.

A FMCT has been discussed conceptually for years, but that is as far as it has ever progressed.<sup>12</sup> No FMCT has been negotiated. In fact, negotiations have only once started briefly and never resumed.<sup>13</sup> Thus, there has not even been any proposed treaty text available that has been discussed in the public domain until the Administration recently tabled draft text.<sup>14</sup> No law review articles exist on the topic, and as such, this Article is intended as a seminal work to initiate discussion of a FMCT in the legal arena.

### III. A NEW APPROACH TO A FMCT

The prevailing view in the international community with regard to a FMCT is that such an agreement would include some type of verification regime in the treaty architecture.<sup>15</sup> The Administration announced recently that while the United States continues to support negotiations on a FMCT, it had serious reservations concerning the viability and achievability of an effectively verifiable FMCT. This has translated into the Administration no longer supporting efforts to establish a FMCT verification regime.<sup>16</sup>

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12. This occurred at the Conference on Disarmament in 1998.

13. CHARLES D. FERGUSON ET AL., *THE FOUR FACES OF NUCLEAR TERRORISM* 321 (2004).

14. Draft Mandate Text, available at <http://www.usmission.ch/Press2006/0518DraftFMCT.html> [hereinafter U.S. Draft FMCT].

15. The term "regime" is intended to be applied generally. It is used in connection with the NPT and FMCT verification. In international relations theory, "regimes can be defined as sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations." Stephen Krasner, *Structural Causes and Regime Consequences: Regimes as Intervening Variables*, 36 INT' ORGS. 1, 2 (1982). The significance of the concept is that it may facilitate communication and cooperation among states. See generally ROBERT O. KEOHANE, *NEOLIBERAL INSTITUTIONALISM: A PERSPECTIVE ON WORLD POLITICS IN INTERNATIONAL INSTITUTIONS AND STATE POWER: ESSAYS IN INTERNATIONAL RELATIONS THEORY 2* (Robert O. Keohane ed., 1989); Anne-Marie S. Burley, *International Law and International Relations Theory: A Dual Agenda*, 87 AM. J. INT'L L. 205, 220 (1993). To a regime theorist, the nonproliferation regime would consist of the NPT, regional treaties, the safeguards and rules of the IAEA and related U.N. resolutions. See Joseph Nye, *Maintaining a Non-Proliferation Regime*, 35 INT'L ORGS. 16 (1981), quoted in SCOTT, *infra* note 108, at 11.

16. U.S. Department of State, *Fissile Material Cut-Off Treaty Policy*, July 2004. Statement of U.S. Representative to the Conference on Disarmament Jackie Sanders at the CD, July 29, 2004.

Critics have cast the new Administration position in negative terms and as adverse to the goals of arms control and nonproliferation. Many claim it is also likely to “further stall efforts to secure this long-overdue nonproliferation measure.”<sup>17</sup> Some view this as the Bush Administration reversing its support for FMCT<sup>18</sup> and deem<sup>19</sup> it a “poison pill” for the FMCT.<sup>20</sup> Critics believe that “[n]egotiating a verifiable FMCT will be a political challenge, but it is technically feasible to establish the means to effectively monitor and verify compliance with the treaty in order to detect and deter clandestine nuclear bomb production efforts.”<sup>21</sup>

Foreign reaction to the Administration’s position generally could be characterized as muted disapproval. The Japanese Ambassador to the Conference on Disarmament (CD) noted that Japan considers effective verification essential to a FMCT regime.<sup>22</sup> Australia’s Ambassador<sup>23</sup> to the CD also noted that a FMCT should contain appropriate verification arrangements, as have some commentators and experts.<sup>24</sup> Interestingly enough, China “attach[ed] importance to the position of the U.S. delegation,” and wanted to learn more about it so that it could be studied

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17. *Arms Control Experts Say Ban on Production of Key Nuclear Materials for Weapons Should be Universal and Verifiable*, ARMS CONTROL TODAY, July 30, 2004 [hereinafter *Arms Control Experts*], available at [http://www.armscontrol.org/pressroom/2004/20040730\\_FMCT.asp](http://www.armscontrol.org/pressroom/2004/20040730_FMCT.asp).

18. See Kimball, *supra* note 8.

19. See, e.g., *Fissile Material Cutoff Treaty, Nuclear Threat Initiative*, at [http://www.nti.org/e\\_research/cnwm/ending/fmct.asp](http://www.nti.org/e_research/cnwm/ending/fmct.asp) [hereinafter NTI] (noting that “this new position made successful negotiation of an agreement in the near term even less likely than before.” The author then injects some welcome realism, in stating the obvious: “Even before the Bush Administration’s announcement, however, negotiation of an FMCT had been stymied for years and seemed to have little likelihood of moving forward soon.”).

20. Daryl G. Kimball, *The Bush Administration and the Fissile Material Cutoff Treaty: Reversing Course on Verification*, *Arms Control Association Press Roundtable*, Sept. 2, 2004, at [http://www.armscontrol.org/events/FMCT\\_Excerpts.asp](http://www.armscontrol.org/events/FMCT_Excerpts.asp) [hereinafter *Reversing Course*].

21. *Arms Control Experts*, *supra* note 17 (Statement of Dr. Frank Von Hippel, co-director of the Program on Science and Global Security at the Woodrow Wilson School at Princeton University).

22. See *Foreign Reaction to Bush Administration’s New FMCT Approach*, at [http://www.armscontrol.org/events/FMCT\\_Foreign\\_Response.asp](http://www.armscontrol.org/events/FMCT_Foreign_Response.asp).

23. *Id.*

24. John Carlson, *Can a Fissile Material Cutoff be Effectively Verified?*, ARMS CONTROL TODAY, Jan./Feb. 2005, available at [http://www.armscontrol.org/act/2005\\_01-02/Carlson.asp?](http://www.armscontrol.org/act/2005_01-02/Carlson.asp?)

in Beijing.<sup>25</sup> Also, the other P-5<sup>26</sup> states seemed inclined not to oppose the U.S. position.

Precisely how it is possible to “stall” a treaty that has moved not an inch in a decade is difficult to say. How anyone or anything could make matters worse seems rather a rhetorical question, although theoretically matters can always deteriorate. Such criticism of the Administration position, therefore, appears to be politically motivated. That is especially so since on May 18, 2006, the United States tabled the first draft FMCT at the CD, evidence of its clear commitment to treaty negotiations.

An approach which is incremental is not irresponsible or unprecedented. It is often the case in arms control and nonproliferation negotiations where states, taking into account the political realities of the moment, elect to achieve far less than originally hoped for in order to attain some progress. Another benefit of the Administration’s approach is that since no progress has been achieved for over a decade, a new, more limited approach seems more viable so that some agreement on a FMCT might be attainable.

In fact, the Nuclear Nonproliferation Treaty (NPT),<sup>27</sup> the keystone of the nuclear nonproliferation regime, followed a similar pattern with its verification scheme. That treaty was concluded in 1968 and entered into force in 1970. The model safeguards agreement was not concluded until 1972.<sup>28</sup> When these safeguards were proven to be inadequate in the wake of revelations regarding the Iraqi nuclear program before the first Gulf War, the IAEA then developed the Model Additional Protocol in 1997.<sup>29</sup>

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25. *Id.* The author suspects that China was thrilled at the new U.S. position and will ultimately be fully supportive. China probably does not want a verification regime, but simply did not wish to so state in public. In fact, the Administration position is very clear, so there is not really much to “learn more about.”

26. The P-5 are the five permanent members of the U.N. Security Council: the United States, the United Kingdom, Russia, China, and France. The P-5 also happen to be the five recognized Nuclear Weapon States in the NPT.

27. Treaty on the Nonproliferation of Nuclear Weapons, *opened for signature* July 1, 1968, 21 U.S.T. 483, 484, 729 U.N.T.S. 161, 169 [hereinafter NPT]. See also G.A. Res. A/RES/1380 (XIV), Nov. 20, 1959; G.A. Res. on the Treaty on the Nonproliferation of Nuclear Weapons with text of treaty annexed, A/RES/2373 (XXII), June 12, 1968.

28. International Atomic Energy Agency, *The Structure and Content of Agreements Between the Agency and States Required in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons*, INFCIRC 152 (1972), available at <http://www.iaea.org/Publications/Documents/Infircs/Numbers/nr151-200.shtml>.

29. The Protocol Additional to the Agreement between the United States of America and the International Atomic Energy Agency for the Application of Safeguards in the United States of America. The Additional Protocol includes both location specific and wide area environmental sampling, but all articles of the Protocol are subject to a very broad national security exclusion. The



This expanded the IAEA's authority to detect undeclared enrichment and reprocessing activities in a state. Given the success of the NPT, it hardly seems unreasonable to argue for the validity and effectiveness of this approach.

Rather than impede nonexistent FMCT progress, the new U.S. position might, contrary to expectations, be the long-awaited impetus allowing FMCT to finally gain traction. Real negotiations may now finally begin, albeit toward a different FMCT than many initially contemplated.

#### IV. FMCT BACKGROUND AND HISTORY

The earliest proposal on record for controlling or banning the production of fissile material followed closely on the heels of World War II. The Acheson-Lilienthal Report, named for the U.S. Secretary of State and the soon-to-be first Chairman of the U.S. Atomic Energy Commission, included a proposal by President Truman involving the concept of controlling nuclear energy for both peaceful and military purposes.<sup>30</sup> The report had no provision for handling violations since the goal of the proposed organization was to warn of impending danger.<sup>31</sup>

As early as 1946, Bernard Baruch, U.S. Representative to the U.N. Atomic Energy Commission (UNAEC), for whom the Baruch Plan<sup>32</sup> is named, proposed the international control of atomic energy. He stated that "[t]he Authority should have as one of its earliest purposes to obtain and maintain complete and accurate information on world supplies of uranium and thorium and to bring them under its dominion."<sup>33</sup> While the Authority was not specified, it was to become the International Atomic Energy Agency (IAEA).<sup>34</sup>

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U.S. Senate gave its advice and consent to ratification in March 2004. The President will ratify the Additional Protocol once legislation required to implement it is passed. For an excellent discussion of the Additional Protocol, see Theodore Hirsch, *The IAEA Additional Protocol, What It Is and Why It Matters*, 11 NONPROLIFERATION REV. 140-63 (2004).

30. See GEORGE BUNN, *ARMS CONTROL BY COMMITTEE: MANAGING NEGOTIATIONS WITH THE RUSSIANS* 59-61 (1992).

31. See ANNETTE SCHAPER, *A TREATY ON THE CUTOFF OF FISSILE MATERIAL FOR NUCLEAR WEAPONS—WHAT TO COVER? HOW TO VERIFY?* 48 (Frankfurt 1997), *quoted in* Roberts, *infra* note 39, at 21.

32. *The Baruch Plan: Statement by the U.S. Representative to the U.N. Atomic Energy Commission*, June 14, 1946, U.S. DEP'T OF STATE, *DOCUMENTS ON DISARMAMENT 1945-1959*, Doc. No. 4, at 7-15 (1960).

33. *Id.*

34. *Id.* The Baruch Plan proposed comprehensive international control of nuclear energy. The IAEA really is the direct descendant of "Atoms for Peace" with its greater respect for sovereignty

In December 1946, the UNAEC delivered its first report to the Security Council recommending the establishment of an international agency that would arrange for the disposal of fissile materials and guaranteeing that the manufacture and possession of atomic weapons would be prohibited.<sup>35</sup>

Continuing its quest for major controls on fissile materials, the next report of the UNAEC in September of 1947 recommended a system of mining and processing controls where all source materials would be owned and managed by an international agency.<sup>36</sup> The Soviet Union rejected the proposal claiming that the inspection provisions violated national sovereignty.<sup>37</sup> Instead, the Soviets proposed the Gromyko Plan for the elimination of all atomic weapons.<sup>38</sup>

In May 1955, President Eisenhower's Special Assistant for Disarmament presciently concluded that the concept of eliminating nuclear weapons was an "impractical goal" but urged a full accounting of the past production of nuclear material.<sup>39</sup> President Eisenhower presented his "Atoms for Peace" plan at the United Nations in 1953.<sup>40</sup> The goal of that plan was to advance the peaceful uses of atomic energy along with nuclear disarmament by transferring fissile material from military to civilian uses.<sup>41</sup> President Eisenhower referred to doing more than merely reducing or eliminating atomic materials for military purposes.<sup>42</sup> By implication, that could only mean seeking an agreement to halt the production of fissile materials for military purposes. Given the realities of the Cold War, however, circumstances were simply not conducive to such an agreement. President Eisenhower proposed establishing the IAEA, which would

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and more limited international controls.

35. *Id.*

36. *Id.*

37. While literally true, of course, it is a specious argument. Any inspection by an international agency might be viewed as a technical violation of national sovereignty. The sovereignty is simply waived for the specific and very limited purpose of conducting the inspection, so there is no meaningful violation of sovereignty.

38. *Address by the Soviet Representative (Gromyko) to the United Nations Atomic Energy Commission*, June 19, 1946, U.S. DEP'T OF STATE, DOCUMENTS ON DISARMAMENT 1945-1959, at 17-24.

39. Guy B. Roberts, *This Arms Control Dog Won't Hunt: The Proposed Fissile Material Cut-off Treaty At The Conference On Disarmament*, at 16-17, U.S. Air Force Institute for National Security Studies, Occasional Paper 36, Arms Control Series, Jan. 2001 (providing an excellent compendium of FMCT history and issues).

40. *United States "Atoms for Peace" Proposal: Address by President Eisenhower to the General Assembly*, Dec. 8, 1953, U.S. DEP'T OF STATE, DOCUMENTS ON DISARMAMENT 1945-1959, at 393-400 [hereinafter *Atoms for Peace*].

41. *Id.*

42. *Id.*

sponsor the peaceful uses of nuclear energy and apply safeguards to ensure no diversion of nuclear material to military purposes.<sup>43</sup>

In 1954, India proposed a non-discriminatory, universal convention halting the production of fissile materials. Indian Prime Minister Nehru called for a nuclear “Standstill Agreement” in April, 1954.<sup>44</sup> Then in 1957, the U.S. Secretary of State, John Foster Dulles presented a paper to the U.N. Disarmament Commission. It proposed that all “future production of fissionable material will be used under international supervision, exclusively for non-weapons purposes,” but the Soviet Union blocked any agreement claiming that a prohibition on fissile material production would not work without a ban on nuclear weapons.<sup>45</sup>

That same year, the U.N. General Assembly adopted a U.S. sponsored resolution that encouraged other states to consider an agreement on “the cessation of the production of fissionable material for weapons purposes.”<sup>46</sup> That was the first U.N. General Assembly Resolution specifically addressing a FMCT.<sup>47</sup> In 1958, the United States, United Kingdom, and France proposed a draft agenda for a superpower summit.<sup>48</sup> The first topic on the proposed agenda was a FMCT.<sup>49</sup>

In the early 1960s a nuclear weapon test ban was the primary American goal in the disarmament arena, replacing the FMCT.<sup>50</sup> In 1964, President Johnson proposed to the Eighteen-Nation Disarmament Committee a freeze in the nuclear arms race and a FMCT, starting with a measure to verify the closure of production facilities.<sup>51</sup> Later that year, the United States, United Kingdom, and Soviet Union all announced that they would unilaterally cut production of fissile materials for use in nuclear weapons.<sup>52</sup>

In the 1960s nuclear perils threatened global holocaust. The Cuban missile crisis heightened Cold War fears of nuclear confrontation. In that context, negotiations on the NPT began. The NPT was ultimately to become the most successful and widely subscribed arms control treaty in

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43. *Id.*

44. *Id.*

45. *Atoms for Peace*, *supra* note 40, at 393-400.

46. *Id.*

47. *Id.*

48. *Id.*

49. *Id.*

50. *Atoms for Peace*, *supra* note 40, at 393-400. In fact, intense negotiations resulted in the Limited Test Ban Treaty between the United States and the Soviet Union in 1963.

51. *Id.*

52. *Id.*

history, with 188 states parties.<sup>53</sup> During the negotiations on the NPT, a ban on the production of fissile materials was contemplated, along with a host of other measures, including negotiations on a comprehensive nuclear test ban treaty.<sup>54</sup>

After the NPT negotiations were concluded and the treaty entered into force in 1970,<sup>55</sup> the next significant development for a FMCT occurred in 1978.<sup>56</sup> A Canadian proposal in the Tenth Special Session of the U.N. Devoted to Disarmament called for banning fissile materials for use in weapons in order to “suffocate” nuclear proliferation.<sup>57</sup>

In 1979, the United Nations established the Conference on Disarmament (CD) as the single multilateral disarmament negotiating forum for the “international community.”<sup>58</sup> Beginning with a membership of forty states, the CD now comprises sixty-six states.<sup>59</sup> It is the successor to other disarmament negotiating bodies including the Ten-Nation Committee on Disarmament, the Eighteen-Nation Disarmament Committee,<sup>60</sup> and the Conference on the Committee on Disarmament.<sup>61</sup>

In 1982, India once again made a FMCT-type proposal, calling for a “Freeze on Nuclear Weapons” and requesting that the nuclear powers halt production of nuclear weapons and fissile material for weapons purposes.<sup>62</sup> India tabled this resolution annually in the CD with no result when, in 1988 it joined a Mexican proposal on the same topic.<sup>63</sup>

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53. The current number of 188 excludes North Korea. See Ralph C. Hassig & Kongdan Oh, *North Korea: A Rogue State Outside the NPT Fold*, EJOURNALUSA: FOREIGN POL'Y AGENDA, Mar. 2005, at <http://www.usinfo.state.gov/journals/itps/0305/ijpe/kongdan.htm>.

54. Roberts, *supra* note 39.

55. See *supra* note 53.

56. See *supra* note 53.

57. See *supra* note 53.

58. This term is widely used but of uncertain meaning. The author views the term as misleading, idealistic and aspirational. When reference is made to the “international community,” there is an inference of unanimity or general agreement and nothing could be further from the truth. The term really refers to the states that meet in the United Nations context and often signify their approval or disapproval of certain issues via resolutions. But unanimity within this “community” is a rare commodity indeed. In fact, members of the “community” are often at war with each other.

59. See Conference on Disarmament, available at [http://www.unog.ch/80256EE600585943/\(httpPages\)/2D415EE45C5FAE07C12571800055232B?OpenDocument](http://www.unog.ch/80256EE600585943/(httpPages)/2D415EE45C5FAE07C12571800055232B?OpenDocument).

60. *Id.*

61. *Id.*

62. *Id.*

63. See Roberts, *supra* note 39, at 22. The Indian proposal in the U.N. General Assembly was set forth in the 37th Sess., G.A. Res. 37/100A. The Mexican proposal was contained in U.N. General Assembly, 44th Sess., G.A. Res. 44/117D.

The Comprehensive Nuclear Test Ban Treaty (CTBT) was negotiated in the CD, but failure to reach final agreement in the CD required that the United Nations endorse the treaty by a separate resolution instead of simple adoption of the CD report to the United Nations.<sup>64</sup> The CD previously had negotiated other significant arms control agreements such as the Biological Weapons Convention (BWC)<sup>65</sup> and Chemical Weapons Convention (CWC).<sup>66</sup> If multilateral negotiations were to take place on a FMCT, they would logically occur at the CD. The CD is located in Geneva, Switzerland in the posh Palais de Nations, the original home of the League of Nations. Of late, the CD has made the hapless League of Nations appear quite effective by comparison. However, alternative negotiating venues are conceivable, including an *ad hoc* coalition-of-the-willing.

In 1980, Canada and Australia, both strong proponents of a FMCT to this day, provided a historical look at FMCT.<sup>67</sup> In *The Prohibition of the Production of Fissionable Material for Weapons Purposes*, the authors illustrated the development of thinking on a FMCT and noted that such a proposal had been floating about for twenty-five years.<sup>68</sup> It was generally understood that the Cold War made a FMCT impractical and blocked any possible progress.<sup>69</sup>

The key event that thrust FMCT onto the world stage was President Clinton's address to the United Nations in 1993, wherein he stated:

We will pursue new steps to control the materials for nuclear weapons. Growing global stockpiles of plutonium and highly enriched uranium are raising the danger of nuclear terrorism in all

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64. See Comprehensive Nuclear Test Ban Treaty, at [http://www.dfat.gov.au/security/aus\\_policy.html](http://www.dfat.gov.au/security/aus_policy.html) [hereinafter CTBT].

65. Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, 26 U.S.T. 571, T.I.A.S. 8062, 1015 U.N.T.S. 163 (1972) [hereinafter BWC]. The United States acceded to the BWC on Mar. 26, 1975. See also Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, June 17, 1925, 26 U.S.T. 571, 94 L.N.T.S. 65, 67, 69, entered into force Feb. 8, 1928. The BWC was ratified by the United States on Jan. 22, 1975 subject to certain reservations.

66. Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons and on Their Destruction, Apr. 29, 1997, 1974 U.N.T.S. 45, 32 I.L.M. 800 (1993) [hereinafter CWC].

67. CD Document CD/90.

68. Rebecca Stevens, *FMCT Background*, Disarmament Forum, at <http://www.unidir.ch/pdf/articles/pdf-art233.pdf>.

69. *Id.*

nations. We will press for an international agreement that would ban production of these materials forever.<sup>70</sup>

Presidents Clinton and Boris Yeltsin, at their meeting in Moscow on January 14, 1994, agreed that a FMCT would be a vital contribution to the goal of nuclear nonproliferation.<sup>71</sup> With the end of the Cold War, international consensus and a U.N. General Assembly Resolution, combined with strong backing from an American President,<sup>72</sup> FMCT finally had a clear and realistic path ahead.

That same year, the United Nations passed, by consensus, U.N. General Assembly Resolution 48/75L which recommended 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.”<sup>73</sup> One wonders how it can be that virtually every nation on earth has given its blessing to the concept of a FMCT and yet, there is no FMCT.

The resolution requested that the IAEA provide assistance for the verification of a FMCT.<sup>74</sup> The involvement of the IAEA, itself an independent, specialized agency of the United Nations, seemed eminently logical given that it already had a role in the verification of the NPT through the system of international safeguards it administers. Safeguards provide technical means for the IAEA to detect or deter diversion or other illicit use of nuclear material and comprises measures by which the IAEA independently verifies declarations by states about their nuclear material and activities.<sup>75</sup> Since safeguards or similar verification measures are costly, such expenses ultimately borne by states themselves, turning to an agency with existing expertise seems a sensible strategy. Even IAEA involvement must achieve consensus among negotiating parties, however, and some states have hinted at objections, so the issue of the new inspectorate, if there is to be one, could also be contentious.

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70. Remarks to the 48th Session of the U.N. General Assembly in New York City, 2 Pub. Papers 1612, 1615 (1993) [hereinafter Remarks].

71. *Joint Statement on Non-Proliferation of Weapons of Mass Destruction and the Means of Their Delivery*, 1 Pub. Papers 71 (1994).

