

# 13. Nuclear arms control and non-proliferation

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## I. Introduction

In 2005 the global nuclear non-proliferation regime continued to face a number of serious challenges from both inside and outside the regime. The effectiveness and viability of its principal legal and normative foundation, the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (Non-Proliferation Treaty, NPT), were called into question by the deadlock among the states parties that arose at the seventh five-yearly NPT Review Conference.<sup>1</sup> The conference failed to produce a final report containing any substantive decisions on treaty implementation issues. During 2005 there continued to be international concern about the scope and nature of Iran's nuclear fuel cycle programme. The International Atomic Energy Agency (IAEA) provided further detail about Iran's failures to declare important nuclear activities, in contravention of its NPT-mandated nuclear safeguards agreement with the Agency. In East Asia, little progress was made in the multilateral negotiations on the fate of the nuclear programme of the Democratic People's Republic of Korea (DPRK, or North Korea), which in February 2005 declared for the first time that it possessed nuclear weapons. In addition to these controversies, further details emerged about the activities of the clandestine network of scientists and private companies centred around Pakistani scientist Abdul Qadeer Khan and involving the illicit transfer of nuclear weapon-related materials and equipment. This led to growing international support for voluntary and ad hoc measures, outside the framework of the NPT regime, aimed at addressing proliferation risks and challenges posed by non-state actors.

This chapter reviews the main developments in nuclear arms control and non-proliferation in 2005. Section II outlines some of the reasons for the meagre results of the 2005 NPT Review Conference. Section III describes developments related to Iran's nuclear programme and summarizes the IAEA's findings about the country's past and current nuclear activities. Section IV summarizes developments in the Six-Party Talks and the diplomatic impasse over North Korea's nuclear programme. Section V describes international initiatives aimed at enhancing the safety and custodial security of nuclear materials and facilities and preventing nuclear terrorism. Section VI presents the conclusions.

<sup>1</sup> For a description of the main provisions of the NPT and a list of the parties see annex A in this volume. The full text of the NPT is available at URL <<http://disarmament.un.org/wmd/npt/npttext.html>>. On the Review Conference see section II of this chapter.

Appendix 13A provides tables of data on world nuclear forces and on the nuclear forces of the United States, Russia, the United Kingdom, France, China, India, Pakistan and Israel. Appendix 13B describes an initiative that was announced in 2005 for civil nuclear cooperation initiative between the USA and India; the appendix evaluates its compatibility with US obligations under the NPT and the Nuclear Suppliers Group Guidelines. Appendix 13C examines the renewed interest in proposals for establishing multilateral arrangements for control of the nuclear fuel cycle and describes the main approaches that are under consideration.

## II. The 2005 Non-Proliferation Treaty Review Conference

The 2005 NPT Review Conference (RevCon) was held at UN Headquarters in New York on 2–27 May 2005. Delegations from 153 of the 188 states parties to the NPT participated. Ambassador Sérgio de Queiroz Duarte, of Brazil, served as the conference president.<sup>2</sup>

The RevCon opened against a background of deep differences between the parties, primarily between the five treaty-defined nuclear weapon states (NWS) parties on the one hand, and the majority of the 183 non-nuclear weapon states (NNWS) parties on the other.<sup>3</sup> These divisions had been starkly highlighted during the 2004 Preparatory Committee (PrepCom) meeting of the states parties, which was the third and final session scheduled to be held before the 2005 RevCon.<sup>4</sup> Under the ‘enhanced’ strengthened review process adopted at the 2000 RevCon, the main purpose of the third PrepCom session was to produce recommendations for the next review conference on a range of treaty-related issues, taking into account the deliberations and results of the two previous sessions.<sup>5</sup> However, the 2004 PrepCom meeting failed to produce a report with any substantive recommendations,<sup>6</sup> nor did it adopt an agenda for the 2005 conference. This outcome disappointed proponents of the ‘enhanced’, more effective, strengthened review process, who had hoped that it would promote greater accountability among the states parties in implement-

<sup>2</sup> United Nations, ‘Nuclear Non-proliferation Treaty Review Conference opens at headquarters; Secretary-General says regime has worked, but is now under “great stress”’, Press release DC/2955, 2 May 2005, URL <<http://www.un.org/News/Press/docs/2005/dc2955.doc.htm>>.