72. Remarks, *supra* note 70.

73. U.N. General Assembly Resolution, *Prohibition of the Production of Fissile Material for Nuclear Weapons of Other Nuclear Explosive Devices*, G.A. Res. 48/75L, U.N. GAOR, 48th Sess., Supp. No. 49, at 83, U.N. Doc. A/48/49 (1994) [hereinafter G.A. Res. 48/75L].

74. *Id.*

75. See IAEA.org, About Safeguards, at <http://www.iaea.org/OurWork/SV/safeguards/about.html>.

In the Chemical Weapons Convention,<sup>76</sup> for example, there was no organization in existence experienced in the verification of chemical weapons agreements. Therefore, the signatories had to create the Organization for the Prevention of Chemical Weapons (OPCW), and fund its headquarters and staff in Brussels, Belgium.<sup>77</sup>

In 1994, the CD appointed Canadian Ambassador Gerald Shannon as Special Coordinator for a FMCT.<sup>78</sup> He then quickly undertook the process of consultations with CD states resulting in the CD's adoption, in March 1995, of what became known as the "Shannon Mandate," based on Ambassador Shannon's report to the CD.<sup>79</sup> The Shannon Mandate urged the formation of an *Ad Hoc* Committee to begin negotiations 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."<sup>80</sup>

It is useful to analyze the treaty contemplated by the Shannon Mandate. First, it is clear that it would not ban all fissile material production, but only fissile material for nuclear weapon or nuclear explosive uses.<sup>81</sup> It would allow production for peaceful civilian uses and for non-explosive military use such as naval propulsion.<sup>82</sup> Thus, nations such as the United States and Russia, both with significant naval nuclear propulsion programs

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76. CWC, *supra* note 66.

77. See Organization for the Prohibition of Chemical Weapons, The Chemical Weapons Ban: Facts and Figures, at <http://www.opcw.org/factsandfigures/index.html>.

78. *Id.*

79. Conference on Disarmament, *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*, CD/1299, Mar. 24, 1995.

80. *Id.*

81. While it is counterintuitive to discuss a nuclear explosive for any other purpose than a nuclear weapon, the phrase "other nuclear explosive devices" likely was intended to refer to "peaceful nuclear explosions." India tested such a device in 1974, and deemed it peaceful since it was ostensibly for the purpose of excavation. Historical reference material on such peaceful explosions is somewhat thin. In 1968, during the NPT negotiations, Japan claimed that once the distinction between military and peaceful nuclear explosive devices was rendered possible, that the treaty restrictions on such devices should be lifted. Sweden even proposed an international body to monitor peaceful nuclear explosions. U.N.Y.B., Vol. 22, 1968, at 11. Peaceful nuclear explosions would not be viewed favorably today. NPT Art. V "now effectively obsolete, permits NNWS access to NWS research and development on the benefits of explosions conducted for peaceful purposes . . ." Daryl Kimball, *The Nuclear Nonproliferation Treaty at a Glance*, May 2003, available at <http://www.armscontrol.org/factsheets.nptfact.asp>.

82. *Id.*

that utilize substantial quantities of fissile material, could continue to produce it for that specific non-explosive purpose, albeit a military use.<sup>83</sup>

Given that a FMCT would be a critical step towards the ultimate goal of nuclear disarmament, it was strongly endorsed by the NPT states parties.<sup>84</sup> But the NPT has always been criticized as a “discriminatory” treaty in that it has two unequal classes of states: nuclear weapon states (NWS) and non-nuclear weapon states (NNWS). To avoid similar inequities in the NPT from occurring in a FMCT, it was therefore viewed as essential that the FMCT be non-discriminatory and that it classify all states in a manner such that they would be treated as equals under the treaty.<sup>85</sup>

The issue of existing stocks of fissile material is ultimately problematic in that regard. A FMCT would still be non-discriminatory in its most vital sense because all states would have identical obligations not to produce any fissile material for nuclear weapons. But as with the NPT, there would likely be two classes of states: those that already possess fissile material and those without it. Unlike the NPT, however, there would be no need for formal recognition of this basic difference between states in the treaty itself.

To avoid the perception of a new, discriminatory instrument, a FMCT would need to enjoy broad multilateral participation. Like the NPT, it would ideally include the participation of all U.N. Member States to be a meaningful and effective treaty, and potentially, over the longer term, to possibly achieve customary international law status. Of course, participation by some states is more critical than others—the five recognized NWS and the four NPT non-party states<sup>86</sup> are the most critical to the success of a FMCT. Given that the DPRK has withdrawn from the

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83. The fissile material, in this case HEU, used for naval nuclear propulsion, is often the same HEU used for nuclear weapons. That is why once a FMCT entered into force, many argue that HEU production for naval propulsion would have to be under some sort of international safeguards to ensure that there was no diversion to weapons uses either for the producing state or any of its allies.

84. See 2000 Final Document and 1995 NPT Conference, *Principles and Objectives for Nuclear Non-Proliferation and Disarmament*, available at <http://disarmament.un.org/wmd/1995dec2.htm>. NPT 2000 Final Document, available at <http://www.ceip.org/programs/npp/NPT2000FinalText.htm> [hereinafter NPT 2000 RevCon].

85. In the author’s opinion, the NNWS were well aware of the discriminatory nature of the NPT and of the two classes of states parties when they signed the NPT. This is significant evidence of the value that NNWS see in NPT membership.

86. “Threshold” was never the correct term to apply to states that really did possess nuclear weapons but decided not to acknowledge it publicly. The term is rarely used today, although it could apply to Iran. To avoid confusion, the term “NPT non-party states” will be used instead.



NPT and Iran is widely suspected to be pursuing nuclear weapons in violation of the NPT,<sup>87</sup> both could also be considered as vital states for participation in a FMCT. Since a FMCT is a half-step towards the broader prohibitions of the NPT, it is arguably more important to bring North Korea back into the NPT and Iran into NPT compliance, than it is to draw those states into a FMCT. If they were in the NPT and in good standing, then, as for other NPT NNWS, FMCT is of diminished practical utility for these states.

Finally, it has been assumed by CD Member States that a FMCT would have to be verifiable, in order to provide assurances that while states were observing the terms of the treaty, other states would not be abrogating the agreement and producing fissile material for nuclear weapons. Compliance with any arms control treaty is a major concern. It must be assumed that some states disregard their treaty commitments. As recent experience with the NPT illustrates, even if only two states out of nearly two hundred fail to observe their commitments, it is a major problem.

A Luxembourg or even a Germany may have no inclination to exploit an arms control agreement as a cover for cheating, but others will have that simple objective. A general agreement imposes no restraint on a North Korea or an Iraq. They will be constrained by direct pressure or by direct action, if they are to be constrained at all. For rather different reasons, an India or an Israel is not going to be constrained by a general agreement. To believe otherwise is to embrace the quixotic notions of the Kellogg-Briand Pact.<sup>88</sup>

This is especially important in regions where conflict is possible, such as South Asia, Northeast Asia, and of course, in the Middle East.

While the issue of the verifiability of a FMCT is not what has ostensibly resulted in deadlock at the CD, verification measures are something that many nations could accept only with great difficulty, or not

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87. See, e.g., Massimo Calabresi, Iran's Nuclear Threat, *TIME*, Mar. 8, 2003, available at <http://www.time.com/time/world/article/0,8599,430649,00.html>.

88. James Schlesinger, *The Demise of Arms Control?*, 23 *WASH. Q.* 180 (2000). The 1928 Kellogg-Briand Pact was the famously ineffective but well intended post-World War I treaty that purported to outlaw war. See YORAM DINSTEIN, *WAR, AGGRESSION AND SELF-DEFENSE* 164 (2001) (noting that international law had, at that time concluded that war could be outlawed as an instrument of national policy). What Schlesinger likely means by the term "general agreement" in the quote above, is a general arms control or nonproliferation agreement. In his view, arms control agreements are often "little more than pious hopes with little capacity (or even intent) to achieve enforcement." He notes that today there are 10-15 states seeking chemical and biological weapons "unconstrained by their obligations" under the BWC and CWC. *Id.*

accept at all. And there are reasons for this. Verification means that inspectors from an international inspectorate such as the IAEA would be given some degree of free rein, potentially constrained only by managed access,<sup>89</sup> if applicable, to inspect facilities in the sovereign territory of a state.

Many inspectors in international organizations often hail from states with less than a sterling pedigree, meaning, at a minimum, that they are not democratic, such as Iran, which presents a rather curious scenario. In addition, if managed access fails, those from other NNWS could potentially acquire nuclear weapons information in the course of such inspections, undercutting the basic purpose of the NPT.

Inspectors from such states and any non-democratic state are likely to be spies, although inspectors from any state could be spies. But few inspectors are from problem states. If verification requirements are expansive, inspectors could potentially acquire proliferation sensitive information or proprietary data related to commercial enrichment plants. Some states, particularly those that have substantial national security programs of one sort or another, therefore would have great difficulty providing inspectors access to sites at which a treaty violation is suspected. Verification regimes usually focus on declared facilities. The question, then, is how to deal with undeclared facilities and whether states could both protect sensitive information and deal effectively with undeclared sites.

#### V. THE CONFERENCE ON DISARMAMENT AND THE FMCT: A HARD ROAD

As a matter of simple mathematics, the more parties there are to a negotiation requiring consensus, the more difficult it will be to attain it. In that sense, moving from the United Nations, with its 192 Member States,<sup>90</sup> to the CD, with its 66 Member States,<sup>91</sup> seems eminently reasonable. But apparently that was not the answer, and even only 66 states is perhaps far too large a number when it comes to attaining consensus.

Other matters have prevented the CD from beginning real negotiations on a FMCT. First, given the relationship of a FMCT to the NPT, with its

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89. Managed access, if negotiated into an agreement, permits the inspected state to protect information from the eyes of inspectors. For example, if the state has a commercial process it has developed, but allowing others to see it would allow others to duplicate it, the state may place shrouds on computers, or even curtain off areas in a room. Those areas are off limits to inspectors.

90. See United Nations, at [http://en.wikipedia.org/wiki/United\\_Nations](http://en.wikipedia.org/wiki/United_Nations).

91. See Conference on Disarmament, *supra* note 59.

eventual goal of nuclear disarmament, many states wanted to see a linkage of some sort to nuclear disarmament. In the FMCT context, that would mean that existing stocks would have to be addressed in the treaty, including the draw down and possible time-bound elimination of such stocks. These options are simply not feasible at present—either because they are utopian or unnecessary given reductions in stockpiles that are already occurring.

Some commentators point to the failure of the NWS to attain nuclear disarmament in accordance with obligations pursuant to NPT Article VI, and argue that their failure to do so weakens the nuclear nonproliferation regime.<sup>92</sup> The NWS will not negotiate existing stocks of fissile material because it is not part of the Shannon Mandate.<sup>93</sup> This issue already resulted in a three-year delay in negotiations.<sup>94</sup> Of course, reliance on the Shannon Mandate can cut both ways, since it includes verification. Then in 1998, Canadian Ambassador Mark Moher chaired an *Ad Hoc* Committee on a FMCT, but it met only twice, for a total of about three weeks, before the end of the annual CD session.<sup>95</sup> Since the CD must agree on a work program at the beginning of each annual session,<sup>96</sup> once again, FMCT negotiations came to naught.

Since then, the work of the CD has been the same—much talk and no action. A typical example of CD results:

In 2002, the persisting deadlock over the mandate of a potential subsidiary body to deal with nuclear disarmament prevented the Conference on Disarmament from undertaking any substantive work on the issue, despite widespread concern among Member States regarding increasing prospects of nuclear weapons proliferation and nuclear terrorism. Consequently, the issue of nuclear disarmament was addressed only at plenary meetings where many delegations invoked the Final Document of the 2000 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, particularly the 13 practical steps for systematic and progressive efforts toward nuclear disarmament. Many Western countries emphasized that negotiations on a fissile material cutoff

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92. See, e.g., Thomas Graham, Jr., *International Law and the Proliferation of Nuclear Weapons*, 33 GEO. WASH. INT'L L. REV. 49 (2000).

93. *Id.*

94. *Id.*

95. The author attended portions of this session of the CD as a member of the U.S. delegation. He was the representative of the Joint Chiefs of Staff.

96. See Conference on Disarmament, *supra* note 59.

treaty, together with an early entry into force of the Comprehensive Nuclear Test Ban Treaty constituted the next essential steps to nuclear disarmament and non-proliferation.<sup>97</sup>

Since 2002, the CD has not reached an agreement on a program of work because China demanded linking FMCT negotiations to an agreement on Prevention of an Arms Race in Outer Space (PAROS),<sup>98</sup> a thinly veiled ruse to oppose U.S. ballistic missile defense programs. The United States, quite reasonably, offered discussions<sup>99</sup> on the matter, noting that by agreeing to negotiate a FMCT, the United States and the Member States of the United Nations that joined in the resolution urging such negotiations, had never linked a FMCT to PAROS. The United States also noted that a treaty on outer space already exists.<sup>100</sup>

After some years of wrangling, China finally relented because the United States agreed to discuss PAROS.<sup>101</sup> However, in 2005, a full 13 years after President Clinton made his speech in the United Nations paving the way for FMCT negotiations,<sup>102</sup> virtually nothing of substance has transpired. The CD continues its eternal squabbling, but there was one ray of sunshine. The A-5 or Five Ambassadors<sup>103</sup> proposal seemed to have broken the logjam of the FMCT-PAROS linkage. This proposal was put forward by five former CD Presidents and provided a clear mandate to negotiate a fissile material ban, while directing an *Ad Hoc* Committee on PAROS to “deal with” the issue “without limitation and without prejudice.”<sup>104</sup>

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97. 2002 *Yearbook for the United Nations*, 2002 U.N.Y.B. 491, Vol. 56, Dep’t of Public Information, U.N., New York.

98. *Id.*

99. “Discussions” is a diplomatic term of art. Discussions are quite distinct from negotiations in that they are specifically not negotiations. Discussions are simply that—a forum to raise ideas, concepts, and, of course, complaints. Discussions may be limited to talks which do not lead to actual negotiations. Negotiations, on the other hand, are intended and expected to lead to agreements. It was reasonable for the United States to offer discussions here since it is a topic separate and apart from the Shannon Mandate and FMCT.

100. See Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Jan. 27, 1967, 18 U.S.T. 2410, T.I.A.S. No. 6347.

101. See China Accepts “Five Ambassadors” Proposal on Prevention of an Arms Race in Outer Space as Amended, at <http://www2.unog.ch/news2/documents/newsen/dc0333e.htm> [hereinafter China Accepts].

102. See Remarks, *supra* note 70.

103. See China Accepts, *supra* note 101.

104. CD/1693, Jan. 23, 2003.

In the past, the United States consistently expressed a willingness and readiness to negotiate a FMCT in accordance with the Shannon Mandate. Since that has not produced results, the United States has now changed its negotiating posture in a manner arguably calculated to allow negotiations to proceed.

Imagine being one of the sixty-six Ambassadors to the CD. In 1995, you could have briefly participated in CD consideration of a FMCT and then been called back to your capital to work on other matters of state for a decade. If you were now returned to the CD for your next assignment, you could essentially take up where you left off. While multilateral international negotiations are well known to move at a snail's pace, nothing quite compares to the current CD for sheer ineffectiveness. Perhaps it is the ultimate sinecure.

The CD itself, of course, is not really at fault but rather the governments that provide instructions to their diplomatic delegations. Those delegates have thus far, whether by design or happenstance, ensured that no real negotiations have occurred on a FMCT.

## VI. HOW TO ADDRESS NUCLEAR PROLIFERATION?

A highlight of the 2004 presidential debates was a novel moment made remarkable because both candidates agreed fully on one issue while disagreeing on everything else. Both President Bush and Senator Kerry concurred with the assessment that nuclear proliferation<sup>105</sup> was the “single most serious threat to the national security of the United States.”<sup>106</sup> American Presidents have recognized this threat for some time.<sup>107</sup> The salient and pressing question for debate is: what should now be done about nuclear proliferation and the related threat of nuclear terrorism?

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105. The term “proliferation” was initially used by Secretary of State Dulles to refer to the spread of nuclear technology to other states. This was in the context of the submission of a disarmament proposal to the Soviet Union in 1957. See MITCHELL B. REISS, *WITHOUT THE BOMB: THE POLITICS OF NUCLEAR NON-PROLIFERATION* 280 (1988). The term nonproliferation was not in common use until the mid-1960s.

106. Statement by Senator John Kerry in response to a question from Jim Lehrer, Oct. 4, 2004. See *America's Debate, Nuclear Non-Proliferation*, at <http://www.americasdebate.com/forums/simple/index.php/t8111.html> (last visited Apr. 4, 2005).

107. President Clinton issued an Executive Order declaring the proliferation of weapons of mass destruction “an unusual and extraordinary threat to the national security, foreign policy, and economy of the United States” in the context of a declaration of national emergency for dealing with this threat. Exec. Order No. 12,938, 30 Wkly. Comp. Pres. Doc. 2386 (Nov. 14, 1994). That declaration of emergency was continued several years later, 32 Wkly. Comp. Pres. Doc. 2384 (Nov. 12, 1997) and in fact has been continued annually thereafter.

Traditional arms controllers seek international agreements on nuclear nonproliferation and the involvement of international organizations to increase security and provide protection from nuclear terrorism and other threats. Of course “traditional” arms control negotiators had no need to consider the threat posed by nuclear terrorists, which is a relatively new phenomenon.

But many senior American policy makers have lost confidence in the value of the proverbial “piece of paper” as a basis for national security.<sup>108</sup> As a general rule, however, a treaty is truly more than just a piece of paper. No state can afford a reputation of failing to observe treaty commitments, regardless of the subject matter of the agreement. If a state were to do so, the vast majority of other states would likely consider it a pariah and break off both commercial and diplomatic relations. Such actions by other states in this interconnected world would exact a terrible economic, political and developmental toll on that outlaw state.

Even so, there are a few states that do not honor commitments in spite of the inevitable retribution. This seems to be especially so where the subject concerns the pursuit of nuclear weapons and other WMD. Such states take on significance and focus out of all proportion to their economic, diplomatic and military heft when WMD is the issue.<sup>109</sup> The United States must focus on the few renegade states in pursuit of nuclear weapons since, unfortunately, it is a likely target if such weapons are ever produced or acquired.

This is why President Bush has made abundantly clear that waiting to be attacked is no longer a rational strategy:

We cannot defend America and our friends by hoping for the best.  
We cannot put our faith in the word of tyrants, who solemnly sign

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108. “From the perspective of political realism, or in its less formal guise, *realpolitik*, international law has no intrinsic power of its own and is ultimately irrelevant to questions of high politics. From a realist perspective a treaty is a “mere scrap of paper.” SHIRLEY V. SCOTT, *THE POLITICAL INTERPRETATION OF MULTILATERAL TREATIES* 3 (2004). See also Jesse Helms, *This Treaty Was Dangerously Irresponsible*, Oct. 18, 1999 available at [http://www.centerforsecuritypolicy.org/index.jsp?section=papers&code=99-F\\_26](http://www.centerforsecuritypolicy.org/index.jsp?section=papers&code=99-F_26). Senator Helms noted that, in rejecting the CTBT “[t]he new president must have a free hand to re-establish American credibility on nonproliferation matters—credibility not based on *scraps of paper*, but on clear resolve, a credible nuclear deterrent and real defenses against ballistic missile attack.” *Id.* (emphasis added). Of course, the failure to attain the Senate’s advice and consent may have simply been due to an insufficient effort by the Administration. Many experts believed that the CTBT was verifiable.

109. North Korea, for example, without nuclear weapons, would not often be “front page” news.

non-proliferation treaties, and then systematically break them. . . . If we wait for threats to materialize, we will have waited too long.<sup>110</sup>

Indeed, “if and when” a nuclear device is detonated in a metropolitan area,<sup>111</sup> or anywhere on American soil, such agreements will appear to have been quite ineffective. In hindsight, preemptive strikes<sup>112</sup> would surely have appeared wiser than treaty negotiations. But since we are fortunately still in the stage of foresight, the United States should give due consideration to all options, including nonproliferation negotiations and preparations for preemptive strikes. Even though both have limitations individually, together, they form a substantial bulwark of defense and a viable national security strategy.

## VII. NATIONAL SECURITY, NONPROLIFERATION, AND COUNTER-PROLIFERATION

There are only two existing responses to nuclear proliferation, and both have their limitations. Nonproliferation is one viable method, the other is counter-proliferation. Nonproliferation includes international agreements, threat reduction and other defensive, passive measures to prevent proliferation.<sup>113</sup> Counter-proliferation is generally defined as a military, assertive, offensive method of terminating proliferation.<sup>114</sup>

The Proliferation Security Initiative (PSI)<sup>115</sup> has elements of counter-proliferation and nonproliferation incorporated and may prove to be one

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110. President George W. Bush, *Speech at West Point*, June 1, 2002, available at <http://www.whitehouse.gov/news/releases/2002/06/print/20020601-3.html>. See also President George W. Bush, *Address to the Nation*, 39 Wkly. Comp. Pres. Doc. 338, 340 (Mar. 24, 2003) (where President Bush noted that the United States was attacking Iraq preemptively to meet the threat now “before it can appear suddenly in our skies and cities.”).

111. ALLISON, *supra* note 5, at 6. Retired General Eugene Habiger, a former Department of Energy Director of the Office of Security and Emergency Operations stated, with regard to nuclear terrorism, that “it is not a matter of if; it’s a matter of when.”

112. The “Bush Doctrine” has expanded the international law right of preemption in the face of an imminent attack into a right of preventive war against potential attack. See Richard Gardner, *Neither Bush Nor the “Jurisprudes,”* 97 AM. J. INT’L L. 585, 587 (2003).

113. Proliferation is the spread of knowledge or materials related to a specific type of weapons system to other states or non-state actors. ERIC A. CRODDY ET AL., WEAPONS OF MASS DESTRUCTION 294 (2005).

114. Counter-proliferation includes the full range of military measures and actions conducted to reduce and protect against nuclear, biological and chemical weapon threats. See WEAPONS OF MASS DESTRUCTION, AN ENCYCLOPEDIA OF WORLDWIDE POLICY, TECHNOLOGY, AND HISTORY, Nuclear Weapons, at 80 (Eric A. Croddy & James J. Wirtz eds., 2005).

115. See Proliferation Security Initiative, at <http://www.state.gov/np/c10390.htm>.

of the more useful innovations of the last fifty years. This new initiative of the Administration seeks to establish cooperative partnerships worldwide to prevent the flow of WMD, delivery systems and related materials to and from states and non-state actors of proliferation concern. The first three shipboarding agreements under PSI were signed in 2004 with Liberia, Panama and the Marshall Islands.<sup>116</sup>

The Israeli strike on the Osiraq nuclear reactor in Iraq was an example of successful counter-proliferation.<sup>117</sup> On June 7, 1981 the Israeli Air Force launched a lightning raid on the French designed Iraqi reactor that was then nearing completion at Tuwaitha.<sup>118</sup> The strike completely destroyed the reactor just before it attained operational capability.<sup>119</sup> This military strike effectively eliminated the Osiraq threat in moments. Counter-proliferation thus yields more immediate, visible and measurable results than protracted nonproliferation treaty negotiations.

The Israelis may well have invented nuclear counter-proliferation by this strike, executed with textbook military precision. The ultimate result of this action was to set back the Iraqi nuclear weapons program for many years.<sup>120</sup> Still, some argue that the strike was counterproductive in that it also reinforced the Iraqi desire to attain nuclear weapons.<sup>121</sup>

While the Israeli bombing raid was widely condemned at the time, in hindsight it appears to have been viewed as appropriate by commentators.<sup>122</sup> Many observers of the Middle East today wonder if Israel will launch a similar counter-proliferation strike on Iranian nuclear

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116. See U.S. Dep't of State, Liberia Proliferation Security Initiative, at <http://www.state.gov/t/np/c12387.htm>. For the full text of the agreement with Liberia, see U.S. Dep't of State, Proliferation Security Initiative Ship Boarding Agreement with Liberia, at <http://www.state.gov/t/np/trty/32403.htm>.

117. See Israel's Osirak Attack. McNair Paper 41, May 1995, available at <http://www.au.af.mil/au/awc/awcgate/mcnair41/41osi.htm>.

118. *Id.*

119. *Id.*

120. *Id.*

121. See William Claiborne, *Israeli Planes Bomb Major Iraqi Nuclear Facility*, WASH. POST, June 9, 1981, at A1; Thomas O'Toole, *Plant Was to be Ready Within Month*, WASH. POST, June 9, 1981, at A12.

122. See Jeremy Tamsett, *The Israeli Bombing of Osiraq Reconsidered: Successful Counterproliferation?*, 11 NONPROLIFERATION REV. 70 (2004). The author argues that the Israeli raid on the Osiraq nuclear facility at al-Tuwaitha has been proven by history to have been the correct action. Had Israel not destroyed Osiraq, the Iraqis would likely have had several nuclear weapons at the start of the Gulf War in 1991.



facilities before Iran is capable of manufacturing nuclear weapons.<sup>123</sup> Such an attack is far more problematic than the Iraqi strike given the greater distance Israeli jets would have to travel and advances in air defense technologies. Other difficulties also exist. For example, in Iraq there was only one facility, which was susceptible to attack, while in Iran, there is uncertainty regarding the full scale of its nuclear program.

Given the emerging terrorist, North Korean, and Iranian actions, what steps should senior officials in the Administration now take? Are nuclear nonproliferation negotiations still relevant or should they be relegated to the dustbin of history? Even arms control enthusiasts admit to the failures of arms control to effectively strengthen the BWC, negotiate a FMCT, and to obtain Additional Protocol agreements for more states with the IAEA.<sup>124</sup> Many believe that the next step the international community should take is to negotiate a FMCT, a classic treaty-based nuclear nonproliferation measure.<sup>125</sup>

Military preemption<sup>126</sup> and counter-proliferation solutions to the vexing problem of nuclear proliferation can and should work together with international agreements such as FMCT. But because military solutions are more difficult and costly, and often have harmful side effects, nonproliferation solutions should be pursued when possible. There is no need for one solution to operate to the exclusion of the other. Regardless, more action must be taken now. The threat of nuclear proliferation is too great to forsake any available measures which may ameliorate the nuclear danger as dark storm clouds gather on a foreboding horizon.

We need a better strategy, an integrated one that will make it far harder, more time consuming, and extremely expensive for the current and future nuclear threshold countries to acquire more significant nuclear weapons capabilities and that will instead

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123. See Joseph Farah, *U.S., Israel to Attack Iran Nukes 'Before April,'* WORLDNETDAILY.COM, Jan. 23, 2006, at [http://www.worldnetdaily.com/news/article.asp?ARTICLE\\_ID=48430](http://www.worldnetdaily.com/news/article.asp?ARTICLE_ID=48430)

124. John Freeman, *Is Arms Control Law in Crisis?*, 9 J. CONFLICT & SEC. L. 303, 308 (2004). In fact, the Additional Protocol is doing rather well. Currently 107 states have signed and 73 have ratified it.

125. The international community has been busy slowly negotiating the Convention on the Suppression of Acts of Nuclear Terrorism, which, after seven years of negotiations at the United Nations, appears to have finally been completed. Maggie Farley, *Nuclear Terror Pact Advances*, L.A. TIMES, Apr. 2, 2005, at A3.

126. Military preemption is the larger context of action a state may take to address a looming military threat, such as troops massing on the border. Counter-proliferation is a smaller subset of this concept dealing exclusively with the preemption of WMD development.

provide them with a politically attractive and legally binding means to keep their existing capabilities limited, at least pending developments in regional security which might induce them to abandon their nuclear weapons capabilities.<sup>127</sup>

The stakes are now so high that any strategy employed by the United States must utilize all available elements of power in military and diplomatic realms. This means that nonproliferation and counterproliferation measures should be integrated, as appropriate, to produce the most complete national security strategy that can be mustered. FMCT can be a viable aspect of this strategy.

Arms control and nonproliferation agreements still have an essential role to play in preventing nuclear proliferation and FMCT can illustrate this importance. That role, when accompanied by other means of ensuring and enhancing national security such as a muscular and visible counterproliferation threat, will provide the United States with the best defense available.<sup>128</sup>

There are many reasons advanced in favor of a FMCT by its proponents. They cite it as a disarmament and nonproliferation tool, which would halt further production and add transparency and accountability to the large stockpiles of fissile material worldwide.<sup>129</sup> It would prevent a future nuclear arms race and reinforce the commitments of NWS and NNWS under the NPT. In so doing, it would reduce proliferation risks, to include the risk of nuclear terrorism while respecting state's rights to use nuclear energy for peaceful purposes.<sup>130</sup>

The United States remains a proponent of FMCT as noted by its recent statement:

We have called upon the Conference on Disarmament to initiate negotiations on a Fissile Material Cutoff Treaty. We believe that an FMCT would help to promote nuclear non-proliferation by establishing the universal norm that no state should produce fissile material for weapons. For its part, the United States ceased production of fissile material for weapons purposes nearly two

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127. Williamson, *supra* note 2, at 75-76.

128. See Jack M. Beard, *America's New War on Terror: The Case for Self-Defense Under International Law*, 25 HARV. J. L. & PUB. POL'Y 559 (2002).

129. *Id.*

130. Jean Du Preez, *The Future of a Treaty Banning Fissile Material for Weapons Purposes: is it Still Relevant? The Weapons of Mass Destruction Commission, 2005*, available at <http://www.wmdcommission.org>.

decades ago. Today we reiterate the call we issued last year at the CD for all nations committed to the FMCT to join us in declaring a moratorium on fissile material production for weapons purposes until a binding FMCT has been concluded and entered into force.<sup>131</sup>

But pursuit of a FMCT does not obviate other measures. Military force and counter-proliferation send a clear message to proliferators. Many believe that the American attack on Iraq directly contributed to the Libyan voluntary surrender of its nuclear weapons program.<sup>132</sup> After all, the attack was based, in part, on Iraqi possession of WMD that could be given to terrorist groups capable of using it to attack the United States,<sup>133</sup> and Libya was viewed in a similar manner. Others might argue, however, that the U.S. attack on Iraq accelerated the North Korean and Iranian quest for nuclear weapons.

While that view is not universally held,<sup>134</sup> Libya almost certainly did not unilaterally disarm merely to observe international norms, which it had broken to begin with. Rather, the author believes it likely relinquished the millions of dollars, (that it could scarcely afford), invested in the pursuit of nuclear weapons, to avoid a military strike.

There are a number of theories regarding why Libya disarmed, ranging from a commitment to international norms to economic and demographic factors applying domestic political pressures on the Libyan government to engage the international community.<sup>135</sup> While the likely explanation for the Libyan policy reversal includes a number of factors, the author believes that the March 2003 military action against Iraq, justified in part to prevent Iraq from acquiring WMD, strongly factored in to the Libyan calculus to abandon its WMD programs. After the October 2003 interception of a ship bound for Libya containing uranium enrichment components,<sup>136</sup> the Libyan government likely feared the possibility that this would serve as a

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131. Stephen G. Rademaker, U.S. Assistant Secretary of State for Arms Control, *U.S. Statement at the 2005 NPT RevCon*, May 2, 2005, at <http://www.state.gov/t/ac/rls/rm/45518.htm>.

132. *Iraq War Prompted Libya to Give Up Weapons*, Dec. 21, 2003 [hereinafter *Iraq War*], available at <http://www1.voanews.com>.

133. See Winston P. Nagan, *The Bush National Security Doctrine and the Rule of Law*, 22 BERKELEY J. INT'L L. 375, 420 (2004); see also Miriam Sapiro, *Future Implications of the Iraq Conflict: The Shifting Sands of Preemption and Self-Defense*, 97 AM. J. INT'L L. 599 (2003).

134. Some believe that Libya unilaterally disarmed in order to obtain long-term diplomatic and economic benefits and to rid itself of the rogue state image. See Sammy Salama, *Was Libyan WMD Disarmament A Significant Success For Non-Proliferation?*, at [http://www.nti.org/e\\_research/e3\\_56b.html](http://www.nti.org/e_research/e3_56b.html).

135. *Id.*

136. *Id.*

justification for American forces, already positioned in the region, to launch an attack on Libya.

The open source news highlights varying rationales for Libya's voluntary disarmament. Britain's Defense Minister does not believe that the Libyan action can be separated from the military action in Iraq.<sup>137</sup> Deputy Secretary of State Armitage stated that Libyan actions were the long-term fruit of persistent policies aimed at bringing Libya into the mainstream.<sup>138</sup> Yet at the same time he noted that their decision may have been affected by the Bush Administration's "muscular multilateralism."<sup>139</sup> Others opined that ten years of sanctions had finally taken their toll on Libya.<sup>140</sup>

Whether such military action was in the planning or preparation stages, or was never seriously contemplated, the world will never know, but today it is irrelevant. Libya now indeed appears on a path toward being a responsible state fully prepared to honor its nonproliferation commitments.

Nuclear nonproliferation agreements, while important, must be viewed as simply one more means to accomplish the end of national security. While such agreements are not a panacea, they can make major contributions and deserve to be appropriately integrated into the national security strategy.

### VIII. FMCT AND THE NONPROLIFERATION REGIME

For a variety of reasons, an agreement halting the production of fissile material for nuclear weapons is a logical next step in efforts to prevent the further proliferation of nuclear weapons. One significant problem requiring resolution is that the amount of fissile material outside of nuclear weapons is increasing, a result of U.S.-Russian nuclear arms reductions. While this seems counterintuitive, as nuclear weapons are dismantled, the HEU or Pu removed from the weapons is accumulating and must be securely stored until it can be properly disposed of.<sup>141</sup> As the amount of

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137. *See Iraq War*, *supra* note 132.

138. *See State's Armitage Attributes Positive Developments to Steadfast Policies*, Dec. 24, 2003, at <http://www.globalsecurity.org/military/library/news/2003/12//mil-031224-usia03.htm>.

139. *Id.*

140. *The Colonel Capitulates*, Dec. 23, 2003, at <http://www.globalsecurity.org/wmd/library/news/libya/www31225.htm>.

141. The disposition of fissile materials can be a complex and expensive process. It is relatively simple to dispose of HEU by downblending it to Low Enriched Uranium (LEU) through the addition of natural uranium, such that it is not suitable for use in a nuclear weapon, but is appropriate for use in commercial nuclear power reactors, and as such has commercial value. Pu, on the other hand, is more difficult to denature. It could either be mixed with highly radioactive

fissile material existing outside of nuclear weapons increases, similarly opportunities for terrorists to steal and possibly use it in a nuclear attack increase.<sup>142</sup> It has few other uses. In the absence of a FMCT, these stocks and associated proliferation dangers will continue to grow.

Security is invariably very tight on nuclear weapons, but even the United States has lost a nuclear weapon, albeit long ago, in a training mission.<sup>143</sup> Security tends to be less rigid on non-weaponized fissile material.<sup>144</sup> Russia has literally hundreds of tons<sup>145</sup> of fissile material suitable for use in nuclear weapons, and considerable quantities are poorly guarded and secured.<sup>146</sup> Russia is still operating three nuclear reactors that produce weapons-suitable Pu, although they will be shut down soon with American assistance.<sup>147</sup>

Unfortunately, it does not take tons of HEU or Pu to make a nuclear weapon—it takes considerably less. The IAEA estimates that as little as

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fission products from spent fuel or be irradiated in a reactor making it intensely radioactive and thus unsuitable for use in a weapon. See Barry Kellman & David S. Gualtieri, *Barricading the Nuclear Window—A Legal Regime to Curtail Nuclear Smuggling*, 1996 U. ILL. L. REV. 667.

142. Theft or purchase of stolen nuclear weapons is the simplest means for terrorists to procure them. If a terrorist group were to acquire fissile material, it could likely produce an improvised nuclear device or a radiological dispersal device. Even with information widely available on the mechanics of nuclear weaponry, the production of a nuclear weapon and especially the fissile material component of a weapon, would be very difficult for most terrorist groups.

143. Clark Rumrill, *Lost: One H-Bomb. Call Owner*, WASH. POST, Apr. 17, 2005, at D1. The article discusses a U.S. Mark 15 nuclear weapon lost in 1958 off the coast of Georgia during a U.S. Air Force training mission. It is suspected to be buried 5-15 feet below the seabed, and has never been recovered despite intensive search and recovery efforts. A number of other U.S. and Russian nuclear weapons have also been lost.

144. ALLISON, *supra* note 5, at 211.

145. Best estimates are that Russia has 130-145 tonnes (a tonne is a metric ton) of Pu and 1,010-1070 tonnes of HEU for defense requirements. Total estimated global inventories are 1,720-1843 tonnes of HEU and 263 tonnes of Pu. See Frank Barnaby & Nick Ritchie, *The FMCT Handbook: A Guide to a Fissile Material Cut-off Treaty*, at <http://www.oxfordresearchgroup.org.uk/publications/books/fmcthandbook.htm>; *Production and Status of Military Stocks of Fissile Material, end of 2003*, at <http://www.isis-online.org/mapproject/supplements.html> [hereinafter ISIS Table].

146. Steve Coll, *Nuclear Goods Traded In Post-Soviet Bazaar: Export Controls Lacking On Russia's Rim*, WASH. POST, May 15, 1993, at A1. See also GAO Report, *Nuclear Nonproliferation: Limited Progress in Improving Nuclear Material Security in Russia and the Newly Independent States*, Mar. 2000, available at <http://www.gao.gov/archive/2000/r400082.pdf>.

147. The U.S. Department of Energy's National Nuclear Security Administration runs the Elimination of Weapons Grade Plutonium Program, which will pay for the shutdown of Russia's three remaining plutonium production reactors and replace them with conventionally powered fossil fuel plants. See *Elimination of Weapons Grade Plutonium Production (EWGPP)*, at <http://www.nnsa.doe.gov/na-20/ewgpp.shtml>.

55 pounds (25kg) of HEU (U-235) or 17.6 pounds (8kg) of Pu-239 are all that is needed to make a nuclear weapon.<sup>148</sup>

Much of the Russian HEU is being downblended to Low Enriched Uranium (LEU) for use in commercial nuclear power plants.<sup>149</sup> Indeed, nuclear power seems on the threshold of a revival as even strident environmentalists realize that nuclear power is the only concentrated and efficient energy source that does not cause global warming.<sup>150</sup>

When one considers the progression of multilateral agreements, to the extent that there is any such measuring stick, progress might take the following route: political statement, political commitment, non-legally binding agreement, legally binding agreement, legally binding amendment to strengthen the original binding agreement. Or, a treaty could be negotiated without any verification provisions, and such provisions are negotiated at a later date. For example, the Biological Weapons Convention (BWC), was negotiated in 1972 but lacked a verification regime.<sup>151</sup> It was preceded by political commitments to renounce biological weapons.<sup>152</sup> In 1986 at the second BWC conference, states adopted four “politically binding”<sup>153</sup> confidence building measures. It took until the 1990s for states to begin considering legally binding methods of BWC verification and for negotiations to begin on a verification regime.<sup>154</sup> None has been agreed to thus far, primarily because the BWC is viewed as effectively unverifiable.

Similarly, the Chemical Weapons Convention (CWC) was preceded by a host of unilateral and bilateral political commitments to renounce chemical weapons starting with President Nixon’s unilateral renunciation

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148. ALLISON, *supra* note 5, at 211.

149. See Highly Enriched Uranium (HEU) Purchase Agreement Transparency Implementation, at [www.nnsa.doe.gov/NA-20/heu\\_trans.shtml](http://www.nnsa.doe.gov/NA-20/heu_trans.shtml).

150. Nicholas D. Kristof, *Nukes Are Green*, N.Y. TIMES, Apr. 9, 2005, at A9. See also John Ritch, *The Key to Our Energy Future*, WASH. POST, Apr. 26, 2005, at A15. Increased blackouts and brownouts have also given greater support to nuclear power.

151. See BWC, *supra* note 65.

152. See BWC Issue Brief: The Biological Weapons Convention, at [http://www.nti.org/e\\_research/e3\\_28a.html](http://www.nti.org/e_research/e3_28a.html).

153. A political commitment, while not legally binding, is still substantial. Since a government publicly commits to do or refrain from taking certain actions, it places the government’s reputation on the line. Such commitments tend to be honored. And when they are honored, they are as effective as a treaty commitment. The major difference is that a political commitment may be forsaken overnight, since it involves a mere policy change by the government. Withdrawing from a treaty is a far more significant step, and most treaties usually require notice and a waiting period prior to withdrawal.

154. See *Chemical and Biological Weapons Chronology*, at <http://www.fas.org/nuke/control/bwc/chron.htm>.

of chemical and biological weapons in 1969.<sup>155</sup> In 1980, the U.N. Committee on Disarmament began work on a CWC.<sup>156</sup> In 1985, chemical weapon export controls were put into place and in 1989 the Soviet Union announced that it was commencing destruction of its chemical weapons stockpile.<sup>157</sup>

The conceptual FMCT breezed through the political statement and political commitment stages. Since it has maintained significant international political support for so long, a FMCT was widely viewed as ready to move immediately to the legally binding stage, or so it was thought ten years ago. But that has not been the case, since it has floundered since then.

Nations have interests that they do not always wish to publicly disclose. If, for example, a nation such as China did not wish to sign the FMCT because it had not yet determined how much fissile material is needed for its strategic requirements, then the answer would be to simply stall for time. That would be accomplished by China instructing its diplomats to publicly support FMCT, but to tie it to events that other nations are known to oppose, resulting in a deadlock. China surely caused a deadlock by linking FMCT to PAROS which the United States is known to oppose. But no one knows for certain if this was truly its reason for doing so.

Because a FMCT is a proposed treaty of vital importance, that has now, regardless of the reason, been stalled for over a decade, something significant must change for negotiations to begin in earnest. To some extent, that is a rhetorical statement. At this point, any movement would be welcome, since even glacial progress would improve upon the *status quo*. The Administration's non-verification approach may well prove to be the antidote to the current deadlock. This new position should finally spark action and allow international negotiations on a FMCT to proceed. Verification, international negotiators may soon learn, may have been the unstated objection of many nations to a FMCT. Others, however, may regard verification as essential to achieving the benefit of a FMCT.

## IX. WHY PURSUE A FMCT?

Nuclear proliferation poses grave and unique dangers to the United States and other nations. The dangers include: increased risk of widespread casualties if a nuclear weapon is employed; the possibility of accidental

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155. *Id.*

156. *Id.*

157. *Id.*

nuclear war, nuclear civil war, or nuclear terrorism; a reduction in the relative strength of the United States and other major powers.<sup>158</sup> There are other serious consequences as well, such as undermining of the chance of greater reliance on international peacekeepers; diminished prospects for arms control; increased pressure on the United States to develop responses that may themselves be dangerous, expensive and destabilizing; and the potential for reining in civil liberties.<sup>159</sup>

While a FMCT will not solve all of those problems, by capping the amount of fissile material available for nuclear weapons use, it will limit the opportunity for those dangers to manifest themselves.

The United States has worked hard, and will no doubt continue to do so, to provide nations with incentives to forgo acquiring nuclear weapons, or, if they have them, to relinquish them. Occasionally, as in the cases of South Africa, Ukraine, Belarus, and Kazakhstan, the efforts are successful.<sup>160</sup> Sometimes, as in the cases of North Korea and Iran, such efforts have yet to succeed, although there was a recent breakthrough with North Korea prior to its nuclear test.<sup>161</sup> Now the United States faces the prospect that regional aggressors, third-rate armies, and terrorists may wield power disproportionate to their numbers or strength through the use, or threat of use, of nuclear weapons.<sup>162</sup>

If Iran does not soon dismantle its nuclear fuel cycle program, as Libya has done, it may find that certain other states are unwilling to accept its ludicrous assertions of peaceful intent and may therefore reasonably consider more forceful measures for lack of better alternatives.<sup>163</sup> Of course, a range of measures, including sanctions, may be employed prior to military preemption. Thus, it is possible that a FMCT could prevent or at least forestall preemptive attacks and the war that might ensue as a result.

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158. Williamson, *supra* note 2, at 87–93 (providing an excellent analysis of each of the dangers listed above).

159. *Id.*

160. South Africa dismantled its six nuclear weapons and joined the NPT as a non-nuclear weapon state. Roger Molander & Peter Wilson, *On Dealing With the Prospect of Nuclear Chaos*, 17 WASH. Q. 19, 30 (1994). The list of states that sought nuclear weapons, but terminated their programs is even longer, including Argentina, Brazil, South Korea, Taiwan, Libya, Sweden, and Switzerland.

161. Glenn Kessler & Edward Cody, *N. Korea, U.S. Gave Ground to Make Deal*, WASH. POST, Sept. 30, 2005, at A1.

162. Office of the Secretary of Defense, *Proliferation: Threat and Response* (1997).

163. See generally Guy B. Roberts, *The Counterproliferation Self-Help Paradigm: A Legal Regime for Enforcing the Norm Prohibiting the Proliferation of Weapons of Mass Destruction*, 27 DENV. J. INT'L L. & POL'Y 483 (1999).



Pursuit of a FMCT has remained a goal at the United Nations since 1993.<sup>164</sup> The U.N. General Assembly has routinely called for the negotiation and conclusion of an FMCT.<sup>165</sup> Most often, a discussion of the FMCT occurs in the context of the NPT, although it is mentioned in other contexts as well. The NPT is a remarkably enduring and successful treaty.<sup>166</sup> It has been described as comparable in stature to the U.N. Charter.<sup>167</sup> At the NPT Review Conferences,<sup>168</sup> the parties have also reached consensus on the need for FMCT in the Final Documents.<sup>169</sup> The 2005 Review Conference (RevCon), having recently concluded, was unable to attain consensus on a Final Document, so the views of the 2005 RevCon on FMCT are not a matter of record.<sup>170</sup>

Many commentators continue to weigh-in supporting negotiations on FMCT, including former President Jimmy Carter, who recently wrote to urge FMCT negotiations as one step among several required to save the nonproliferation regime.<sup>171</sup> Similarly, the Carnegie Endowment for International Peace released a statement prior to the 2005 RevCon by “The Campaign to Strengthen the Nuclear Nonproliferation Treaty.”<sup>172</sup> The statement urges, *inter alia*, a permanent end to the production of fissile material for nuclear weapons.<sup>173</sup> It is signed by a host of luminaries including former Secretary of State Madeleine Albright, former arms control ambassadors and senior government officials.<sup>174</sup>

Since the United States voluntarily terminated production of fissile material for nuclear weapons in 1992,<sup>175</sup> as have Russia,<sup>176</sup> the United

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164. See G.A. Res. 48/75L, *supra* note 73.