<sup>3</sup> As defined in Article IX of the NPT, only states that manufactured and exploded a nuclear device before 1 Jan. 1967 are recognized as nuclear weapon states. By this definition, China, France, Russia, the UK and the USA are the nuclear weapon states parties to the treaty.

<sup>4</sup> The 1995 NPT Review and Extension Conference had sought to strengthen the review process by requiring that PrepCom meetings be held in each of the 3 years leading up to the 5-yearly Review Conferences. The purpose of the meetings is to ‘consider principles, objectives and ways in order to promote the full implementation of the Treaty, as well as its universality, and to make recommendations thereon to the Review Conference’. ‘Strengthening the review process for the Treaty’, NPT/CONF.1995/32 (Part I), New York, 11 May 1995, URL <<http://disarmament2.un.org/wmd/npt/1995dec1.htm>>.

<sup>5</sup> ‘Improving the effectiveness of the strengthened review process for the treaty’, NPT/CONF.200/28 (Part I), New York, 19 May 2000, URL <<http://disarmament2.un.org/wmd/npt/finaldoc.html>>.

<sup>6</sup> Johnson, R., ‘Report on the 2004 NPT PrepCom’, *Disarmament Diplomacy*, no. 77 (May/June 2004), URL <<http://www.acronym.org.uk/dd/dd77/77npt.htm>>; and Boese, W., ‘NPT meeting marked by discord’, *Arms Control Today*, vol. 34, no. 5 (June 2004), pp. 28–29.

ing the treaty. It also led to numerous warnings that the integrity of the treaty regime was being undermined by the parties' selective approach to fulfilling their obligations.<sup>7</sup>

### Issues and concerns

The 2005 Review Conference was opened by UN Secretary-General Kofi Annan on 2 May. The first seven days of the conference were devoted to a general debate on the implementation of the NPT and the promotion of its principles and objectives. More than 90 states parties delivered prepared statements, either on a national basis or as part of groups of states, that raised a number of perennial issues. These included ways of helping to bring the 1996 Comprehensive Nuclear Test-Ban Treaty (CTBT) into force;<sup>8</sup> opening negotiations on a global treaty banning the production of fissile material for military purposes; enhancing transparency in nuclear weapon inventories and production complexes; establishing a nuclear weapon-free zone in the Middle East; and concluding a global treaty on negative security assurances—that is, on a legally binding commitment by the NWS not to use, or threaten to use, nuclear weapons against NNWS parties to the NPT.<sup>9</sup>

The general debate revealed a clear division in the parties' views about the nature of the main implementation and compliance challenges facing the treaty regime. Many of the NNWS emphasized the need for greater 'balance' in implementing the treaty's disarmament and non-proliferation obligations, which they argued were interdependent and mutually reinforcing pillars of the NPT.<sup>10</sup> This was a leitmotif running through many of the presentations made by NNWS during the general debate. The parties that are members of the Non-Aligned Movement (NAM)<sup>11</sup> were particularly critical of what they saw as the failure of the NWS to make sufficient progress towards fulfilling their commitment to work towards nuclear disarmament, codified in Article VI of the treaty.<sup>12</sup> They argued that this posed at least as serious a threat to the viability of the NPT regime as so-called horizontal proliferation by NNWS.<sup>13</sup>

<sup>7</sup> Timerbaev, R., 'What's next for the NPT?', *IAEA Bulletin*, vol. 46, no. 2 (Mar. 2005), pp. 4–7; and Middle Powers Initiative, *Atlanta Consultation II: The Future of the NPT* (Global Security Institute: San Francisco, Calif., Feb. 2005), pp. 3–8.

<sup>8</sup> The CTBT was opened for signature in 1996 and had been ratified by 127 states by 1 Jan. 2006. For a brief description of the treaty and a list of the states that have ratified it see annex A in this volume.

<sup>9</sup> For further detail about the debate over negative security assurances see du Preez, J., 'Security assurances against the use or threat of use of nuclear weapons: is progress possible at the NPT Prepcom?', Monterey Institute of International Studies, Centre for Nonproliferation Studies (CNS), 28 Apr. 2003, URL <<http://cns.miis.edu/research/npt/nptsec.htm>>.