165. *Id.* at 83.

166. See *supra* text accompanying note 27.

167. RICHARD BUTLER, FATAL CHOICE: NUCLEAR WEAPONS AND THE ILLUSION OF MISSILE DEFENSE 52 (2001).

168. See NPT, *supra* note 27, art. X(2). Review Conferences (RevCon) are held every five years, to review the status of the treaty. These conferences are held at the United Nations in New York. The author attended the 2000 RevCon as a member of the U.S. delegation.

169. See NPT 2000 RevCon, *supra* note 84.

170. Charles J. Hanley, *No Nonproliferation Plan Offered; 188-Nation Talks on Nuclear Arms Fail to Produce Consensus*, WASH. POST, May 28, 2005, at A20.

171. Jimmy Carter, *Saving Nonproliferation*, WASH. POST, Mar. 28, 2005, at A17.

172. See *The 2005 NPT Review Conference and Beyond*, Proliferation Brief, Vol. 8, No. 3, Apr. 6, 2005 at <http://www.carnegieendowment.org/npp/weapons/index.cfm?fa=view&id=3000098>.

173. *Id.*

174. *Id.*

175. See U.S. Statement to NPT Preparatory Committee Meeting, Apr. 11, 1997, at <http://www.fas.org/nuke/control/npt/docs/97041101.htm>.

176. The United States and Russia have both announced full or partial cessation of the production of HEU and Pu for weapons. See ISIS Fact Sheet, at <http://www.isis->

Kingdom and France,<sup>177</sup> signing a FMCT would only make the *status quo* currently based upon political commitments, into a legal obligation for these nations. For many other states, though, this would undoubtedly provide them with an important assurance of progress in the nonproliferation sphere and also in terms of providing a cap on the fissile material currently existing in the NWS, assuming that no cheating occurred. This is because if a state has a policy of producing no more fissile material, the policy can change overnight. If that policy, however, is based upon a treaty commitment (particularly and admittedly one that includes verification arrangements), it is viewed as far more enduring and therefore meaningful and reassuring to other states.

From an American perspective, limiting arsenals to existing stocks, defined as the fissile material it produced prior to a FMCT entry-into-force, is a fairly significant measure that many in the national security arena may not favor. Therefore, at a minimum, in order to enter into a FMCT, the United States must determine that its stocks are adequate to meet any future military requirement, especially for a treaty of potentially—unlimited duration.

There would be gains. China, the only NWS that has not formally declared a moratorium on fissile material production, would agree to cap its production of fissile material by adhering to a FMCT.<sup>178</sup> This would be highly significant, given that China is a “strategic competitor” of the United States and is rapidly expanding its military might.<sup>179</sup> Since China’s existing stocks of fissile material are much smaller than American or Russian existing stocks,<sup>180</sup> this would be an important commitment. China is currently estimated to possess 4.8 tonnes of Pu and twenty tonnes of HEU.<sup>181</sup>

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online.org/publications/fmct/book/fs31.html. The United States has not required HEU for weapons since 1964. *Id.* The U.S. HEU inventory is estimated at 500 tons. *Id.* Michael Knapik, *DOE Assessing Various Options for Inventory of High-Enriched Uranium from Retired Weapons*, NUCLEAR FUEL, Apr. 1, 1991, at 1. Russia stopped producing HEU for weapons purposes, also. *Gorbachev Halts Uranium Output*, L.A. TIMES, Apr. 7, 1989, at A1 [hereinafter *Gorbachev Halts*].

177. *Gorbachev Halts*, *supra* note 176, at A1.

178. It is uncertain whether China is still producing fissile material. It is believed that China has not declared a production moratorium like the other NWS in order to allow it to keep its options open in this matter.

179. See Tony Karon, *Bush China Policy Defaults to Engagement*, TIME, July 31, 2001, available at <http://www.time.com/time/columnist/karon/article/0,9565,169585,00.html>. See also Edward Cody, *China Builds a Smaller, Stronger Military*, WASH. POST, Apr. 12, 2005, at A1 (noting that China’s modernization of its military could alter the regional balance of power, thus raising the stakes for the United States).

180. See ISIS Table, *supra* note 145.

181. See *id.* Another view is that China will not accede to a FMCT until it has produced

A FMCT would also constrain Chinese nuclear modernization and increase Chinese and Russian nuclear transparency.<sup>182</sup> Finally, it would demonstrate significant support for the NPT and the obligations the NWS agreed to in that forum.<sup>183</sup>

Coincidentally, China is the state most responsible for blocking progress on an FMCT at the CD.<sup>184</sup> While it claims to have blocked progress in order to attain an agreement prohibiting the militarization of outer space,<sup>185</sup> extensive verification arrangements would likely be anathema to this secretive, communist state.<sup>186</sup>

China, however, will be a key player in any FMCT negotiations. With all of the U.N. groups and coalitions, including the P-5, the Non-Aligned Movement,<sup>187</sup> the Western European and Others Group,<sup>188</sup> the New Agenda Coalition,<sup>189</sup> and others, China is known as the “Group of One” in that it leans toward isolationism and views its interests as unique.<sup>190</sup>

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enough fissile material to rival the United States. *Id.* If this were indeed the view of such countries as China, Iran and North Korea, and those states hypothetically planned to make many more nuclear weapons before acceding to a FMCT, then one might rationally inquire whether a FMCT would make the world a safer place.

182. *Id.*

183. Telephone interview with Dr. Lewis A. Dunn, Apr. 27, 2005 [hereinafter Dunn].

184. *Id.*

185. *Id.*

186. See NTI, China Profile, at [http://www.nti.org/e\\_research/profiles/china/index.html](http://www.nti.org/e_research/profiles/china/index.html) (showing a more nuanced view).

187. The Non-Aligned Movement, or NAM, includes such nations as Indonesia, Egypt, Iran, and South Africa. See The Non-Aligned Movement: Background Information, at <http://www.NAM.gov.ZA/background/background.htm>. While they claim to be non-aligned, which implies some degree of impartiality, they are in fact rabidly anti-nuclear, and they are closely aligned among themselves against the NWS. See, e.g., Alyn Ware, NGO and Government Cooperation in Setting the Disarmament Agenda: The Impact of the 1996 International Court of Justice Advisory Opinion, at [http://www.disarmsecure.org/publications/papers/ngo\\_government.html](http://www.disarmsecure.org/publications/papers/ngo_government.html).

188. This group, known as the WEOG, includes such states as Australia, Canada, Israel, and Norway. See Western European and Others Group, at [http://www.wikipedia.org/wiki/Western\\_European\\_and\\_Others\\_Group](http://www.wikipedia.org/wiki/Western_European_and_Others_Group).

189. The New Agenda Coalition (NAC), comprising the representatives of Egypt, Ireland, Mexico, New Zealand, South Africa, Sweden, and Brazil has been an outspoken advocate of faster nuclear disarmament by the NWS. See 8-State Call for New Nuclear Disarmament Agenda, at <http://www.acronym.org.uk/27state.htm>. They have expressed their “deep concern at the lack of progress to date in the implementation of the thirteen steps on nuclear disarmament” agreed to by all states parties at the 2000 NPT RevCon. See *Declaration of the Ministers of the New Agenda Coalition*, New York, Sept. 23, 2003, available at [http://www.wagingpeace.org/articles/2003/09/23\\_minister\\_declaration.htm](http://www.wagingpeace.org/articles/2003/09/23_minister_declaration.htm) (last visited Apr. 10, 2004). One of the 13 steps was negotiation and conclusion of a FMCT within five years. *Id.*

190. See A Brief History of FMCT, at <http://www.oxfordresearchgroup.org.uk/publications/books/handbook/ch2.pdf> (noting that China often refers to itself as a “Group of One”).

Certainly the main reason that a FMCT would be so attractive, however, is that if India and Pakistan became FMCT parties, it would cap, assuming full compliance, fissile material production in those states. They are the only states along with Israel and North Korea not party to the NPT, or any related nonproliferation treaties, and that operate free of any constraint on their nuclear weapons programs.<sup>191</sup> The involvement of those states would be a significant achievement, and in fact, many nations may demand the accession of those states to a FMCT as a prerequisite for entry-into-force.<sup>192</sup> Negotiators would, of course, need to exercise caution to avoid a CTBT-type entry-into-force problem. The CTBT has not yet, and may never enter-into-force since it requires the ratification of 44 states—only 33 have done so. But some view the accession of those states as plausible: by eradicating most safeguards<sup>193</sup> distinctions between the nuclear-weapon and non-weapon states, and by including China, a cutoff could appeal to India. By constraining India, it could appeal to Pakistan. By strengthening the international commitment not to allow states such as Iraq, Iran, and Libya to produce unsafeguarded fissile material (or indeed any weapons-usable fissile material), a cutoff could also appeal to Israel. The result would be a critical strengthening of international norms against proliferation.<sup>194</sup>

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191. There are many reasons to wish to constrain the nuclear weapons programs of the non-NPT states. As states become nuclear weapons capable, history has clearly illustrated that one nuclear weapon is never enough. The tendency is to construct more militarily significant nuclear weapons. Typical of such efforts are: increases in the size of the nuclear arsenal; increases in explosive power; reduced requirements for special nuclear material; enhanced deliverability; greater safety and survivability; and the acquisition of enhanced delivery systems. See Williamson, *supra* note 2, at 93-106.

192. If a FMCT was negotiated as a non-legally binding political commitment, there would be no entry-into-force requirement to grapple with. Nonetheless, the United States takes its political commitments nearly as seriously as its treaty and legal obligations.

193. Safeguards are a technical means of ensuring that no nuclear material is being diverted from civil uses to covert nuclear weapons programs. The term is generally used in conjunction with monitoring of nuclear sites performed by inspectors of the International Atomic Energy Agency (IAEA). Basic IAEA safeguard methods include verification, auditing and accounting. IAEA inspectors may apply tags, seals, and camera monitors to nuclear production sites. Specific safeguards arrangements are negotiated between a state and the IAEA. There are two types of safeguards: “fullscope,” which applies to all nuclear material in the state, or more limited safeguards applicable only to certain material. The term “unsafeguarded,” conversely, means that the IAEA is not able to verify that no nuclear material is being diverted to weapons uses. Safeguards are performed according to negotiated agreements between the IAEA and NPT non-nuclear weapon states. Such agreements are based upon *The Structure and Content of Agreements Between the Agency and States Required in Connection with the Treaty on the Nonproliferation of Nuclear Weapons*, IAEA Doc. INFCIRC/153 (May 1971) [hereinafter INFCIRC 153].

194. Frans Berkhout et al., *A Cutoff in the Production of Fissile Materials*, 19 INT’L SECURITY

It is axiomatic that for the above countries to be willing to accept a FMCT, they would also need to be convinced of a national security benefit, especially compliance of rivals, neighbors, or other state signatories.<sup>195</sup> Yet that might only occur through an intrusive verification regime, which the United States and the non-NPT states are currently unlikely to accept. Therein lies the rub. This is also why the Administration has taken the wisest course in opposing verification:

The development of effective as well as politically-acceptable and affordable verification arrangements to accompany a cutoff represents the most delicate and difficult task that will have to be resolved in the cutoff negotiations. On one hand, each of the declared and *de facto* nuclear-weapon states will be reluctant to accept expanded and intrusive safeguards at its own nuclear facilities, especially if implementation of such safeguards could risk compromising sensitive information regarding permitted weapons activities. Special inspections at undeclared facilities would be particularly troublesome. On the other hand, each of the parties to a cutoff will want stringent safeguards on other countries' nuclear programs; if safeguards are to be non-discriminatory, they should be as stringently applied in nuclear-weapon and *de facto* weapon states as in non-nuclear weapon states party to the NPT.<sup>196</sup>

The two views presented above are a recipe for stalemate. That is why, presently, progress on a FMCT may be attained only in the absence of a verification regime.

Additionally, FMCT negotiations would involve potentially divisive scope and verification issues, including, *inter alia*, the content of safeguards agreements;<sup>197</sup> whether transfers of unsafeguarded fissile

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200 (1995).

195. India, for example, tested its nuclear weapons in 1998. A senior official explained that "India's nuclear policy remains firmly committed to a basic tenet: that the country's national security in a world of nuclear proliferation lies either in global disarmament or in the exercise of the principal of equal and legitimate security for all." Jaswant Singh, *Against Nuclear Apartheid*, 77 FOREIGN AFF. 41-42 (1998).

196. *Id.*

197. The IAEA will also negotiate with NPT states, pursuant to their safeguards agreements, "subsidiary arrangements" which provide more detailed procedures including the control measures to be applied at nuclear facilities. These arrangements have a general part which applies to the state as a whole and a "facility attachment" defining the safeguards to be applied at each site. See generally D.M. Edwards, *International Legal Aspects of Safeguards and the Non-Proliferation of Nuclear Weapons*, 33 INT'L & COMP. L.Q. 1 (1984), quoted in Note, *Conference Proceedings: Nuclear Arms Control, Non-Proliferation, and Disarmament in the Post-Cold War Security*

material should be permitted; and how best to account for declared material.<sup>198</sup> Naturally, such negotiations would also bring to fruition the promises to seek a FMCT from the 1995 NPT Review and Extension Conference Principles and Objectives Document and the RevCon 2000 Final Document.<sup>199</sup> This document listed “13 steps” of which this was one, but others are now highly contentious and are no longer accepted by the United States.<sup>200</sup> The 1995 NPT Document was particularly important since the NPT was extended indefinitely, with the concurrence of all parties, and seeking a FMCT was one aspect of that agreement between the NWS and non-nuclear weapon states (NNWS).<sup>201</sup> While final declarations from Review Conferences are generally accepted as not legally binding, they may assist in the legal interpretation of the treaty.<sup>202</sup>

Certainly it is time to resolve the North Korean dilemma, a non-NPT state of major concern to the United States and its allies such as Japan and South Korea. The problem has manifested itself as intractable. While the response to potential Iraqi nuclear programs was very clear, the response

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*Environment: Supplementary Materials: An Overview of “Canada and the Nuclear Challenge: Reducing the Political Value of Nuclear Weapons for the Twenty-First Century*, 31 CASE W. RES. J. INT’L L. 697 (1999).

198. William Walker, *The Cutoff Treaty and Excess Stocks*, at <http://www.unidir.ch/bdd/focus-search.php?onglet=1>.

199. 2000 Review Conference of the Parties to the Treaty on the Nonproliferation of Nuclear Weapons, Final Document, Vol. I, NPT/CONF.2000/28 (pts. I & II), 2000, available at <http://www.disarmament.un.org/wmd/npt/2000FD.pdf> [hereinafter 2000 Final Document] (representing the consensus views of the states party to the NPT at the conclusion of the 2000 NPT Review Conference).

200. For example, one of the 13 steps included the “importance and urgency of signature and early ratification of the CTBT.” The United States has no present intent to ratify the CTBT. Likewise, another step included “preserving and strengthening the ABM Treaty.” The United States has withdrawn from the ABM Treaty. For a look at the 13 steps and a good discussion of them, see Tariq Rauf, *Towards NPT 2005: An Action Plan for the “13 Steps” Towards Nuclear Disarmament Agreed at NPT 2000*, available at <http://www.cns.miis.edu/pubs/reports/pdfs/npt2005.pdf>.

201. A crucial aspect of the Review Conferences is that they serve political purposes even more than legal functions in that they focus public and diplomatic attention on the operation of the treaty. See Burrus M. Carnahan, *Treaty Review Conferences*, 81 AM. J. INT’L L. 229 (1987).

202. *Vienna Convention on the Law of Treaties*, May 23, 1969, 1155 U.N.T.S. 331, reprinted in, 8 I.L.M. 679 (1969) [hereinafter VCLT]. The United States has signed but not ratified the VCLT but generally observes it as customary international law. See *Vienna Convention on the Law of Treaties*, available at [http://www.wikipedia.org/wiki/vienna\\_Convention\\_On\\_the\\_Law\\_of\\_Treaties](http://www.wikipedia.org/wiki/vienna_Convention_On_the_Law_of_Treaties). Article 31(3), regarding the interpretation of treaties, states that, “[t]here shall be taken into account, together with the context: (a) any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions; (b) any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation.”

to the North Korean quest for nuclear weapons has been more nuanced.<sup>203</sup> North Korean performance in meeting its treaty obligations has been sorely deficient, as evidenced principally by its clear abrogation of the NPT while still a party,<sup>204</sup> and of the 1994 Agreed Framework.<sup>205</sup> Some assurance of North Korean compliance with the a FMCT might have to be negotiated bilaterally, but it is far more important that North Korea rejoin the NPT. The risk is substantial, of course, with almost any non-democratic state, whether dictatorial, kleptocratic or communist, because the inherent lack of transparency makes verification a difficult proposition.

Commentators list other reasons for the pursuit of a FMCT, including: (1) extending to the NWS and non-NPT states the international norm of the NPT prohibiting the production of fissile material for nuclear weapons;<sup>206</sup> (2) reduction of the discriminatory aspect of IAEA safeguards between NWS and NNWS in that the NWS have no legal obligation (although they have accepted a legal obligation voluntarily in order to equalize the commercial burdens NPT states share) to accept safeguards while NNWS must do so;<sup>207</sup> (3) a FMCT would continue international movement towards transparency and IAEA safeguards for all fissile material production;<sup>208</sup> (4) a FMCT would encourage improved standards

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203. Some bemoan the absence of “red lines” that precisely delineate acceptable from unacceptable conduct in the nuclear arena. While they once existed, now instead of red lines we have “pink smudges.” See David E. Sanger, *Nuclear Reality: America Loses Bite*, N.Y. TIMES, Feb. 20, 2005, at 4-1.

204. The issue of the legality of North Korea’s withdrawal from the NPT is another topic, which in itself could be the subject of an entire law review article. Based on the author’s research, no such law review article yet exists. Brief comments on the only NPT withdrawal are available on the Internet. See, e.g., Frederic L. Kirgis, *North Korea’s Withdrawal From the Nuclear Nonproliferation Treaty*, Jan. 2003, at <http://www.asil.org/insights/insigh96.htm>.

205. North Korea’s violations of the 1994 Agreed Framework are well known. It is now clear that they were biding their time while pursuing a nuclear weapons program. See Michael J. Green, *Nuclear Shockwaves: Making the Best of Bad Options*, 36 ARMS CONTROL TODAY 9 (2006).

206. See *supra* note 27.

207. It seems eminently sensible not to require NWS to have IAEA safeguards since the purpose of such safeguards is to ensure no diversion of nuclear material to the production of nuclear weapons. Since the NWS are by definition producing nuclear weapons, it would seem a waste of IAEA safeguards resources to expend them in such a manner. Most NWS now have some sort of IAEA safeguards, as the United States does, through its “Voluntary Offer.” Agreement Between the United States of America and the International Atomic Energy Agency for the Application of Safeguards in the United States of America, INFCIRC 288, *entered in force*, Dec. 9, 1980. See, e.g., U.S.-IAEA Safeguards Agreement, at [http://dtirp.dtra.mil/tic/tic\\_iaea.htm](http://dtirp.dtra.mil/tic/tic_iaea.htm). This was done to placate NNWS who claimed that their commercial nuclear programs were being placed at a competitive disadvantage to the NWS commercial programs. See U.S.-IAEA Safeguards Agreement: Article by Article Analysis of the Additional Protocol, at <http://www.state.gov/t/isn/trty/11757.htm>.

208. Roberts, *supra* note 39, at 22.

for the security and physical protection of fissile material in order to protect it from theft;<sup>209</sup> and (5) a FMCT would be significant step towards the NPT goal of nuclear disarmament.<sup>210</sup>

Always left unspoken, but implicit in the push for progress in FMCT negotiations, is the goal of the appearance of progress itself.<sup>211</sup> When there are no scheduled negotiations on a FMCT, and no projected progress on other major arms control and nonproliferation initiatives, many worry that little is being accomplished on the nuclear nonproliferation front. In other words, in this time of great danger from nuclear terrorism, a new international agreement in the nuclear nonproliferation arena would permit a plausible claim that at least something has been accomplished or is under negotiation to protect the populace from nuclear menace and that by supporting such an agreement, the United States is demonstrating its commitment to NPT Article VI.

This is not an argument for arms control for the sake of arms control. Rather, it is an argument for integrating a FMCT into the overall U.S. national security strategy. The benefits for the United States would clearly exceed any burdens and that makes such a treaty worthy of pursuit.

Some believe that, at this point, a FMCT would not be worth the cost. Now that India and Pakistan have tested nuclear weapons and have become *de facto* NWS, what is the point of a FMCT? Nearly all agree that to make this treaty worthwhile, both of these states, and probably Israel, would need to participate.<sup>212</sup> But at what cost to the NPT and the overall nuclear nonproliferation regime? If those states could claim nonproliferation credentials with their nuclear weapons, would it pervert the regime? These states would also have a great incentive to accelerate production of fissile material before entry-into-force. This would be an adverse consequence, possibly resulting in more nuclear weapons in volatile regions or a greater likelihood of nuclear war or diversion to non-state actors.

No one would argue that a new agreement will solve everything. In the real world, few undertakings approach perfection—and multilaterally negotiated instruments almost never do. Some scholarly research indicates that environmental treaties are rarely able to solve the problems they are

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209. *Id.*

210. *See id.*

211. FRED IKLE, HOW NATIONS NEGOTIATE 43-58 (1976). This expert negotiator lists many other benefits of negotiating even if it is known that an agreement will not be attained. *Id.*

212. *See, e.g.*, Nuclear Threat Initiative, Securing the Bomb: Fissile Material Cutoff Treaty, at [http://www.nti.org/e\\_research/cnwm/ending/fmct.asp](http://www.nti.org/e_research/cnwm/ending/fmct.asp).



designed to confront. The NPT and CWC, however, have been reasonably effective treaties.

Although we may reasonably assume that States create treaty regimes because they want them to be there, we cannot assume that this is because the resultant regimes will “solve” the identified problems. In fact, few multilateral treaties have fully solved the problem that gave rise to their creation; having analyzed fourteen regimes, Underdal concluded that most regimes “make a positive difference but fall short of providing functionally optimal solutions.” This is why there has been so much scholarly interest in the question of regime effectiveness over recent years and why some writers suggest that it might be best to define a regime as effective merely if things are better than they would have been had the treaty not been there.<sup>213</sup>

Even though a FMCT alone will not ultimately end nuclear proliferation, it would provide a legal mechanism and framework to manage its effects. A FMCT has been widely viewed as the next step in the nonproliferation regime.<sup>214</sup> No multilateral agreement with a specific goal of nuclear nonproliferation has been signed since the CTBT,<sup>215</sup> which was concluded

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213. SCOTT, *supra* note 108, at 7 (quoting ARILD UNDERDAL, CONCLUSIONS: PATTERNS OF REGIME EFFECTIVENESS 435 (2002)). While this may seem like setting one’s sights extremely low, it is in fact a very pragmatic approach to assessing regime effectiveness. Pragmatists assess environmental treaty regimes as effective if the state of affairs would be worse without it. See ROBERT O. KEOHANE ET AL., INSTITUTIONS FOR THE EARTH: SOURCES OF EFFECTIVE ENVIRONMENTAL PROTECTION 7 (1994), *quoted in* SCOTT, *supra* note 108, at 8.

214. See Reaching Critical Will, Minister of State from United Kingdom Tells Conference FMCT is Next Step in Pursuit of Nuclear Disarmament, Mar. 23, 2006, at <http://www.reachingcriticalwill.org/political/cd/press06/march23.html>.

215. 35 I.L.M. 1439 (1996). The CTBT was signed by 65 states on Sept. 25, 1996 at the United Nations in New York. Signatory states included the United States, Russia, France, United Kingdom, and China. The CTBT prohibits all nuclear testing to include atmospheric, subterranean and under water. The CTBT does not enter into force until 44 key nuclear states have ratified it, and thus far, only 33 have ratified. On Oct. 13, 1999, the U.S. Senate declined to give its advice and consent to ratification of the CTBT. See Eric Schmitt, *Senate Kills Test Ban Treaty in Crushing Loss for Clinton; Evokes Versaille Pact Defeat*, N.Y. TIMES, Oct. 14, 1999, at A1. Since the United States had voluntarily declared a unilateral moratorium on testing before signing the CTBT, the United States now refers to that action and not the signing of the CTBT, as the rationale for its current policy of not testing nuclear weapons. The Limited Test Ban Treaty (LTBT), which has been effective since 1963, has over 100 states parties. Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space, and Under Water, Aug. 5, 1963, United States—United Kingdom—USSR, 14 U.S.T. 1313, T.I.A.S. No. 5433, 480 U.N.T.S. 43. That treaty covered outer space, atmospheric and underwater nuclear testing. Underground testing was not restricted until the

in August 1996. A decade is too long to accept no progress in this vital area.

#### X. THE TIME FOR A FMCT IS NOW

Given the current nuclear threat, many governments may wish to change the perception that they have not been doing enough to protect their populace from this growing menace. The clear view of international and nuclear nonproliferation commentators is that FMCT has great merit:

A multilateral nonproduction agreement could have a powerful impact on advanced proliferation. It would provide the threshold states with an alternative to the NPT that would effectively freeze their nuclear weapons capabilities in place, at least in terms of the number of weapons in their arsenal. Some threshold states which are currently unwilling to get rid of their existing nuclear weapons or the capability to have them on short notice may nevertheless find the status quo satisfactory if their neighbors or security rivals will be similarly frozen in place or if the agreement resolves otherwise difficult political problems for them. A legally binding multilateral nonproduction agreement also provides the only realistic vehicle whereby freezing the status quo can be verified, without a participating country having to make an accounting for past production of special nuclear material.<sup>216</sup>

From the standpoint of terrorists, it would certainly be most preferable to steal or purchase an assembled, operational nuclear weapon, but heightened security on such weapons generally eliminates the plausibility of this option. Obtaining a U.S. nuclear weapon, for example, would be nearly impossible for terrorists or any other unauthorized person. To date, no nuclear weapons have ever been stolen.<sup>217</sup>

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United States and Soviet Union signed the Threshold Test Ban Treaty of 1974 which limited underground nuclear tests to 150 kilotons; it entered into force in 1990. Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Underground Nuclear Weapon Tests, *opened for signature*, July 3, 1974, U.S.-U.S.S.R., S. Treaty Doc. No. 101-19, KAV1782,2607. Finally, an agreement on Peaceful Nuclear Testing was signed by the United States and the Soviet Union in 1976; it also entered into force in 1990. Peaceful Nuclear Explosion Treaty, May 28, 1976, United States-U.S.S.R., 15 I.L.M. 891 (1976).

216. Williamson, *supra* note 2, at 159-160. The term "advanced proliferation" refers to leaps in nuclear weapons technology resulting in improved yields, smaller size, greater accuracy.

217. See ALLISON, *supra* note 5, at 218.

The next best option for terrorists, then, is the fissile material itself, assuming that the goal is to manufacture a nuclear weapon or improvised nuclear device (IND). As many commentators have noted, the easiest “nuclear” substance to steal would be radioactive materials that are not fissile but can still cause panic if deployed in a radiation dispersal device (RDD) better known as a “dirty bomb.”<sup>218</sup> Such weapons use conventional explosives to scatter radioactivity from materials such as cesium-137, strontium-90, and cobalt-60, all of which are widely available in medical facilities and civilian research labs and are poorly protected by comparison to nuclear weapons and fissile material.<sup>219</sup>

Fissile material is also a convenient target for terrorists because it is typically not as well secured as weapons, is more widely available than nuclear weapons, and is much easier to transport.<sup>220</sup> As such, it poses grave threats that must be addressed. Once terrorists obtain the fissile material, building an improvised nuclear device is, for those with the expertise, a distinct possibility.<sup>221</sup>

The breakup of the Soviet Union resulted in the loosening of many controls that existed on nuclear materials in Russia. Russia’s stockpile of non-weaponized fissile material is especially vulnerable to theft. Should any be stolen, the risk of sale to terrorists and states that support them is quite high.<sup>222</sup>

Actual production of fissile material is too difficult for terrorists working alone. “The technology, the industrial infrastructure, and the financial commitment for such a project essentially require the resources of a state.”<sup>223</sup> This is why it is crucial to secure the existing stockpiles of fissile material, and cap the amount available for weapons.

## XI. CUSTOMARY INTERNATIONAL LAW

In the absence of a FMCT, the vast majority of states support the goal of attaining an internationally accepted ban on the production of fissile material for nuclear weapons. Some idealists hope that this concept will

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218. *Id.* at 219.

219. See *Nuclear Terrorism*, a study by the Monterey Institute’s Center for Nonproliferation Studies, Sept. 2004, at [http://www.nti.org/f\\_wmd411/fla6\\_4.html](http://www.nti.org/f_wmd411/fla6_4.html).

220. Dan Stober, *No Experience Necessary*, 59 BULL. ATOMIC SCIENTISTS 56-63 (2003).

221. *Id.*

222. ROBERT F. MOZLEY, *THE POLITICS AND TECHNOLOGY OF NUCLEAR PROLIFERATION* 214-32 (1998).

223. See ALLISON, *supra* note 5, at 98.

eventually be included in customary international law. That may be the proverbial “bridge too far.”

Customary international law is not “black letter law” in the sense that it is codified in statutes, treaties, or international agreements, but it is nonetheless widely viewed as law in the international context. It is amorphous, in that there is no authoritative text to which one may refer. Instead, scholars must “read the tea leaves of State practice and of perceptions and expressions of such practice by available sources, official and unofficial.”<sup>224</sup> To the extent that a principle is recognized as having attained the status of customary international law, it is nearly universally observed.

Customary international law has been defined as having two principal elements: a concordant practice by a number of states acquiesced in by others and a conception that the practice is required by or is consistent with the prevailing law or *opinio juris*.<sup>225</sup> For example, the International Court of Justice (ICJ) applies international custom as evidence of a general practice accepted as law in addition to treaties and other evidence.<sup>226</sup>

One generally acknowledged requirement of customary international law is that states view a certain practice as compulsory.<sup>227</sup> While specific practices may be easy to identify, such as the view that slavery is illegal (which has led to the general abandonment of the practice of slavery), general principles of law take longer to ascertain.<sup>228</sup> Treaties, of course, if universally supported over a significant period of time, affect international law by providing customary law for non-parties. The NPT has certainly done that and a FMCT could accomplish the same, if it attains the near universality of the NPT. The converse of that viewpoint is that some nations, especially India and Pakistan, reject the idea of being bound by rules of customary international law. Such states view customary law as relics of the past era of colonialism and imperialism.<sup>229</sup>

This is a significant assertion, since the non-NPT states have accepted no treaty obligation to not obtain nuclear weapons. As a matter of strict international law, or treaty law, non-NPT states have no obligation that

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224. CHARLES J. MOXLEY, JR., NUCLEAR WEAPONS AND INTERNATIONAL LAW IN THE POST COLD WAR WORLD 21 (2000).

225. JOHN P. GRANT & J. CRAIG BARKER, PARRY AND GRANT ENCYCLOPAEDIC DICTIONARY OF INTERNATIONAL LAW 108-09 (2d ed. 2004).

226. ENCYCLOPEDIA OF PUBLIC LAW 898-902 (1992).

227. MARK W. JANIS, AN INTRODUCTION TO INTERNATIONAL LAW 52-54 (2d ed. 1993).

228. *See generally* ANTHONY D’AMATO, THE CONCEPT OF CUSTOM IN INTERNATIONAL LAW (1971).

229. ANTHONY D’AMATO & KIRSTEN ENGEL, INTERNATIONAL ENVIRONMENTAL LAW ANTHOLOGY 14 (1996).

would prevent them from acquiring nuclear weapons. Nonetheless, it is clear that all non-NPT NWS have felt the need to conceal their nuclear weapons activities, which is some evidence of the international nonproliferation norm having been fully accepted, even when not observed.<sup>230</sup> Secrecy, naturally, is not always evidence of illegality. There are also political and security reasons for maintaining secrecy and/or ambiguity regarding a nuclear weapons program.

It seems fruitless to argue that nuclear weapons are illegal, although some scholars have advanced that argument.<sup>231</sup> Similarly, fissile material for nuclear weapons is even further from being considered illegal, but a FMCT would be a necessary and vital step along that path.

A FMCT, therefore, will serve many functions. At the very least, it would place a cap on the amount of fissile material available for nuclear weapons from the date the treaty enters-into-force. Also, under the VCLT, Article 18,<sup>232</sup> nations that have signed treaties are obligated to refrain from any action which would defeat the “object and purpose” of the treaty prior to its entry-into-force. Since the clear purpose of a FMCT is to prevent the production of fissile material for nuclear weapons use, it is arguable that state signatories would be obligated to cease unsafeguarded fissile material production for nuclear weapons because the treaty would not impact safeguarded reprocessing and enrichment operations for peaceful uses upon signature of a FMCT. It should always be noted that a state may exempt itself from any emerging customary international law norms by registering persistent objections to the custom.

## XII. THE FMCT WITHIN THE BROADER NPT FRAMEWORK

The NPT is the key element of the nuclear nonproliferation regime. It seeks the end of nuclear proliferation and has as an ultimate goal complete nuclear disarmament. The regime, meaning the outgrowth of mechanisms to attain the goals of the NPT, consists of many other treaties, agreements, national legislation, export control groups and other measures. The NPT

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230. See AVNER COHEN AND BENJAMIN FRANKEL, OPAQUE NUCLEAR PROLIFERATION: METHODOLOGICAL AND POLICY IMPLICATIONS 31 (1991).

231. See MOXLEY, *supra* note 224, at 155-250; Elliott L. Meyrowitz, *The Laws of War and Nuclear Weapons*, 9 BROOK. J. INT'L L. 227 (1983); David M. Corwin, *The Legality of Nuclear Arms Under International Law*, 5 DICK. J. INT'L L. 271 (1987); JONATHAN SCHELL, THE GIFT OF TIME, THE CASE FOR ABOLISHING NUCLEAR WEAPONS NOW (1998). *But see* Eric J.G. McFadden, *The Legality of Nuclear Weapons: A Response to Corwin*, 6 DICK. J. INT'L L. 313 (1988).

232. See VCLT, *supra* note 202.

contemplates certain arms control steps, working towards nuclear disarmament.

A verifiable agreement to end production of plutonium and highly enriched uranium (HEU) for weapons would be a central part of an overall regime for deep reductions in nuclear arms, and hence has long been seen as a key part of the nuclear weapon states' meeting their obligations under Article VI of the Nonproliferation Treaty (NPT) to negotiate in good faith toward nuclear disarmament. Moreover, if accepted by the NPT nuclear weapon states and the few states outside the NPT (India, Pakistan, Israel, and now North Korea), a cutoff could begin the process of placing agreed limits on these states nuclear weapons activities, bringing the non-NPT states into at least a part of the nonproliferation regime and reducing the discrimination inherent in the NPT's division of states into nuclear weapon states and non-nuclear weapon states.<sup>233</sup>

The Strategic Arms Limitation Treaty (SALT),<sup>234</sup> the Strategic Arms Reduction Treaty (START),<sup>235</sup> and the Strategic Offensive Reductions Treaty (SORT) or Moscow Treaty<sup>236</sup> for example, are bilateral arms control and disarmament treaties that reduce the number of nuclear weapons held by the United States and Russia. The CTBT was another critical milestone on the path to nuclear disarmament. The NPT parties, at RevCons and Preparatory Committee Meetings (PrepComs), envisioned a series of steps on the path to nuclear disarmament<sup>237</sup> and both the CTBT and FMCT would be key steps on that path. The CTBT is an example of

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233. *Ending Further Production, Fissile Material Cutoff Treaty*, Nuclear Threat Initiative, July, 2004, at [http://www.nti.org/e\\_research/cnwm/ending/fmct.asp](http://www.nti.org/e_research/cnwm/ending/fmct.asp).

234. Union of Soviet Socialist Republics—United States: Treaty on the Limitation of Strategic Offensive Arms, June 18, 1979, 18 I.L.M. 1112 [hereinafter SALT II Treaty]. The treaty, which never entered into force, would have required the two contracting parties to reduce their respective arsenals of long-range nuclear weapons to an agreed, common ceiling. *Id.* The United States never ratified the treaty. See Manford R. Hamm & Brian Green, SALT II: At What Price?, at <http://www.heritage.org/Research/NationalSecurity/bg439.cfm>. President Carter, however, announced that the United States would adhere to the treaty provisions, as long as the Soviet Union reciprocated. President Brezhnev made a similar statement regarding Soviet intentions.

235. Treaty on the Reduction and Limitation of Strategic Offensive Arms, S. Treaty Doc. No. 102-20 (1991).

236. Strategic Offensive Reductions Treaty, May 24, 2002, U.S.—Russ. Federation, S. Treaty Doc. No. 107-08 (reducing strategic nuclear warheads to a level of 1700-2200 by Dec. 31, 2012).

237. See *supra* note 85.

the CD successfully negotiating an arms control treaty and functioning as envisioned.

The CTBT has not entered-into-force, nor is it soon likely to do so, since its provisions require the accession of forty-four key states with nuclear programs before the treaty becomes operative.<sup>238</sup> In hindsight, this was foreseeable, but perhaps that was the price of consensus.<sup>239</sup>

Opponents of a CTBT also take issue with the adequacy of its verification scheme.<sup>240</sup> And to the extent that a treaty on nuclear testing was viewed by some as unverifiable, a treaty prohibiting production of fissile material for weapons would be perceived as that much less verifiable. Nuclear testing is by its very nature far more obvious and therefore more subject to detection than enrichment and reprocessing, which provide much less of a detectable signature.

The significant bilateral nonproliferation, nuclear arms control and disarmament treaties include the Anti-Ballistic Missile Treaty (ABM) (1972),<sup>241</sup> START (1991),<sup>242</sup> the Intermediate Range Nuclear Forces Treaty (INF) (1987),<sup>243</sup> and most recently, the Moscow Treaty (2002)<sup>244</sup> (referred to by the Russians as SORT). All of these agreements are between the United States and Russia/Soviet Union and all work toward the goal of nuclear disarmament and are fully consistent with NPT Article VI.

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238. See *supra* note 215.

239. Miles A. Pomper, *Test Ban Infrastructure: A Concrete Reality*, at [http://www.armscontrol.org/act/2004\\_10/CTBT.asp](http://www.armscontrol.org/act/2004_10/CTBT.asp). Of the 44 states which must accede for the CTBT to enter-into-force, 33 have ratified it, while eight of the remaining eleven have signed. Key states which have signed but not ratified the treaty include China, Colombia, Congo, Egypt, Indonesia, Iran, Israel, United States, and Vietnam. Key states that have not signed include India, North Korea, and Pakistan.

240. See Helms, *supra* note 108. Many believe that the CTBT, with its 321 monitoring stations and an onsite inspection regime, is effectively verifiable.

241. Treaty on the Limitation of Anti-Ballistic Missile Systems, May 26, 1972, U.S.-U.S.S.R., 23 U.S.T. 3435, 944 U.N.T.S. 13. The ABM Treaty is no longer in force. See ABM Treaty Fact Sheet (Statement of Withdrawal from ABM Treaty), available at <http://www.state.gov/t/ac/rls/fs/2001/6848.htm>.

242. Treaty on the Reduction and Limitation of Strategic Offensive Arms, July 31, 1991, U.S.-U.S.S.R., S. Treaty Doc. No. 102-20 (1991); Protocol to the Treaty with the Union of Soviet Socialist Republics on the Reduction and Limitation of Strategic Offensive Arms, May 23, 1992, S. Treaty Doc. No. 102-32 (1992).

243. Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles, Dec. 8, 1987, U.S.-U.S.S.R., 1657 U.N.T.S. 2, 27 I.L.M. 84, S. Treaty Doc. No. 100-11 (1988).

244. Strategic Offensive Reductions Treaty, May 24, 2002, U.S.-Russian Federation, S. Treaty Doc. No. 107-8.

Significant multilateral nuclear nonproliferation treaties include the NPT (1968),<sup>245</sup> the Latin American Nuclear Weapon Free Zone (1967),<sup>246</sup> the South Pacific Nuclear Weapon Free Zone (1985),<sup>247</sup> the South East Asian Nuclear Weapon Free Zone (1995),<sup>248</sup> and the African Nuclear Weapon Free Zone (1996).<sup>249</sup> Most of these have protocols for non-regional states to sign.

The two classes of NPT states are highly relevant to FMCT considerations. For example, the NWS already have nuclear weapons, and, pursuant to Article VI, have committed to work towards nuclear disarmament.<sup>250</sup> The NNWS have promised not to receive, acquire, or even seek assistance in the manufacture of nuclear weapons.<sup>251</sup> Therefore, it may be argued that a FMCT would offer only the advantage of bringing India, Israel, North Korea and Pakistan within the nuclear disarmament and nonproliferation regime.

One would think that there should be some easier way to bring four holdout states within the nonproliferation regime other than pursuing an entirely new multilateral treaty with the goal of signing 192 states similar to the NPT. Many believe that until the underlying security issues are resolved or their arsenals fully develop, these states will never accede to the NPT or FMCT. NPT commentators have considered other means of bringing these states under some form of nuclear restraint. One possible method includes interpreting the NPT in such a manner that the non-NPT states may still accede as NNWS while retaining their nuclear weapons.<sup>252</sup> Alternatively, some form of associate membership under a separate, freestanding agreement or protocol might address some of the nonproliferation issues created by the non-NPT states.<sup>253</sup>

It is certainly interesting to note that the Administration desires to bring India within the nuclear nonproliferation regime by seeking peaceful

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245. NPT, *supra* note 27.

246. Treaty for the Prohibition of Nuclear Weapons in Latin America, Feb. 14, 1967, 6 I.L.M. 521, 634 U.N.T.S. 326 (1968).

247. 1445 U.N.T.S. 177; 24 I.L.M. 1440 (1985).

248. Treaty on the Southeast Asia Nuclear-Weapon Free Zone, Dec. 15, 1995, 35 I.L.M. 635.

249. African Nuclear Weapon Free Zone Treaty (Pelindaba Text), 35 I.L.M. 698 (1996).

250. NPT, *supra* note 27, art. IV.

251. *Id.* art. II.

252. See David S. Jonas, *Variations on Non-Nuclear: May the "Final Four" Join the Nuclear Nonproliferation Treaty as Non-Nuclear Weapon States While Retaining Their Nuclear Weapons?*, 2005 MICH. ST. L. REV. 417.

253. Avner Cohen & Thomas Graham, Jr., *An NPT for Non-Members*, 60 BULL. ATOMIC SCIENTISTS 40-44 (2004), available at <http://www.thebulletin.org/issues/2004/mj04/mj04cohen.html> (last visited Feb. 19, 2005).



nuclear cooperation with India in exchange for assurances of nuclear nonproliferation, but many have been critical of this arrangement.<sup>254</sup>

Arms control theology holds that the United States should be anxious to begin negotiations on a FMCT and to engage India in that process. “A universal measure, it would reinforce the NPT and voluntary nuclear export controls, as well as help contain the nuclear programs of the three NPT holdout states: India, Israel and Pakistan.”<sup>255</sup>

Yet the voluntary nature of such export controls has proven a relative success in the nuclear, chemical and biological areas. The Nuclear Suppliers Group (NSG), established in 1975, comprises forty-five nuclear supplier states that voluntarily agree to harmonize national controls governing the transfer of civilian nuclear material, technology, and dual-use items to NNWS.<sup>256</sup> Similarly, the Australia Group is another group of states (thirty-eight states and the European Union), which have entered into a non-binding arrangement which aims to minimize the risk of exporting or transshipping countries to assist chemical and biological weapon proliferation.<sup>257</sup> Given the success of such voluntary arrangements, a FMCT without verification is surely worthy of consideration.

The 1995 NPT Review Conference, which extended the NPT indefinitely, listed a set of “Principles and Objectives for Nonproliferation and Disarmament.”<sup>258</sup> One of the key steps noted therein, to be taken in the near future, was the negotiation of a FMCT.<sup>259</sup> Many commentators believe that the longer the FMCT remains a mere concept, the greater the damage to the NPT regime, which is viewed by many as already reeling.<sup>260</sup>

Similarly, at the 2000 NPT RevCon, the states parties agreed to take thirteen steps to implement the “Principles and Objectives for Nuclear Non-Proliferation and Disarmament.”<sup>261</sup> The key step related to FMCT was step number five, which stated:

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254. Dafna Linzer, *Congress Faults Nuclear Deal With India*, WASH. POST, Sept. 9, 2005, at A8.

255. Kimball, *supra* note 8.

256. See *Nuclear Suppliers Group at a Glance*, at <http://www.armscontrol.org/factsheets/NSG.asp>. See also *Nuclear Suppliers Group*, at <http://www.nuclearsuppliersgroup.org/member.htm>.

257. See *The Australia Group: An Introduction*, at <http://www.australiagroup.net/en/intro.htm>.

258. 1995 Nuclear Nonproliferation Treaty Conference, Decision 2, Principles and Objectives for Nuclear Non-Proliferation and Disarmament, 8, available at <http://disarmament2.un.org/wmd/npt/1995dec2.htm> [hereinafter NPT 1995].