<sup>10</sup> See, e.g., 'Statement by H. E. Ms. Laila Freivalds, Minister for Foreign Affairs of Sweden, to the 2005 Review Conference of the parties to the Treaty on the Non-proliferation of Nuclear Weapons', 3 May 2005, URL <<http://www.un.org/events/npt2005/statements/npt03sweden.pdf>>.

<sup>11</sup> For a list of the members of NAM see the glossary in this volume.

<sup>12</sup> Article VI commits the parties to 'pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament'.

<sup>13</sup> 'Statement by the Hon. Syed Hamid Albar, Minister of Foreign Affairs of Malaysia, on behalf of the non-aligned states parties to the Treaty on the Non-proliferation of Nuclear Weapons, at the general

Among the nuclear weapon states, the USA took the lead in attempting to play down Article VI compliance questions, claiming that it had made significant reductions in its deployed nuclear forces as well as in its stocks of weapon-usable fissile material.<sup>14</sup> US officials sought to focus instead on NNWS parties known or believed to be developing nuclear weapons, in contravention of articles I and II of the NPT.<sup>15</sup> They identified four serious cases of non-compliance by NNWS over the past decade: Iraq, Libya, Iran and North Korea. While the first two cases had been resolved,<sup>16</sup> they claimed that Iran and North Korea were both pursuing long-running nuclear weapon programmes that posed direct challenges to the treaty regime. Furthermore, US officials warned that there were growing proliferation risks from non-state actors, including transnational terrorist groups, which required innovative responses going beyond the NPT framework, such as the Proliferation Security Initiative (PSI) and UN Security Council Resolution 1540.<sup>17</sup> They noted that the discovery of the global black market network in nuclear technology, equipment and expertise centred around the Pakistani nuclear engineer A. Q. Khan was particularly worrying, since the network's activities circumvented many of the existing legal, regulatory and technical measures intended to curb the proliferation of weapons of mass destruction (WMD).<sup>18</sup>

Many other parties also expressed concern about the emergence of new challenges, from both inside and outside the treaty regime, since the last review conference. North Korea's withdrawal from the NPT in 2003 was the motivation for a number of proposals for reconsidering a party's rights and obligations in withdrawing from the NPT.<sup>19</sup> Among these were a European Union (EU) proposal to prohibit a state party withdrawing from the treaty from using 'nuclear materials, facilities, equipment and technologies acquired from a third country prior to withdrawal'; these would have to be 'frozen, with

debate of the 2005 Review Conference of the parties to the Treaty on the Non-proliferation of Nuclear Weapons', 2 May 2005, URL <<http://www.un.org/events/npt2005/statements/npt02malaysia.pdf>>.

<sup>14</sup> 'US implementation of Article VI and the future of nuclear disarmament', Statement by Ambassador Jackie W. Sanders, Special Representative of the President for the Nonproliferation of Nuclear Weapons, to the 2005 Review Conference of the Treaty on the Nonproliferation of Nuclear Weapons, 20 May 2005, URL <<http://www.state.gov/t/np/rls/rm/46603.htm>>.

<sup>15</sup> 'Statement by Stephen G. Rademaker, United States Assistant Secretary of State for Arms Control, to the 2005 Review Conference of the Treaty on the Non-proliferation of Nuclear Weapons', 2 May 2005, URL <<http://www.un.org/events/npt2005/statements/npt02usa.pdf>>.

<sup>16</sup> On the Libyan case see Hart, J. and Kile, S. N., 'Libya's renunciation of nuclear, biological and chemical weapons and ballistic missiles', *SIPRI Yearbook 2005: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2005), pp. 629–48. On the Iraq case see chapter 14 in this volume.

<sup>17</sup> Rademaker (note 15). On the PSI see Ahlström, C., 'The Proliferation Security Initiative: international law aspects of the Statement of Interdiction Principles', *SIPRI Yearbook 2005* (note 16), pp. 741–65, and for the list of states participants see the glossary in this volume. For UN Security Council 1540, 28 Apr. 2004, see URL <[http://www.un.org/Docs/sc/unsc\\_resolutions04.html](http://www.un.org/Docs/sc/unsc_resolutions04.html)>, and on the resolution see also chapter 12 in this volume.