259. *Id.*

260. Rhianna Tyson, *The NPT Under Siege*, at <http://www.reachingcriticalwill.org/legal/npt/NGOpres2003/Intro.htm>.

261. See *supra* note 84

The necessity of negotiations in the Conference on Disarmament 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 in accordance with the statement of the Special Coordinator in 1995 and the Mandate contained therein, taking into consideration both nuclear disarmament and nuclear non-proliferation objectives. The Conference on Disarmament is urged to agree on a programme of work which includes the immediate commencement of negotiations on such a treaty with a view to their conclusion within five years.<sup>262</sup>

The 2005 NPT Review Conference, held in May, 2005, has come and gone, and, instead of the CD proudly announcing a completed FMCT negotiation, as envisioned in 1995, the norm of no progress prevails. This is very discouraging to NPT states and will likely continue to provide fuel for many inflammatory remarks. It is conceivable that several states could either threaten to withdraw from the NPT or actually do so if there is no more progress towards nuclear disarmament and nonproliferation. Continued stalemate with respect to FMCT negotiations is stark evidence of the lack of progress.

The NPT and its importance in the nuclear nonproliferation arena raise another question that must be addressed with respect to a FMCT. The NPT is so crucial that all would agree that a FMCT must do nothing to decrease its merit or vitality. Yet by implicitly making India, Israel, North Korea and Pakistan the key states for FMCT, some worry that it legitimizes those states as *de facto* NWS.<sup>263</sup> This will involve deft diplomacy given that the NPT legally recognizes as NWS only those that tested nuclear weapons prior to 1967.

### XIII. CRITICAL STATES PARTIES FOR THE FMCT

The parties to multilateral arms control and nonproliferation treaties would ideally prefer all states to sign<sup>264</sup> any agreement under negotiation. In the U.N. General Assembly, all states count equally.<sup>265</sup> But there is no

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262. See *supra* note 84.

263. See, e.g., Lewis A. Dunn, A FMCT: Can We Get From Here to There?, available at <http://www.fas.org/nuke/control/fmct/2e-dunn.pdf>.

264. States that sign the treaty after the negotiating parties have done so are said to accede to a treaty.

265. See U.N. General Assembly 59th Sess., Rules of Procedure, at [http://www.un.org/ga/59/ga\\_rules.html](http://www.un.org/ga/59/ga_rules.html).

question that some are more equal than others, starting with the NWS themselves, who also happen to be the Permanent Five (P-5) members of the U.N. Security Council.

In the case of a FMCT, the conventional wisdom has been that most critical to its success is the accession of India, Israel, North Korea, and Pakistan, the non-NPT states. India and Pakistan were accurately termed Threshold states prior to testing their nuclear weapons in 1998, and their nuclear capabilities were publicly ambiguous. North Korea has now joined those two states as *de facto*, NWS. North Korea tested its first nuclear weapon on October 9, 2006.<sup>266</sup> This test has prompted international concern regarding an appropriate response.<sup>267</sup> Only Israel maintains ambiguity regarding its nuclear weapons capabilities, and thus would be the only remaining true Threshold state.<sup>268</sup> Many view the participation of these states as the *raison d'être* for a FMCT.<sup>269</sup> Other states see it as crucial to constrain the NWS.

Some might now argue that since India, North Korea, and Pakistan are known to have nuclear weapons and since most believe that Israel has nuclear weapons, none would accede to a FMCT. To go to the trouble of negotiating a new treaty and not have the four key states participate borders on the absurd. But, as time marches on, and those states have more time to (legally) produce additional fissile material, they may arrive at a point at which they would feel secure acceding to a FMCT so long as their existing stocks were not affected by the treaty. Of course, the more fissile material they produce, the more pointless their accession, and the more pointless FMCT itself would become. This illustrates yet another reason why the time for a FMCT is now.

#### XIV. WHAT A FMCT WOULD LIKELY PROHIBIT AND AUTHORIZE

Naturally, without any treaty text under active negotiation, the specific activities proscribed by a FMCT remain to be determined. The United

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266. See Nuclear Weapons Testing, at <http://www.globalsecurity.org/wmd/world/dprk/nuke-test.htm>.

267. See William J. Perry, *In Search of a North Korea Policy*, WASH. POST, Oct. 11, 2006, at A19.

268. The term Threshold state will not be used since the term "non-NPT state" is more comprehensive.

269. See, e.g., Hui Zhang, FMCT and PAROS: A Chinese Perspective, at <http://www.inesap.org/bulletin20/bul20art06.htm>.

States, however, tabled a draft FMCT at the CD on May 18, 2006.<sup>270</sup> The traditional thought on this matter has been that the production of fissile material, or its acquisition through another party, or its transfer to other states, would be prohibited for use in nuclear weapons or other explosive devices.<sup>271</sup>

Permissible activities for FMCT parties would probably include: retention of existing stocks of fissile material outside of international safeguards;<sup>272</sup> future production of fissile material for non-explosive military uses such as naval propulsion; the production of tritium for use in nuclear weapons;<sup>273</sup> recycling of fissile material already in military use;<sup>274</sup> chemical reprocessing of irradiated material under safeguards as required to manage spent fuel;<sup>275</sup> and production of low enriched uranium (LEU) for reactor fuel.<sup>276</sup>

Arms control and FMCT proponents are well aware that many aspects of a FMCT will be extremely controversial.<sup>277</sup> In the context of multilateral negotiations at the CD, it means that consensus will be very hard to attain. Nonetheless, it is useful to examine the major issues that will simply have to be considered and resolved, if serious negotiations ever begin. Given the difficulty of resolving any one of the issues, deletion of a verification regime, surely one of the most contentious matters in a FMCT, could pave the way for successful negotiations, rather than impede progress.

As will quickly be ascertained, there is significant uncertainty about what a FMCT might look like. The only certainty is that if there is to be one, there are many decisions that will have to be made regarding the obligations of signatory states. Each of these decisions has a major impact on the overall regime and the extent to which it is intrusive, verifiable, expensive, reliable, and enforceable.

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270. Press Release, U.S. Mission to the United Nations in Geneva, U.S. Tables Draft FMCT Text at Conference on Disarmament, *available at* <http://www.usmission.ch/Press2006/0518DraftFMCT.html>.

271. *See generally* BRIAN G. CHOW ET AL., *THE PROPOSED FISSILE-MATERIAL CUTOFF: NEXT STEPS* (1995).

272. *Id.* at xi.

273. Tritium is an isotope of hydrogen used to boost the power of nuclear weapons. *See* Tritium, Radiation Protection, *at* <http://www.epa.gov/radiation/radionuclides/tritium.htm>.

274. *See* CHOW ET AL., *supra* note 271. This is the same as existing stocks.

275. *Id.* at 24. "An unnamed 'senior U.S. official' . . . estimated . . . in February, 1995 that a global ban on the production of fissile material would 'take forever.'"

276. Victor Bragin et al., *Viewpoint: Verifying a Fissile Material Production Cut-Off Treaty*, 6 *NONPROLIFERATION REV.* 99 (1998).

277. *Id.*

## XV. DEFINITIONS

### A. *Fissile Material*

The CD will have to decide, first and foremost, on the definition of fissile material, the subject of the treaty. Under IAEA INFCIRC 153,<sup>278</sup> nuclear material includes all source and special fissionable material as defined in the IAEA Statute.<sup>279</sup> It would most probably include all plutonium, (although some believe that the isotope Pu-238 used as a compact power source could be exempted),<sup>280</sup> and uranium enriched to more than 20% in the isotope U-235. Yet some states may wish to limit application to U-235 enriched to over 90%. Some believe it should include tritium, americium, and neptunium-237. Tritium, though, does not fission, so there is no valid reason for including it in a FMCT. Since tritium boosts the power of a nuclear weapon, even though it would not be useful without HEU or Pu, some would like to see it in FMCT.<sup>281</sup> Tritium must not be included since it would clearly be unacceptable to the NWS.

The IAEA has considered transuranic elements and has encouraged states to voluntarily control them.<sup>282</sup> A FMCT should treat U-233 like Pu. The primary focus should remain on HEU and Pu (as well as U-233)

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278. See International Atomic Energy Agency, *The Structure and Content of Agreements Between the Agency and States Required in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons*, INFCIRC 153 (1972), available at <http://www.iaea.org/Publications/Documents/Infircs/Others/inf153.shtml>.

279. See Statute of the IAEA, at [http://www.iaea.org/About/statute\\_text.html](http://www.iaea.org/About/statute_text.html). Under U.S. law special nuclear material is defined by Title I of the Atomic Energy Act (AEA) of 1954, 42 U.S.C. 2011, as Pu, U-233, or uranium enriched in the isotopes U-233 or U-235. The AEA was enacted in conjunction with President Eisenhower's Atoms for Peace Program. See U.S. Nuclear Regulatory Commission, Special Nuclear Material, at <http://www.nrc.gov/materials/sp-nucmaterials.html>.

280. See IEER Factsheet, Physical, Nuclear, and Chemical Properties of Plutonium, at <http://www.ieer.org/fctsheets/pu-props.html>.

281. Neptunium-237 and americium are less well-known fissile materials that are of some proliferation concern since it is possible to use them in nuclear weapons. There is an emerging consensus that neptunium should be included. In 1998 the U.S. Department of Energy declassified the information that nuclear weapons could be made from such materials. See Frank Barnaby & Nick Ritchie, *The FMCT Handbook: A Guide to a Fissile Material Cut-off Treaty*, 26, available at <http://www.oxfordresearchgroup.org.uk/publications/books/fmcthandbook.htm>. Both of these elements are produced in nuclear reactors and are found in spent fuel. They are not included in the definition of special fissionable material in the IAEA statute, but were considered by the IAEA Board of Governors in 2000. Tritium, while essential to boost nuclear weapon yield, also has many civil applications. *Id.*

282. See IAEA.org, *supra* note 75.

because covering other materials would expand the scope of the treaty too broadly. After all, the broader the scope of the treaty, the more difficult it will be to negotiate and attain consensus. Therefore, the wiser approach is to limit the scope of the treaty *ab initio*, and once it is concluded, if appropriate, it could later be amended to include other materials, or possibly a verification regime if that becomes acceptable.

But this most basic decision could itself result in protracted negotiations as nations decide how far-reaching they wish a FMCT to be. For example, at the minimalist end of the spectrum, the treaty could deal with only super-grade Pu and weapons grade HEU. But on the other end of that spectrum, it could cover all Pu, uranium enriched to over six percent U-235, tritium, americium and neptunium. It would not cover LEU, which is enriched to less than six percent U-235, and is typically used in commercial power reactors. The U.S. draft defines “fissile material” as Pu except Pu where the isotopic composition includes 80% or greater Pu-238 and uranium containing 20% or greater enrichment in U-233 or U-235.

### B. Production

Even this basic term requires definition in such a treaty as FMCT. Will it just include basic enrichment and reprocessing functions or will it be an expansive definition to include irradiation in reactors and recycling of weapons materials? The definition of this key term is crucial because it will impact heavily upon what types of facilities or activities will be covered by a FMCT.

### C. Scope and Existing Stocks

In the existing literature available on a FMCT, the issues of “scope” and “existing stocks,” are often used interchangeably. In this Article, the term scope will apply generally to materials and the issue of existing stocks; facilities will be considered separately.

This is one of the most difficult issues and there exists major disagreement on what the scope of a FMCT should be. While nearly all agree that it must deal with future production of HEU and Pu for weapons use, the issue of scope mostly refers to past production, meaning existing stocks. Given that all nuclear materials and facilities in the NNWS are subject to IAEA fullscope safeguards, it is the NWS and the non-NPT states that would be affected by any inclusion of existing stocks.<sup>283</sup>

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283. Du Preez, *supra* note 130.

The term “cutoff” refers to a date when future production of fissile material for use in nuclear weapons or other nuclear explosive devices, will cease. It is a critical issue for negotiations. Without a cutoff, FMCT would simply be a Fissile Material Treaty (FMT), thus encompassing all existing stocks of fissile material. Of course, if it did that, it would be indistinguishable from a nuclear disarmament treaty since it would outlaw fissile material and therefore nuclear weapons. But this approach would also guarantee non-support from the NWS and non-NPT states. The U.S. draft, of course, exempts existing stocks.

As a conceptual matter, this choice impacts on the function of a FMCT as a nonproliferation treaty or a disarmament treaty. To the extent that it does nothing to reduce the amount of existing fissile material, it is a nonproliferation treaty that would provide assurance that quantities of fissile material available for weapons will not increase. If the treaty mandated cuts in or eventual elimination of existing stockpiles, however, it would be a disarmament treaty.

Some might argue for a FMCT with a phase-in period, like the CWC, requiring destruction of stocks over a period of years. Indeed, many argue that the opinion of the International Court of Justice has made nuclear weapon use unlawful.<sup>284</sup> But for the support of the NWS and non-NPT states, fissile material currently in nuclear weapons must be excluded from the treaty.

If existing stocks of fissile material are excluded from the treaty, however, then nations without fissile material and nuclear weapons might want some assurances of irreversibility, meaning that these stocks would never increase. The only way that could be determined would be for the nations maintaining existing stocks of fissile material under the treaty to declare exactly how much of a stockpile they have upon entry-into-force of a FMCT. Of course, a mere declaration, without verification, does not ensure irreversibility, and therefore some NNWS are sure to press for a treaty that provides for verification. Some states possessing fissile material, such as China and some non-NPT states may hesitate to make such a declaration, since they are not democracies and are not generally

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284. See *Legality of the Threat or Use of Nuclear Weapons*, International Court of Justice, Advisory Opinion, General List at pt. VI, 35-36, No. 95 (July 8, 1996), available at <http://www.icj-cij.org>. Advisory opinions are not, of course, legally binding, but still have relevance. The ICJ concluded that due to the indiscriminate, uncontrollable, and widespread effects of nuclear weapons, their use would generally violate the laws of armed conflict. The Court stated that it did not have sufficient facts to determine the legality or illegality of use in cases of self defense, where a nation's survival was at stake.

forthcoming with information—particularly concerning national security matters. This could be yet another potentially contentious topic.

The converse of that argument is that if states provide declarations of existing stocks of even military fissile material, this could serve to codify that right, and to provide a legitimacy to the non-NPT states that most states do not wish to see attained.

Many states have concluded, quite correctly, that if existing stocks are not covered, then a FMCT would result in a discriminatory treaty analogous to the NPT, with two classes of states—those lawfully in possession of fissile material and those for whom possession is prohibited. This would be analogous to the NPT with NWS that lawfully possess nuclear weapons, and the NNWS which promise not to pursue nuclear weapons.<sup>285</sup> It is very difficult to address this perceived inequity, except to note that the difference would not be treaty based.

Another topic guaranteed to be highly divisive, assuming that the NWS may indeed retain their existing stocks of fissile material, is whether the existing stocks must be subject to some type of guarantees, commitments, or IAEA safeguards<sup>286</sup> to ensure no diversion for nuclear weapons purposes either by the state or by another state after export to that state. The key potential reasons for unifying existing stocks: 1) to remove them over time from weapons programs; and 2) to be able to avoid having to distinguish whether undeclared material that might be discovered is the result of new production (prohibited) or existing stocks (allowed). It would be quite surprising if the NWS were to accept any type of safeguards on what would obviously be national security facilities. This debate would be an integral aspect of considerations on whether all civil and military existing stocks would be covered by FMCT. Such safeguards, of course, would be part of a treaty based verification regime that the United States now wishes to avoid as evidenced by the conspicuous absence of verification in the draft FMCT.

Clearly understanding the difficulty that this issue presents, some have suggested a mere commitment in FMCT to negotiate the issue of existing stocks at a date after the entry-into-force of a FMCT. It could also encourage voluntary declarations of existing stocks of military fissile

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285. *See supra* note 27.

286. Safeguards generally refer to measures an inspecting agency, such as the IAEA, uses to ensure that no nuclear material is being diverted to unlawful uses such as nuclear weapons production. For NWS such unlawful purposes would include the use of newly produced fissile material (after FMCT entered into force) for nuclear weapons or the transfer of fissile material to NNWS. *See* IAEA Web Site, at <http://www.iaea.org>.



material.<sup>287</sup> That would be far more palatable from the NWS and non-NPT state point of view. It should be reasonably clear, however, that this issue, coupled with the issue of declarations of existing stocks, provide enough divisive matters to keep negotiations going for many years. To add verification to this mix would almost guarantee eternal gridlock.

#### D. *Enrichment and Reprocessing Facilities*

Such facilities are essentially where fissile material is produced, and defining them would be vital to a FMCT. Many decisions would have to be made in this regard. Any exclusion for naval propulsion would be considered both here and in a possible national security exclusion section. Treatment of “downstream” (after production) permissible activities would have to be resolved as would the exclusion of any *de minimis* activities.

In the case of enrichment, uranium mined from the ground contains less than one percent U-235 and more than 99 percent U-238. Enrichment facilities increase the fraction of U-235 isotopes relative to U-238. Enrichment by centrifuge technology is the most common method in use today.<sup>288</sup> These specialized centrifuges spin at above the speed of sound and pass the uranium hexafluoride (UF<sub>6</sub>) gas with concentrated or depleted U-235 from centrifuge to centrifuge, with each step further enriching the U-235 isotope compared to U-238.<sup>289</sup> To attain a reasonable production rate, hundreds or thousands of centrifuges are required, working in parallel in a cascade.<sup>290</sup> Low enriched UF<sub>6</sub> is typically converted to uranium oxide “for fuel” while highly enriched UF<sub>6</sub> will be converted to metal, which can be shaped into the “pit” or heart of a nuclear weapon.<sup>291</sup>

Plutonium is the other element that is the most obvious choice for nuclear weapons, and to obtain Pu, spent fuel must be reprocessed. Reprocessing involves the removal of spent fuel rods from reactors, chopping them up, and then using nitric acid to dissolve them.<sup>292</sup> The resulting liquid is then chemically separated, typically into three streams—plutonium, uranium, and the highly radioactive waste products.<sup>293</sup> Weapon grade Pu, containing 90% or more Pu-239, usually

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287. Bragin et al., *supra* note 276.

288. See Uranium Enrichment, at <http://www.ead.anl.gov/uranium/guide/depletedu/enrich/index.cfm>.

289. *Id.*

290. *Id.*

291. *Id.*

292. *Id.*

293. Uranium Enrichment, *supra* note 288.

comes from dedicated production reactors. Power reactors normally produce reactor grade plutonium, which contains over 20% Pu-240 and is therefore less suitable for weapons use. Whatever the isotopic composition, the Pu from reprocessing is usually chemically converted to oxide, but may also be converted to metal.<sup>294</sup>

A certain aspect of this debate would hinge upon the agreed uses of such facilities. The most important issue to some NWS, for example, would be to ensure that HEU for naval propulsion purposes could still be manufactured. The issue of safeguards over such a process would be avoided completely if no verification regime were negotiated.

### *E. Facilities Covered*

To the extent that a verification regime is being negotiated, the conferees would have to decide which facilities would be declared under the treaty, and which would not be declared. This is an important concept in some arms control treaties; for example in the CWC, the states parties provide a list of all facilities that are capable of chemical weapons production.<sup>295</sup> Most states would probably agree to declare decommissioned nuclear facilities where no production activity takes place. Such a declaration would be relatively easy to verify. Most parties would likely wish to see active nuclear facilities of any kind be declared from research reactors to active nuclear weapons facilities.

Once again, choices will hinge on the philosophical approach that the CD takes to a FMCT and whether it is to be broad or narrow in application. For example, on the narrow end of the spectrum, only enrichment and reprocessing plants would be declared facilities. If the treaty were intended to be expansive in its coverage, however, the delegates would need to consider storage facilities,<sup>296</sup> shipyards capable of handling nuclear powered ships,<sup>297</sup> HEU/LEU fabrication processing facilities, disposal facilities, nuclear power reactors, experimental facilities and hot cells including research reactors, research and development facilities, training facilities and critical assemblies.

The definition of facilities is crucial in determining how expansive the treaty will be. If defined broadly, it could cover all civilian and military reactors, to include reactors and all experimental activities. The more

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294. *Id.*

295. *See* CWC, *supra* note 66.

296. Such facilities would be for storage of nuclear materials and not nuclear weapons.

297. The United States would likely be unable to agree to inclusion of any naval reactor facilities on an eligible facilities list due to the risk of compromise of classified technologies.

expansive the coverage, the more expensive and intrusive a verification regime would be.

#### F. Duration

The CD conferees will have to decide on an appropriate initial term for a FMCT to be in force. They might take the approach taken by the NPT negotiators. The NPT was effective for 25 years, unless extended indefinitely or for a fixed period or periods in 1995.<sup>298</sup> The U.S. draft proposes 15 years.

Given the importance of the treaty, the parties may wish to make withdrawal fairly difficult, although such treaties generally have a standard “supreme national interest” withdrawal provision.<sup>299</sup> Such withdrawal, however, could be made contingent upon a lengthy notice period, such as two years rather than the 90 day period specified in the NPT. The U.S. draft proposes a three month notice period. Regardless, under international law the standard treaty withdrawal provisions are: (1) indefinite duration with a right to terminate; (2) duration for a fixed period with the possibility of extension; (3) indefinite duration with a conditional right to withdraw; (4) duration until a specific event occurs with no termination provision; or (5) duration for a period of years with no provision for extension or withdrawal.<sup>300</sup>

### XVI. BASIC OBLIGATIONS

All agreements obligate parties to do or refrain from doing certain things. A FMCT would be no different. Once key terms are defined,

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298. See NPT, *supra* note 27, art. X(2). This is significant, however, since the treaty history shows some significant disagreement on this issue. For example, during the NPT negotiations at the Eighteen-Nation Conference on Disarmament, Nigeria submitted a working paper which would have given the treaty “unlimited duration,” but would have allowed withdrawal from the treaty not only based upon the “supreme interests” clause, but also if “the aims of the Treaty are being frustrated.” United Nations, Eighteen-Nation Conference on Disarmament, *Working Paper submitted by Nigeria*, U.N. Doc. ENDC/202 (1967). Many nations currently view the lack of progress on FMCT as frustrating the aims of the NPT.

299. NPT, *supra* note 27, art. X (containing such a typical withdrawal clause). This provision allows each party to withdraw if it decides that “extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country.” *Id.* A certain period of advance notice, (three months in the NPT), is required prior to withdrawal, and the withdrawing country usually must provide a statement of the extraordinary events it regards as jeopardizing its supreme interests.

300. See ANTHONY AUST, *MODERN TREATY LAW AND PRACTICE* 225-29 (2000).

negotiators will have to decide what it is that the parties to the agreement must do. Negotiators may not proceed sequentially and could well end up defining key terms later in the negotiations. This often results when a particularly contentious issue arises. Negotiators then “bracket” the text, indicating that no agreement has yet been attained, and then proceed to tackle other issues.

### A. *Verification and Monitoring*

An obligation frequently included in arms control and nonproliferation treaties is the acceptance of verification measures from an international inspectorate. But verification of FMCT is problematic at best, and, for that reason, the United States is not prepared to negotiate a verification regime. It is important to note the various issues inherent in a verification regime, to understand how far less complex and acrimonious FMCT negotiations would be without it. There even exists a significant variety of opinion on whether a FMCT is actually verifiable.

While the Bush Administration has concluded that it would be practically impossible to make a FMCT effectively verifiable, others, including John Carlson of the Australian Safeguards and Nonproliferation Office, maintain that it would be possible.<sup>301</sup> Carlson points to the example of the Trilateral Initiative between the United States, Russia, and the IAEA, which has demonstrated that it can be practical to verify fissile material of sensitive shape, composition and mass.<sup>302</sup> He suggests a similar mechanism for verification of naval fuels.<sup>303</sup> Of course there are great differences in the scale of operations between the verification of “pits” from nuclear weapons under the Trilateral Initiative, and the verification of naval fuels. Additionally, the Trilateral Initiative involved nuclear weapon pits in storage containers in known locations.<sup>304</sup> A truly verifiable FMCT would have to be able to detect undeclared, clandestine enrichment and reprocessing activities.

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301. Carlson, *supra* note 24.

302. See Thomas E. Shea, *Report on the Trilateral Initiative; IAEA Verification of Weapon-Origin Material in the Russian Federation and the United States*, 43 NUCLEAR SECURITY & SAFEGUARDS (2001), available at <http://www.iaea.org/Publications/Magazines/Bulletin/Bull434/article9.pdf>.

303. *Id.* Naval fuels must be permitted under a FMCT and such production of HEU for naval reactors would be consistent with the 1972 model Comprehensive Safeguards Agreements, INFCIRC/153, which allows for nuclear material to be withdrawn from safeguards for non-proscribed military activities. See also Du Preez, *supra* note 130.

304. See Shea, *supra* note 302.

Carlson concedes that it would be impractical to have an FMCT verification regime of wide scope, which would include all nuclear facilities and materials except existing stocks and nonproscribed military activities such as naval propulsion.<sup>305</sup> The other option, which he recommends, is the “focused” approach which would only concentrate on the most proliferation sensitive fissile material production facilities—specifically enrichment and reprocessing facilities.<sup>306</sup>

To the extent that a FMCT might be effectively verifiable, due to the potential of great cost, some wish to consider different levels of verification intensity depending upon the state in question.<sup>307</sup> It does make sense to expend substantial resources conducting significant verification activities in states with small or no nuclear arsenals, since if such states violate a FMCT, their actions could have a great impact on the strategic situation in the region. On the other hand, it would be irrational to expend significant resources on verification in states such as the United States and Russia that have so much fissile material that they are disposing of it, and thus have no obvious incentive for noncompliance.

The verification standard could be to detect militarily significant violations. A relatively modest violation (production of 8 kilograms of Pu per year, for example) might be militarily significant in Pakistan, but not in the United States or Russia. Of course, existing IAEA safeguards may make FMCT verification pointless in most NNWS.

The safeguards associated with an FMCT would have three purposes: verification, timely detection, and deterrence. First, an FMCT must include means to verify that fissile material is not produced or acquired outside international safeguards after entry into force, and that safeguarded fissile material is not diverted for use in nuclear weapons or other nuclear explosive devices, or for purposes unknown. Second, an FMCT must allow timely detection of undeclared production or diversion of fissile material. Finally, FMCT safeguards must deter undeclared production or diversion by the risk of early detection.<sup>308</sup>

All of these safeguards, of course, are problematic for many nations that will be key participants in any FMCT negotiation. Intrusive

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305. See Carlson, *supra* note 24.

306. *Id.*

307. *Id.*

308. Bragin et al., *supra* note 276, at 100.

inspections are undesirable for many reasons including national security, cost, and sovereignty.

Just one of the difficulties in the establishment of a verification regime is defining what is meant by verification. The term is used in several different ways. In its most comprehensive sense, it may refer to “any activity aimed at the acquisition and use of information about others’ behaviour [sic] in a particular sphere.”<sup>309</sup> A second view pertains more to evaluating compliance with a specific treaty, and that may entail differentiating between verification and monitoring. Monitoring refers to detecting, identifying and measuring developments and activities of interest while verification is linked to the pursuit and practice of arms control.<sup>310</sup> There is another view of this distinction within the arms control sphere. Monitoring covers the activities of measuring and observing, while verification is the act of drawing conclusions from monitoring and other sources of information. Thus international organizations would prefer monitoring while verification is the province of states. The CWC was constructed that way, but IAEA safeguards call on the agency to perform verification, which includes drawing conclusions. A third view limits the concept of verification further, to include only activity aimed at proving or disproving that a treaty has been violated.<sup>311</sup> In this sense a party could be nearly certain that another party is guilty of a violation without being able to verify that such is the case.<sup>312</sup> A final view reserves the concept for bilateral or multilateral measures that are directly related to a particular agreement: that is, whether states parties observe their mutual treaty obligations. This usefully distinguishes such activities in verification from espionage and intelligence gathering.<sup>313</sup>

In today’s “high tech” world most states should have the means to verify compliance and should do so. Whether sharing of such information among states could ever displace international verification organizations is debateable.

Regardless, where at least one party has an incentive to violate the agreement, effective verification can play a vital role. Where, as with a FMCT, effective verification may be impossible, (as the United States maintains), the task is to make a FMCT without verification still

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309. JON HOVI, GAMES, THREATS AND TREATIES, UNDERSTANDING COMMITMENTS IN INTERNATIONAL RELATIONS 114 (1998).

310. See Carlson, *supra* note 24.

311. *Id.*

312. *Id.*

313. *Id.* at 114-15.

meaningful and effective. The general assumption is that the IAEA<sup>314</sup> would likely be designated to function as the inspection agency were there to be a verification regime. That view, however, is not universally held. The IAEA is known as the nuclear “watchdog” agency with expertise in the peaceful uses of nuclear energy.<sup>315</sup> Even if it was to be selected, by consensus, for this function, the cost of such a regime could prove prohibitive. IAEA safeguards budgets could require tripling in order to apply such comprehensive safeguards.<sup>316</sup> The IAEA budget for 2004 was \$268,534,000 of which \$102,278,000 was for nuclear verification.<sup>317</sup> And since the IAEA budget is only now undergoing its first significant increase after nearly two decades of “zero real growth,” significant increases in the safeguards budget could be difficult to achieve, unless the parties could agree to such increases for the express purpose of FMCT verification. Before this budget increase, the IAEA Director General has emphasized that without additional funding, new missions would be impossible to accept.<sup>318</sup>

Some states favor the creation of a new agency specifically to conduct verification inspections. Others recommend having regional organizations, such as the European Atomic Energy Community (Euratom) handle as many of the safeguards inspections as possible.<sup>319</sup> Euratom already performs safeguards functions at all civil nuclear facilities in the European Union including France and the United Kingdom.<sup>320</sup>

In the CWC, the OPCW performs inspections.<sup>321</sup> The CWC provides for both “routine inspections” and “challenge inspections.”<sup>322</sup> Challenge inspections occur when there is suspicion that a party is violating the treaty outside of declared production facilities.<sup>323</sup> In such situations, the

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314. The IAEA plays a vital role in verification of the NPT. The Statute of the International Atomic Energy Agency, *opened for signature* Oct. 26, 1956, 8 U.S.T. 1095, 276 U.N.T.S. 4, *entered into force* July 29, 1957.

315. Profile of the IAEA, at <http://www.iaea.org/worldatom/About/Profile/> (last visited Mar. 20, 2005).

316. *Id.*

317. International Atomic Energy Agency, About IAEA: Budget, *available at* <http://www.iaea.org/About/budget.html>.

318. *Interview with the Director General of the IAEA*, Mohamed ElBaradei, Aug. 24, 2000, *cited in* Roberts, *supra* note 39, at 41. *See also* William Drozdiak, *U.N. Atomic Energy Agency is Threatened by Financial Crisis*, WASH. POST, Aug. 8, 2000, at A1.

319. Berkhout et al., *supra* note 194, at 193.

320. *Id.*

321. *See* CWC, *supra* note 66.

322. *Id.*

323. *Id.*

inspectorate has authority to search nearly anywhere in the territory of the state, well beyond the areas where routine inspections occur.<sup>324</sup>

While the OPCW has the authority for challenge inspections, none have thus far been requested by any state.<sup>325</sup> Over twelve hundred routine inspections of declared facilities have been accomplished in fifty-one states.<sup>326</sup> Only twenty-seven states are not party to the CWC.<sup>327</sup> Of course, the United States has stated that it does not view a FMCT as practically verifiable.<sup>328</sup> This is similar to the American view regarding the BWC<sup>329</sup> and, according to some, the CTBT.<sup>330</sup>

The Bush Administration has not offered a public explanation of the specific concerns that led to the conclusions of its interagency review. It appears that (a) officials concluded that far-reaching inspection rights would be needed to uncover possible covert nuclear material production facilities, and that giving other countries such inspection rights in the United States might pose a danger of compromising U.S. secrets; (b) even such a far-reaching inspection regime might not be able to provide high confidence that covert facilities would be detected before they could be producing nuclear bomb material; and (c) such a wide-ranging inspection regime would be quite expensive. Since challenge inspections could potentially be requested virtually anywhere, the secrets potentially at risk might not even be nuclear secrets.<sup>331</sup>

Arms control theologians tend to be quite dismissive of the above concerns. What is so rarely factored into the equation is that it is a far different matter for the United States, with its vast international security

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324. *Id.*

325. *Id.*

326. *See* CWC, *supra* note 66.

327. *See* Mission Statement of the OPCW, at [http://www.opcw.org/html/intro/mission\\_statement.html](http://www.opcw.org/html/intro/mission_statement.html).

328. *See* CTBT, *supra* note 64.

329. Kerry Boyd, BWC Review Conference Meets, Avoids Verification Issue, ARMS CONTROL TODAY, Dec. 2002, available at [http://www.armscontrol.org/act/2002\\_12/bwc\\_dec02.asp](http://www.armscontrol.org/act/2002_12/bwc_dec02.asp).

330. *See, e.g.*, Chris Hellman, *The Bush Administration: What Can We Expect for the Pentagon?*, FOREIGN POLICY IN FOCUS, Dec. 2000, at 1, at <http://www.fpiif.org/pdf/gac/0012pentagon.pdf>.

331. *See* Daryl G. Kimball, *The Bush Administration and the Fissile Material Cutoff Treaty: Reversing Course on Verification*, Arms Control Association Press Roundtable, Sept. 2, 2004, at [http://www.armscontrol.org/events/FMCT\\_Excerpts.asp](http://www.armscontrol.org/events/FMCT_Excerpts.asp).



obligations, to sign such a treaty, than, for example, for Cameroon to do so. In fact, for almost any NNWS, it is a simple matter to advocate for a FMCT. Such states need do virtually nothing different than they were doing before signature and there is no additional cost. Thus does the Holy See, to use a good example, sign the CTBT at no real expense to itself. The Vatican provides a clear example of a state that has no intention of developing or testing nuclear weapons. “Coincidence of interest” thus explains why many states sign multilateral arms control treaties.<sup>332</sup> The United States, obviously, is in a rather different position than the Holy See.

As is so often the case with respect to arms-control agreements—the landmines movement comes to mind—the United States is simply not in the same position as other states, at least as long as it continues to assume global security responsibilities, and therefore should not be shamed by charges of hypocrisy when it fails to adopt to regimes that it urges on others.<sup>333</sup>

Of course, this does not even consider the fact that the United States bears a 22% share (as one out of 192 Member States) of the operational expenses of the United Nations itself, and of the IAEA in particular, at approximately 25%.<sup>334</sup> As a typical example, of the CTBT Preparatory Commission budget of about \$90 million, the United States pays about \$20 million annually.<sup>335</sup>

Since there appears to be no such entity as a “pro-nuclear weapon” group, (except perhaps for the NWS), all the non-governmental organizations (NGO) that weigh in are anti-nuclear weapon and therefore pro-FMCT. None appear to have carefully considered whether the new Bush Administration stance on verification might actually provide the impetus for negotiations on FMCT.

By contrast, cutoff advocates argue that: (a) inspections of declared facilities—such as reprocessing and enrichment plants—coupled with a limited approach to “complementary access” at other

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332. See JACK L. GOLDSMITH & ERIC A. POSNER, *THE LIMITS OF INTERNATIONAL LAW* 89 (2005).

333. PHILIP BOBBITT, *THE SHIELD OF ACHILLES, WAR, PEACE AND THE COURSE OF HISTORY* 691 (2003).

334. See U.N. Funding Fact Sheet, at <http://www.unausa.org/site/pp.asp?c=fvKRI8MPJpF&B=667579> (noting that the U.S. FY07 Budget request for the IAEA was \$83.1 million. The IAEA budget was \$273.6 million in 2006). See About IAEA: Budget and Finance <http://www.iaea.org/About/budget.html>. The U.S. Constitution, then, is over 30% of the budget.

335. See Pomper, *supra* note 239.

locations, as called for under the International Atomic Energy Agency's Additional Protocol, would provide far higher confidence in compliance than would exist without verification provisions; (b) inspection arrangements could be negotiated to allow far-ranging challenge inspections while protecting national security secrets, as was done, for example, with the Chemical Weapons Convention, which also permits wide-ranging inspections in the United States; and (c) the additional cost of a fissile cutoff verification regime would be modest compared to its security benefits, in the range of a few tens of millions of dollars per year.<sup>336</sup>

But there are other reasons for NNWS to desire that the NWS and non-NPT states bear the burdens of verification, should such a regime ever be established.

Proponents of a more comprehensive verification regime argue that it would foster greater transparency among the five NWS, lessen mutual suspicions among them, and enhance wider confidence in their compliance. At root, however, their advocacy of this approach reflects a strong underlying political interest in equalizing the burden of safeguards. In effect, the regime would be designed not simply to monitor the shutdown of production activities related to nuclear weapons, but to bring under international inspection all non-military nuclear activities in the NWS. It would monitor any residual production of plutonium and HEU as well as the status of former production plants and spent fuel.<sup>337</sup>

Types of monitoring would only be appropriate where there is a verification regime since monitoring implies aspects of verification. Monitoring generally means that the international inspectorate tasked with verification will place tags, seals, and cameras on fissile material containers and production facilities at declared sites. In the safeguards context, this refers to the use of instrumentation and all technical measures. Safeguards inspections normally involve inspectors checking

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336. See, e.g., *Fissile Material Cutoff Treaty, Nuclear Threat Initiative*, at [http://www.nti.org/e\\_research/cnwm/ending/fmct.asp](http://www.nti.org/e_research/cnwm/ending/fmct.asp) (noting that "this new position made successful negotiation of an agreement in the near term even less likely than before."). The author then injects some welcome realism, in stating the obvious: "Even before the Bush Administration's announcement, however, negotiation of an FMCT had been stymied for years and seemed to have little likelihood of moving forward soon."

337. Roberts, *supra* note 39, at 38.

tags and seals on equipment. Some states may object to standard safeguards measures at production facilities which they consider sensitive. The ability to monitor declared sites is generally accepted. Since the new U.S. approach accepts no verification and monitoring,<sup>338</sup> and this can often be one of the most contentious aspects of treaty negotiations, significant time may well be saved by not having any verification and monitoring to negotiate.

A FMCT without verification could still result in a legally binding treaty, if negotiated as such, but would have no “teeth” based upon actions which might be taken against violators due to the verification regime. The U.S. draft text proposes a legally binding treaty. Another option might be a non-legally binding agreement, which would include no verification protocols. Should the need for a FMCT verification regime be apparent after an FMCT *sans* verification enters into force, (or is signed, if not legally binding), then it could be negotiated at a later date, after the new norm of FMCT attains increased international acceptance.

If there were to be an inspection regime, some states would likely only accept minimal verification and monitoring narrowly defined and limited to declared production facilities. Inspections can take many forms. Environmental sampling, while unlikely to be a central tool in FMCT verification, is one means that an inspection agency might use to monitor compliance. Environmental sampling is a critical tool in standard safeguards practice. But for states which have already produced fissile material, it may not be a useful tool. Some states would likely not wish to authorize environmental sampling, meaning the taking of samples of air or water near production sites for analysis. Objections are likely because, for some states, it would potentially compromise secret programs, or, for other states, would be a likely means of detecting cheating.

The desire of the NNWS to see the NWS bear an equal burden in inspections in the NPT is a strong motivator and one of the many reasons that the push for FMCT negotiations continues.

### B. Headquarters Commission

A treaty of this type may have some type of headquarters body, such as the OPCW for the CWC. The NPT and BWC do not. If the CD decides that no new inspectorate is required, then it is unlikely that there will be any such body since the principal function of that body is to oversee the verification regime. If the CD agrees that the IAEA would serve as the inspectorate, the IAEA Board of Governors could serve as the executive

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338. See U.S. Draft FMCT, *supra* note 14.

body for FMCT verification, as it does for safeguards under the NPT. Alternatively, the Commission would ensure that the terms of the treaty are being observed by all states, and would arrange regular meetings for treaty review, new membership, amendment, and other matters. Disputes would also be settled by such a Commission comprising representatives of states parties. If a FMCT were to be non-binding, a Headquarters body might not be required at all. In such cases, meetings could be held annually, at the IAEA or the United Nations, or on the margins of meetings already taking place at those fora.

### *C. Entry-Into-Force*

In considering what mechanism to use for entry-into-force of a FMCT, the delegates will no doubt wish to consider the case of the CTBT in detail and attempt to avoid some of the clear pitfalls with that approach. After the successful negotiation of a significant treaty, the world is left with a treaty that may never enter-into-force. In fact, North Korea has now tested a nuclear weapon, making it even less likely that North Korea will soon accede or otherwise express its intent to be bound by the NPT or CTBT.<sup>339</sup>

If a FMCT were to be non-binding, there would be no formal entry-into-force, since that legal concept applies only to legally binding agreements. Given that the key states for FMCT are the five NWS, plus India, North Korea, Pakistan, and probably Israel<sup>340</sup> and given the lessons of the CTBT, would the CD negotiating states really consider making entry-into-force contingent on the ratification of all ten of those states? Most probably not. It would be more likely that they would permit entry-into-force to occur once some percentage of those states had signed a FMCT, or some fixed number of total states had ratified it, regardless of their nuclear capabilities, civil or military, or some combination or variant of the above.

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339. Gordon Fairclough, *U.S. Warns China North Korea May Test Bomb Soon*, WALL ST. J., Apr. 25, 2005, at A12.

340. Some might argue that Iran and North Korea are vital states for FMCT. In fact, so long as Iran remains in the NPT and observes its NPT commitments, FMCT does not really improve the situation. The NPT prohibition on nuclear weapons for Iran, if observed, goes well beyond the more limited scope of a FMCT. Similarly, the international goal for North Korea is that it eliminates its nuclear weapons and returns to the NPT. Accepting North Korea's FMCT ratification as a substitute for NPT compliance undercuts that goal. Making either Iran or North Korea critical to FMCT's entry-into-force gives each an effective veto on entry-into-force.

### D. *Financing*

Any treaty with a headquarters staff and regular meetings of states parties requires a significant budget. Of course, if there is no verification regime, and hence no standing organization, the cost would be limited to possible review conferences. The more staff, functions and office space required, the larger the budget must be. Clearly verification would be a major cost, so if there is no verification in the initial FMCT, it would be a major cost savings. How any cost burden will be shared must be agreed to by the conferees. Many states may not wish to accept the standard U.N. contribution percentage scheme and may attempt to negotiate lower payments. In the eyes of the NNWS, it is the NWS that should bear the burden of the cost of nuclear disarmament treaties, and there is some merit to that argument.

Since the CTBT has not yet entered into force, it has a "Preparatory Commission," rather than a fully functioning headquarters. That commission began operations in 1996, while the actual CTBTO will commence operations only when the treaty becomes effective. The Preparatory Commission, co-located in Vienna, Austria with the IAEA, has a budget of approximately \$90 million.<sup>341</sup> A FMCT Organization, if created, might require a similar budget if it has verification duties similar to the CTBTO, or in the alternative, the IAEA would require increased funding if it assumed such duties.

## XVII. WHY VERIFICATION IS PROBLEMATIC

A reliable verification regime, if it could be designed, would almost surely need to be highly intrusive to be effective. Indeed, the more difficult an issue is to verify, the more intrusive the verification regime would have to be in order to assert findings with confidence. Some findings will be easier to draw than others. For example, a conclusion of non-diversion from declared facilities may be drawn with high confidence, while a conclusion of the absence of undeclared production would be much weaker. This conundrum contributed to the downfall of a BWC verification regime, which was never attained. For example, it is fairly easy to verify non-production of fissile material at a decommissioned facility, but concluding that there are no undeclared production facilities is another matter since detecting a clandestine enrichment or reprocessing facility presents almost insuperable verification obstacles. Detecting

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341. See Pomper, *supra* note 239.

diversion from operating facilities is a standard safeguards task. The question is not so much whether it can be done but how much it will cost. Since fissile material can conceivably be produced in relatively small highly shielded and specialized areas, an expansive verification system could make virtually all areas subject to search. This poses risks for any nation that does not wish to invite the prying eyes of an international inspectorate. It certainly has Fourth Amendment implications for the United States, although these were resolved in the CWC and the Additional Protocol.<sup>342</sup>

Since a reliable verification regime would require inspectors to inspect anywhere they believe enrichment or reprocessing to be occurring, it provides essentially a blank check to search anywhere within the bounds of sovereign states. Of course unfettered access to every building in every state is unlikely. Yet to the extent that such access is not granted, verification must be less reliable.

The threshold for seeking such access is a critical issue. In the CWC, the threshold is so high that challenge inspections are a remote concern. Many states will simply be unwilling to provide unfettered access everywhere. But truly unlimited access could only be imposed by defeat in war, or some linkage to great incentives. Certainly, there are oppressive regimes in states like Burma which, while probably not producing any fissile material, do not want inspectors nosing around for other reasons, which are more political than national security related. States may have various reasons for not allowing inspectors access to any site they may choose to inspect. While it might seem wise to seek a middle ground between comprehensive access and no verification at all, the United States is correct that if verification negotiations resulted in a compromise, which is nearly certain in the multilateral realm, the agreement would be flawed since it might be seen as promising more than it could possibly deliver. This is the core of the argument. Inspections cannot be intrusive enough to detect undeclared centrifuge plants without risking too much. Limited verification would likely be worse than no verification since it would provide a false sense of security. Such was the experience of the NPT safeguards regime. Iraq, found to have a vast, hidden nuclear weapons production complex in place in 1990, has been in compliance with its safeguards obligations.<sup>343</sup>

The Iraq experience led to a better understanding of the limits of verification with respect to clandestine programs, but also to a major effort

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342. See CWC, *supra* note 66.

343. CHEN ZAK, IRAN'S NUCLEAR POLICY AND THE IAEA: AN EVALUATION OF PROGRAM 93+2 (2002).

to strengthen and transform the culture of the IAEA safeguards system. Subsequent experiences in North Korea, Iran, Libya, South Korea, and Egypt demonstrate a more diligent IAEA approach to verification. For the NWS and India, Israel, North Korea, and Pakistan, there are numerous national security concerns that may be difficult to address. For example, to consider some of the concerns of the United States alone, there is the potential compromise of classified naval fuels technologies, potential compromise of nuclear weapons materials and non-nuclear technologies in nuclear weapons. There may also be certain defense programs entirely collateral to nuclear programs ongoing at nuclear sites. These and other risks must be considered.