<sup>18</sup> On the activities of the Khan network see Kile, S. N., 'Nuclear arms control and non-proliferation', *SIPRI Yearbook 2005* (note 16), pp. 552–55.

<sup>19</sup> Under NPT Article X, a state party has 'the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country'. A party must give 3 months' advance notice of its withdrawal to all other parties and to the UN Security Council.

a view to having them dismantled and/or returned to the supplier State, under IAEA control'.<sup>20</sup> There was also interest in strengthening export controls on nuclear material and sensitive equipment and technologies. Several states proposed making the acceptance of the NPT Additional Safeguards Protocol a condition for any new supply contract with a NNWS recipient.<sup>21</sup> In addition, revelations about the activities of the Khan network led to calls for the parties to tighten their controls on nuclear material and sensitive technologies.

The controversies over the nuclear programmes of Iran and North Korea were largely responsible for one 'old' idea that gained renewed currency at the 2005 Review Conference: proposals for establishing multilateral arrangements for control of the nuclear fuel cycle activities of greatest proliferation concern—uranium enrichment and plutonium reprocessing, as well as spent fuel management and waste disposal.<sup>22</sup> The main objective of such measures would be to limit these activities to a small number of fully transparent facilities, operating under international or multilateral control. The interest in this idea reflected the concern of some states parties about a perceived structural weakness in the NPT—that Article IV, which gives NNWS parties an 'inalienable right' to import and develop materials and technologies for use in nuclear energy programmes, potentially allows those states to put in place the sensitive fuel cycle facilities for producing nuclear weapons under the cover of civil nuclear programmes.<sup>23</sup>

However, some NNWS strongly opposed any proposal seen as infringing upon either the letter or the spirit of Article IV. Iran emphasized its right and intention to 'pursue all legal areas of nuclear technology, including [uranium] enrichment, exclusively for peaceful purposes'.<sup>24</sup> It also denounced what it called the discriminatory double standard of some states aimed at restricting the transfer of nuclear technology to developing countries—a complaint that found considerable support among other NAM countries. South Africa put for-

<sup>20</sup> 'Withdrawal from the Treaty on the Non-Proliferation of Nuclear Weapons: Working Paper submitted by Luxembourg on behalf of the European Union', NPT/CONF.2005/WP.32, 10 May 2005, URL <<http://www.un.org/events/npt2005/working%20papers.html>>, pp. 2–3.

<sup>21</sup> 'Article III and preambular paragraphs 4 and 5, especially in their relationship to Article IV and preambular paragraphs 6 and 7 [Export Controls]: Working Paper for submission to Main Committee II by Australia, Austria, Canada, Denmark, Hungary, Ireland, the Netherlands, New Zealand, Norway, and Sweden', NPT/CONF.2005/WP.14, 26 Apr. 2005, URL <<http://www.un.org/events/npt2005/working%20papers.html>>. For a list of the states with NPT safeguards agreements and Additional Safeguards Protocols in force with the IAEA see annex A in this volume.

<sup>22</sup> The IAEA presented an expert group's report assessing options for multilateral arrangements to control the nuclear fuel cycle. 'Report of The Expert Group on Multilateral Approaches to the Nuclear Fuel Cycle submitted to the Director General of the International Atomic Energy Agency: submitted by the International Atomic Energy Agency', NPT/CONF.2005/18, 9 May 2005, URL <<http://www.un.org/events/npt2005/reports.html>>. On the report and approaches under consideration see appendix 13C.

<sup>23</sup> 'Articles III (3) and (IV), preambular paragraphs 6 and 7, especially in their relationship to Article III (1), (2) and (4) and preambular paragraphs 4 and 5 [Approaches to the nuclear fuel cycle]: Working paper for submission to Main Committee III by Australia, Austria, Canada, Denmark, Hungary, Ireland, the Netherlands, New Zealand, Norway and Sweden', 26 Apr. 2005, NPT/CONF.2005/WP.12, URL <<http://www.un.org/events/npt2005/working%20papers.html>>.