The list of concerns goes on. The U.S. Navy does not wish its ships to be boarded by foreign inspectors due to concerns about the erosion of the principle of the sovereign immunity of warships. While consent to boarding ships would negate any breach of sovereign immunity, as it would on land, the Navy is also concerned with setting an undesirable precedent. So should ships be excluded from a verification regime? If so, it is conceivable that a state could enrich or reprocess nuclear material at sea<sup>344</sup> in order to evade the mandates of a FMCT.

Of greatest import in the arguments against verification is the fact that it may not be able to provide the degree of assurance states would require, and to the extent that a verification regime is not able to offer such assurances, the imposition of such a regime would be remarkably counterproductive. This is because great political capital will be expended in the negotiations of a FMCT and it hardly seems worth the political and economic cost for an ineffective verification regime. If some consider the CTBT unverifiable,<sup>345</sup> how much more must this apply to the far less visible and detectible production of fissile material?

The United Nations mandate calls for an effectively verifiable agreement. While not defined, this generally means there is a high degree of certainty that cheating would be detected. Unfortunately, while the technology continues to improve, it is unlikely that the IAEA or anyone else will be able to detect with high confidence the

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344. The author is unaware of any instance in which this has been done, but it is surely feasible. Many ships are large and provide plenty of space for enrichment and reprocessing. Secrecy would be nearly assured on a vessel at sea although it would not be cost effective. Economy is rarely a goal in the production of fissile material, though, and a reasonably effective verification regime could make this an attractive option. In fact, Russia has proposed floating reactors.

345. See Helms, *supra* note 108. The view that the CTBT is unverifiable was one of the reasons why some Senators voted against giving advice and consent to ratification of the treaty.

clandestine production of fissile materials either at an undeclared site or undeclared production at a declared site. The experience of the IAEA with Iraq and North Korea where two NPT parties with safeguards agreements were able to cheat despite being subject to IAEA inspections is telling. Despite technological improvements and a more intrusive safeguards regime, it is highly unlikely a clandestine program could be detected in states determined to cheat.<sup>346</sup>

This supports the U.S. position and illustrates that the technologies available today are not equal to the task of finding covert enrichment and reprocessing activities in vast nations. And even if such technologies could be utilized, free rein to use them cannot be realized.

There is no question that a FMCT would have some effect with or without a verification regime, particularly in states that honor their international commitments. The key would be to make clear that a FMCT does not legitimize the possession of nuclear weapons by any state not specifically recognized as a NWS in the NPT. If a FMCT were to exempt from safeguards existing stocks of fissile material in the NWS as well as in India, Israel and Pakistan as the NWS have made clear is their preference, then another class of state besides NWS and NNWS would effectively be created.

Some in India would like to see its program explicitly recognized under the NPT and given some status such as “nuclear capable states.”<sup>347</sup> Certain conditions may have to apply to North Korea, since, of the four non-NPT states, it is the only state that withdrew from the NPT and such conduct must not be rewarded. Some might question whether it is worse to withdraw from the NPT or to fail to join at all, but that is an issue for another day. Until recently, North Korea has been relatively successful in resisting international pressure to cease its nuclear weapons program and to honor its NPT commitments. This can only encourage other potential proliferators.

The problems with any such recognition or increased prestige for these states is that it would avoid pressure for them to follow the South African model of nuclear disarmament—that of destroying nuclear weapons, declaring them, and acceding to the NPT as a NNWS. But none of the non-

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346. Roberts, *supra* note 39, at 41. In fact, the IAEA determined that North Korea was cheating quite quickly. After that, it was prevented by the Agreed Framework from attempting to verify correctness and completeness of declarations.

347. K. Subrahmanyam, *Export Controls and the North-South Controversy*, 16 WASH. Q. 135-44 (1993).



NPT states are inclined to accede to the NPT as NNWS in the near future. Some might argue that they would be far more likely to accede to the NPT if they were FMCT signatories. The converse to that argument is that the NPT would ultimately be enormously strengthened and the nonproliferation norm restored by the accession to a FMCT of the only non-NPT states. Their affirmative acceptance of limits on their nuclear weapons programs would be a significant confidence building measure, at a minimum.<sup>348</sup>

Another concern is that a FMCT could become a recognized alternative to the NPT for two types of states: current NPT NNWS considering withdrawal from the NPT, which could withdraw, produce fissile material, and then sign the NPT and FMCT; and other states that may wish to withdraw from the NPT, produce fissile material and then keep that unsafeguarded stockpile for whatever purpose they desire. Meticulous treaty drafting would be called for and it would be critical to avoid such scenarios, with a provision, for example, prohibiting states that have withdrawn from the NPT from joining the FMCT.<sup>349</sup>

Suggestions to prevent NNWS from looking to a FMCT as an alternative to the NPT include: assurance of an equally or more intrusive verification system (which would be inapplicable if there was to be no verification) and assurance that FMCT signatories would not receive the same preferences for nuclear exports and other favorable treatment as NPT states. This means that FMCT participation would not be a substitute for IAEA fullscope safeguards under the Nuclear Nonproliferation Act<sup>350</sup> or the NSG Guidelines, both of which require such safeguards as a prerequisite for nuclear exports.<sup>351</sup> In other words, NPT accession brings certain rewards to states in good standing. While some benefits may be crafted to encourage FMCT participation, NPT participation must still be the “gold standard.”

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348. Berkhout et al., *supra* note 194, at 198.

349. *Id.* This is a difficult issue, though, since ultimately the international community would find it preferable to have them inside the FMCT regime, even if outside the NPT. This provision would apply after entry-into-force of the FMCT so as not to preclude North Korean accession to a FMCT.

350. Nuclear Non-Proliferation Act of 1978, 22 U.S.C. 3201, P.L. 9-242, 92 Stat. 120 (Mar. 10, 1978).

351. Berkhout et al., *supra* note 194, at 199.

### XVIII. A NATIONAL SECURITY EXCLUSION?

Some claim that one possibility for solving the myriad problems that verification poses is to permit a national security exclusion to the NWS. But the perceived need for such an exclusion is one of the primary factors that led the United States to its position on verification. There is precedent for this in the U.S. Voluntary Offer Safeguards Agreement with the IAEA and the Additional Protocol to that agreement. This would allow the NWS to continue their nuclear weapons programs without concern for the prying eyes of inspectors, since it would enable the NWS to exclude inspectors from any area of national security concern. This is defensible under the NPT, since that treaty requires NWS to protect information that would assist NNWS in the manufacture of nuclear weapons.<sup>352</sup> A national security exclusion, limited to the NWS, would establish a FMCT as a clearly discriminatory regime. Since the NPT is objectionable for that very reason, and the Shannon Mandate includes the term “nondiscriminatory,” such an exclusion will likely be opposed by others.

A corollary issue is whether the non-NPT states would be included in such an exclusion. If so, it would raise issues of adverse impact upon the NPT. To the extent that they were not permitted a national security exclusion, which NWS were granted, they would almost surely not accede to a FMCT.

Because a national security exclusion (NSE) would be objectionable to many states, as a practical matter, it would need to be narrowly drafted. For the United States, this would likely mean prevention of access to both active nuclear weapons facilities and operational naval nuclear propulsion systems and production. Additionally, operational military bases and ships would be excluded and managed access during inspections would have to be assured.

One method utilized in established verification regimes in sensitive areas is managed access. For example, a state may shroud certain sensitive pieces of equipment while still permitting inspectors access to a site or building. But for certain areas where managed access might be insufficient, the NSE could be invoked, and access to a requested area would be denied.

The complications of a NSE militate in favor of the non-verification of a FMCT. With no verification regime, there is no need for such an exclusion. Of course, one may contend with the predicate of a NSE since the issue is really about the conditions to be applied to inspections at undeclared locations. The NSE in the U.S. safeguards agreement is not a

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352. NPT, *supra* note 27, art. I.

viable model because, unlike the safeguards agreement, FMCT verification would be aimed at limiting national security programs.

#### XIX. COMPARISON WITH OTHER RELEVANT ARMS CONTROL AND NONPROLIFERATION AGREEMENTS

As noted earlier, even the NPT, one of the most vital elements of the nonproliferation regime, moved incrementally to its current state. The NPT entered into force in 1970. Although it requires NNWS to accept comprehensive IAEA safeguards on all nuclear material in peaceful use, the detailed safeguards arrangements were left for a separate negotiation, which led to the adoption of the model safeguards agreement in 1972. When lessons from Iraq demonstrated the need for expanded verification authority, the comprehensive safeguards system was expanded and strengthened in 1997 with the Additional Protocol.

Even strong proponents of a FMCT with a verification regime argue that it would be sensible to pursue the NPT route for verification.<sup>353</sup> The NPT model was to establish the basic obligations first, including the broad safeguards requirement, while allowing the technical issues of verification to be considered separately. Naturally, the political will must exist to take both steps, but the point is that it is often easier to move one step at a time. For the United States, of course, such political will cannot be realized until an effectively verifiable FMCT is viewed as realistically achievable.

Certainly the BWC followed the same path, with a basic treaty negotiated without a verification regime, although attempts to add such a regime at a later date have failed thus far. The CWC, which opted to negotiate basic treaty objectives and a verification system in the same document, successfully accomplished both in 1993.

The Convention on the Physical Protection of Nuclear Material<sup>354</sup> (CPPNM), while it contains no prohibitions that require verification, is a multilateral agreement that has progressed in a manner that could be illustrative for a FMCT. This international convention requires parties to ensure, *inter alia*, that nuclear material imported or exported for peaceful purposes<sup>355</sup> will receive physical protection during international transport

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353. See Carlson, *supra* note 24.

354. The Convention on the Physical Protection of Nuclear Material, Mar. 3, 1980, 18 I.L.M. 1419, *entered into force* Feb. 8, 1987 [hereinafter CPPNM]. The CPPNM is codified at 18 U.S.C. 831 (1994) and 22 U.S.C. 4831 (1994). The key IAEA document on the Physical Protection of Nuclear Material is INFCIRC/225/Rev. 4.

355. The CPPNM does not apply to military nuclear material since it was generally agreed that such material would have a higher level of physical protection already extant. *Id.* Also, states

consistent with the levels prescribed in the CPPNM. Additionally, the convention mandates protection of such material within the territory of states parties or on ships or aircraft under its jurisdiction and engaged in transport to or from that state.<sup>356</sup>

The CPPNM is relevant to a FMCT since it took a long time to garner support for it. It was initially crafted as a weaker agreement than many deemed appropriate at the time. As is often the case in multilateral negotiations, states settle for what is achievable with the understanding that perfect agreements are unattainable. The parties realized that the agreement required strengthening, and began negotiations to amend and strengthen it in 1998.

The CPPNM was drafted in the 1970s and entered into force in 1987 under the auspices of the IAEA.<sup>357</sup> The CPPNM covers weapons-useable nuclear materials and mandates several preventive measures that are applicable only during international transport.<sup>358</sup> The convention also makes certain acts criminal, including theft and illegal acquisition, possession and use of nuclear materials in international or domestic transit or storage.<sup>359</sup> All other matters of handling nuclear materials are left to the states to decide.<sup>360</sup>

The IAEA published preventive measures that states should take to properly secure nuclear materials from theft and to protect nuclear facilities from sabotage.<sup>361</sup> While these are termed “requirements” they are

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possessing such material undoubtedly wanted a bright line between nuclear material for civil and military use.

356. Other mandates of the CPPNM include establishing frameworks for cooperation for the protection and return of stolen nuclear material and for the exchange of information to further the recovery of such stolen material. Additionally, it defines acts that states parties should make criminal. See Patricia A. Comella et al., *Revising the Convention on the Physical Protection of Nuclear Material*, Papers presented to the annual meetings of the Institute for Nuclear Materials Management, 2000-2003.

357. The IAEA is the depositary of the treaty but is also intimately involved in its implementation. The IAEA works closely with the states party to the CPPNM and has published guidelines for the physical protection of nuclear material which are fully consistent with the CPPNM. See IAEA INFCIRC/225/Rev. 4, *The Physical Protection of Nuclear Materials and Nuclear Facilities*, available at [http://www.iaea.org/Publications/Documents/Infircs/1999/infirc225r4c/rev4\\_content.html](http://www.iaea.org/Publications/Documents/Infircs/1999/infirc225r4c/rev4_content.html).

358. See CPPNM, *supra* note 354, art. II, ¶ 1.

359. *Id.* art. VII.

360. See Larry D. Johnson, *The Threat of Nuclear Terrorism and September 11th: Wake-Up Call To Get The Treaties Right*, 31 DENV. J. INT'L L. & POL'Y 80, 83 (2002).

361. *The Physical Protection of Nuclear Material and Nuclear Facilities*, at <http://www.iaea.org/worldatom/program/protection/inf225rev4/rev4<uscore>removal.html> (last visited Mar. 25, 2005).

only legally and factually recommendations.<sup>362</sup> Therefore, the parties decided in 1999, based on an American initiative, to begin a review process to consider if and how the CPPNM could be strengthened. The United States initially recommended making the IAEA guidelines binding and including in the CPPNM a means by which states could be held accountable for what they do or fail to do in securing their nuclear material and facilities.<sup>363</sup>

One would think that this would not be a contentious proposition, yet these proposals were opposed by U.S. allies for a variety of political reasons.<sup>364</sup> This illustrates how difficult multilateral negotiations can be and how opposition can appear in unexpected places. Based on the opposition, the United States accepted a compromise by which the CPPNM was expanded to cover domestic use, storage, and transport of nuclear material as well as sabotage of nuclear facilities—but no new preventive measures are required.<sup>365</sup> Negotiations<sup>366</sup> have progressed since then on an amendment to strengthen the Convention, and after extensive and protracted negotiations, the process concluded in 2005 with a Diplomatic Conference held at the IAEA, which agreed to proposed amendments to the CPPNM which now await ratification by states parties.

## XX. CONCLUSION

Today the United States is viewed by some as having relinquished its role as the leader in arms control and nonproliferation agreements in particular and multilateral agreements in general. From a failure to sign the Kyoto Protocol<sup>367</sup> to the Ottawa Treaty on landmines,<sup>368</sup> to its persistent opposition to the Statute of the International Criminal Court,<sup>369</sup> the United

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362. See Johnson, *supra* note 360, at 83.

363. *Id.*

364. *Id.*

365. *Id.*

366. The author has participated, as a member of the U.S. delegation, in several of the conferences in Vienna regarding the process of amending the CPPNM, including the Diplomatic Conference concluding the amendment process in 2005.

367. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Conference of the Parties, 3d Sess., U.N. Doc. FCCC/CP/1997/L.7/Add.1(1997), reprinted in 37 I.L.M. 22 (1998), available at <http://www.unfccc.de/resource/docs/convkp/kpeng.pdf>.

368. See, e.g., Wade Boese, *U.S. Will Not Join Landmine Treaty; Position on Fissile Material Cutoff Pact Uncertain*, 34 ARMS CONTROL TODAY (2004), available at [http://www.armscontrol.org/act/2004\\_03/Rademaker.asp](http://www.armscontrol.org/act/2004_03/Rademaker.asp) (last visited Feb. 10, 2005).

369. Rome Statute on the International Criminal Court, U.N. Doc. A/CONF.183/9 (1998) (eff. July 1, 2002), 37 I.L.M. 999 (1998).

States is no longer viewed as being particularly willing to play nicely with others in the arms control sandbox.

It seems clear that the United States is less prepared to enter into multilateral arms control treaties and evidences reduced commitment to existing regimes. The Comprehensive Test Ban Treaty was rejected by the Republican-controlled Senate in 1999. The executive branch has walked away from negotiations to add a verification protocol to the Biological Weapons Convention. After a spirited domestic and inter-national debate, the executive branch has also withdrawn the United States from the ABM Treaty, which the Clinton Administration had not so long ago tried to transform into a multilateral obligation either through interpretation or explicit amendment.<sup>370</sup>

The above quotation is certainly factually accurate, if lacking in detail. Reading such an excerpt devoid of context, it would seem that the United States is no longer willing to enter into arms control treaties. That is simply not the case, and in the examples cited by Professor Perez, the United States had valid reasons for taking the actions it did. But the criticism continues.<sup>371</sup> The FMCT provides the United States with an opportunity to illustrate that it is still very much a leader in multilateral arms control agreements.

International agreements in the disarmament and nonproliferation arena, such as a FMCT, are surely not a panacea, in and of themselves. They are, however, at a minimum, useful objects in the American national security toolbox. There are also times when negotiations for negotiation's sake can be important, as was the case during the height of the Cold War, when the United States and former Soviet Union continued negotiations even when there was no hope of reaching an agreement.<sup>372</sup> Of course in that circumstance the rationale for negotiations was to maintain an open channel of communications in the event of an emergency.

One reason for FMCT negotiations today would be to at least provide the appearance or assurance of progress and effort in the nuclear nonproliferation and arms control spheres and because a FMCT does offer

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370. Antonio F. Perez, *Is International Law Relevant to Arms Control?: Delegalization of Arms Control—A Democracy Deficit in De Facto Treaties of Peace?*, 4 CHI. J. INT'L L. 19, 20 (2003).

371. See, e.g., Terry L. Deibel, *The Death of a Treaty*, 81 FOREIGN AFF. 142 (2002); Kerry Boyd, *U.S. Attempts to Sink BWC Review Conference*, 32 ARMS CONTROL TODAY 27 (2002).

372. FRED IKLE, *HOW NATIONS NEGOTIATE* 43-45 (1976).

significant benefits to U.S. national security. It is also vitally important that the United States and other NPT NWS make every effort to live up to their NPT commitments in good faith.

Certain statements of Administration representatives, such as John Bolton, the former Undersecretary of State for Arms Control and International Security, and current U.S. Ambassador to the United Nations, appear to bolster assertions of U.S. lack of interest in arms control. Such statements reflect frustration with the pace and cost of multilateral negotiations tied to institutions performing such functions as verification. Frustration with the pace of a FMCT at the CD would certainly be justified by any yardstick. And if there is no movement on disarmament matters at the CD itself, it is only reasonable for nations to take matters into their own hands and seek progress wherever possible.

The CD, however, cannot shoulder all of the blame for lack of progress. If states really wanted progress, it could be attained in the CD. The CD does not act as an independent brake on progress, but rather is a tool that states use, or in this case do not use. Right now states are not using it and are not explaining why. This means that some aspect of an FMCT is objectionable, and for the United States and some others, it is likely verification.

This issue is too complex to oversimplify. Different aspects of a FMCT are objectionable to different states. For the United States, it was clearly verification. For Egypt and Pakistan, it could be existing stocks. For China, it may be the risk that missile defense will undermine its deterrent. For others, it may be the lack of verification.

The United States has therefore moved out on other fronts. In illustrating the particular effectiveness of the Proliferation Security Initiative (PSI),<sup>373</sup> in which states agree to cooperate on measures to interdict shipments believed to contain WMD or related goods, Undersecretary Bolton stated that, “[r]ather than requiring years negotiating treaties and creating elaborate institutions, Resolution 1540<sup>374</sup>

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373. The Proliferation Security Initiative (PSI) is more of a “counter-proliferation” initiative rather than a nonproliferation measure. Bolton deems PSI an “activity, not an organization,” because it is designed to halt trafficking in WMD, WMD delivery systems and related materials. John R. Bolton, *An All-Out War on Proliferation*, FIN. TIMES, Sept. 7, 2004. The goal of PSI is to enhance the operational capabilities of states in the intelligence, military and law enforcement areas so that they may better halt WMD proliferation. Meeting Proliferation Challenges: UNSCR 1540 and the 2005 NPT Review Conference [hereinafter Meeting Proliferation Challenges], at [http://www.ti.org/e\\_research/official\\_docs/dos/dos031705.pdf](http://www.ti.org/e_research/official_docs/dos/dos031705.pdf).

374. U.N. Security Council Resolution 1540 calls on Member States to criminalize WMD proliferation, enact export controls and secure sensitive materials within their borders. Bolton was

rests on the notion that sovereign states are responsible for writing and implementing laws closing the loopholes exploited by black market WMD networks.<sup>375</sup> Many might say that Bolton's tone regarding treaties is an understandable expression of frustration, at a minimum. That frustration is fully appropriate at a time when days count as the United States girds to protect itself from nuclear, chemical and biological terrorism. Regardless of one's view of the merits of PSI, it is a measured response to that frustration, which has resulted in immediate action in support of nonproliferation objectives.

But abandonment of traditional arms control and nonproliferation measures, even with all of their flaws, is not the wisest course either. A melding of nonproliferation and counter-proliferation measures is optimal. Since perceptions are so important, it is best for the United States to be engaged fully in the process of multilateral arms control and nonproliferation. A FMCT, particularly in the absence of a verification regime, offers this middle path for the United States.

If past is prologue, negotiations on an agreement such as the FMCT may take years. Based upon the troubled history of the FMCT, it is reasonable to speculate that it might require five years or more to negotiate, having languished already for over a decade. Given the current threat from nuclear proliferation, it is remarkable that action on such an important issue can take so long. It is no wonder, then, that many senior officials have lost faith in nonproliferation negotiations to solve this problem.

Between the two ends of the continuum, with diplomacy and nonproliferation treaties on one end and military action and counter-proliferation on the other, if only one strategy could be employed as a basis for U.S. national security, it would have to be counter-proliferation. International agreements such as the CTBT, which raise national security concerns, may actually provide a false sense of security that other states are not developing nuclear weapons, as can treaty regimes which allow international inspectors into other states. But to the extent that nonproliferation regimes can buttress U.S. national security without denigrating it, such regimes are worthy of support. FMCT without verification can meet American needs by connecting with and reinforcing U.S. counter-proliferation measures.

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not implying that PSI and Resolution 1540 are the same. Meeting Proliferation Challenges, *supra* note 373.

375. Bolton, *supra* note 373, at 14. See also John R. Bolton, *War and the United States Military: Is There Really "Law" in International Affairs?*, 10 *TRANSNAT'L L. & CONTEMP. PROBS.* 1 (2000).



If the United States can illustrate that its new approach to a FMCT is the catalyst for action, rather than additional evidence of the United States presumed hostility to arms control and nonproliferation agreements, it would enable the United States to prove to the world that it has not forsaken traditional means of arms control and nuclear nonproliferation, and to regain its leadership position in that vital sphere. This may surely be accomplished consistent with and in furtherance of U.S. national security goals.

Arms control can be no more than a tool of national strategy if it is to be effective. It is an alternative to the other tool, the deployment of weapons. But it must pursue the same goal of national security strategy: to enhance security at the lowest possible cost and risk. When arms control becomes an end in itself the consequences become manifest: increased costs and more risk. Our arms control and non-proliferation efforts must remain grounded in the single-minded purpose of enhancing the security of the United States and international peace and security generally. Otherwise we will have less security, not more as we sign up to arms control or nonproliferation agreements for the sake of having such agreements even if they are unable to provide the security for which they were intended.<sup>376</sup>

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376. Roberts, *supra* note 39, at 50.