<sup>24</sup> 'Statement by H. E. Dr Kamal Kharrazi, Minister for Foreign Affairs of the Islamic Republic of Iran, to the Seventh NPT Review Conference', 3 May 2005, URL <<http://www.un.org/events/npt2005/statements/npt03iran.pdf>>, p. 4.

ward a similar objection. It said that it could not support ‘unwarranted restrictions on the NPT’s guaranteed access to . . . nuclear capabilities for peaceful purposes’ because the imposition of ‘additional restrictive measures on some NPT states parties while allowing others to have access to such capabilities’ exacerbated the ‘inequalities’ inherent in the NPT.<sup>25</sup>

## Procedural disputes

### *Adoption of an agenda*

The substantive work of the conference was stalled from the outset by the inability of the states parties to agree an agenda. The main dispute was over whether to frame the treaty review explicitly in terms of agreements adopted by consensus at previous review conferences, including the 1995 Principles and Objectives for Nuclear Non-proliferation and Disarmament and the 13-step Programme of Action on Nuclear Disarmament, adopted in 2000. Many of the NNWS attached particular importance to reaffirming the Programme of Action. This included commitments by the states parties to work for the treaty’s universality (i.e., the accession to the NPT by all UN-recognized states); to ratify and bring into force at an early date the CTBT; observe a moratorium on all nuclear explosions; to conclude within five years a treaty banning the production of fissile material for military purposes; to establish a subsidiary body in the Conference on Disarmament (CD) to deal with nuclear disarmament; and to negotiate deeper reductions in existing nuclear arsenals.<sup>26</sup> As one of the 13 steps, the NWS had reaffirmed their commitment to work towards nuclear disarmament by undertaking specific measures to reduce the role of, and eventually eliminate, their nuclear arsenals.<sup>27</sup>

The dispute over the agenda was primarily between the NWS, led by the USA, and the NAM countries, with Egypt, Indonesia and Malaysia in the forefront. The latter insisted that the agenda refer to specific agreements adopted at previous review conferences.<sup>28</sup> These included the 1995 Resolution on the Middle East, which had called for the establishment of a nuclear

<sup>25</sup> ‘Statement by the Republic of South Africa during the general debate of the 2005 Review Conference of the states parties to the Treaty on the Nonproliferation of Nuclear Weapons’, 3 May 2005, URL <<http://www.un.org/events/npt2005/statements03may.html>>, p. 4.

<sup>26</sup> 2000 Review Conference of the Parties to the Treaty on Non-proliferation of Nuclear Weapons, ‘Final Document: review of the operation of the treaty, taking into account the decisions and the resolution adopted by the 1995 Review and Extension Conference’, 19 May 2000, NPT/CONF2000.28, URL <<http://disarmament2.un.org/wmd/npt/finaldoc.html>>, vol. I, part I, pp. 13–15. For the Principles and Objections and other documents of the 1995 Review and Extension Conference see *SIPRI Yearbook 1996: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 1996), pp. 590–93.

<sup>27</sup> The NWS undertook to: increase transparency in their nuclear arsenals; further reduce their inventories and deployments of non-strategic nuclear weapons; lower the operational status of the nuclear forces; diminish the role of nuclear weapons in their security policies; and work towards the complete elimination of their nuclear weapons. NPT/CONF2000.28, vol. I, part I (note 26) p. 15.

<sup>28</sup> ‘Working paper presented by the members of the Group of Non-Aligned Movement states parties to the Treaty on the Non-Proliferation of Nuclear Weapons’, NPT/CONF.2005/WP.8, 26 Apr. 2005, URL <<http://www.un.org/events/npt2005/working%20papers.html>>, p. 1.

weapon-free zone in the region,<sup>29</sup> and the 13-step Programme of Action on Nuclear Disarmament. This was strongly supported by the seven members of the New Agenda Coalition (NAC), which had played a crucial role at the 2000 RevCon in formulating and securing the adoption of the Programme of Action.<sup>30</sup> In contrast, the USA resisted efforts to frame the 2005 treaty review in terms of the progress made towards implementing the 13 steps. The dispute was complicated by US efforts to link any reference to past agreements to explicit text on developments after the 2000 RevCon. This in turn raised objections from Iran, which believed that the USA was attempting to use the ongoing controversy over Iran's compliance with its NPT-mandated safeguards agreement to unfairly cast it in a negative light.<sup>31</sup>

At the end of the first week of the conference, a compromise statement put forward by the conference president appeared to have resolved the agenda dispute. Duarte's statement was associated with agenda item 16, 'Review of the operation of the Treaty'. It stated that the 2005 review 'would be conducted in light of the decisions and the resolutions of previous Conferences, and allow for discussion of any issue raised by States Parties'.<sup>32</sup> The USA indicated that this wording was acceptable, since it did not mention previous review conferences by date. On 6 May, however, Egypt rejected Duarte's statement and insisted that it be amended to state that the review would 'take into account' the specific 'outcomes' as well as the decisions and resolutions of previous conferences.<sup>33</sup> This led to a renewed diplomatic stalemate and raised concern that Duarte might be forced to suspend the conference.

Following intensive negotiations, on 11 May the states parties finally adopted an agenda for the conference. Duarte's statement, which was not amended, was linked to item 16 by an asterisk.<sup>34</sup> Egypt and the other NAM states parties declared that the asterisk also linked the agenda item to a statement made by Malaysia on behalf of the group. This statement reaffirmed the commitment of the NAM states to implementing the obligations and resolutions adopted at the 1995 and 2000 review conferences and urged all states parties to do the same.<sup>35</sup> The linkage of the two statements made it possible for

<sup>29</sup> 'Resolution on the Middle East', NPT/CONF.1995/32 (Part I), Annex, 11 May 1995, URL <<http://disarmament.un.org/wmd/npt/1995RESME.htm>>.

<sup>30</sup> 'Working paper on nuclear disarmament for Main Committee I: recommendations submitted by New Zealand on behalf of Brazil, Egypt, Ireland, Mexico, South Africa and Sweden as members of the New Agenda Coalition', NPT/CONF.2005/WP.27, 4 May 2005, URL <<http://www.un.org/events/npt2005/working%20papers.html>>, pp. 1–2.

<sup>31</sup> Johnson, R., 'Decisions, resolution and outcomes: frustration as agenda is thwarted', *Acronym Report* (Acronym Institute), 7 May 2005, URL <<http://www.acronym.org.uk/npt/05rep03.htm>>.

<sup>32</sup> Applegarth, C., 'Divisions foil NPT Review Conference', *Arms Control Today*, vol. 35, no. 5 (June 2005), p. 39.

<sup>33</sup> Johnson (note 31). Egypt's insistence on this language was motivated in part by its desire to recall the 1995 resolution supporting the establishment of a nuclear weapon-free zone in the Middle East (see note 29).

<sup>34</sup> 'Agenda', NPT/CONF.2005/30, 11 May 2005; and 'Statement by the President in connection with the adoption of the agenda (item 16)', NPT/CONF.2005/31\*, 11 May 2005, URL <<http://www.un.org/events/npt2005/reports.html>>.

<sup>35</sup> 'Statement by the delegation of Malaysia, on behalf of the Group of Non-Aligned States Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, at the plenary of the 2005 Review Conference

the conference to adopt the agenda, but in the closing days it was challenged by the British delegation. The secretariat eventually removed the NAM statement from the technical report of the conference, while keeping the president's statement.<sup>36</sup>

### *Adoption of a work programme*

The attention of the delegations then turned to another contentious procedural issue—adoption of a work programme for the Review Conference. Following the practice of previous review conferences, the secretariat had established three Main Committees (MCs) that were responsible for conducting the conference's substantive work: MC I, on nuclear disarmament; MC II, on safeguards and regional issues; and MC III, on nuclear safety and the peaceful uses of nuclear energy.<sup>37</sup> The principal point of contention was over how to divide these committees into subsidiary bodies that would then consider specific issues in greater detail.

The main obstacle to adopting a work programme was a disagreement over the issue of negative security assurances. The dispute was between the USA and several other Western states, on the one hand, and the NAM countries, on the other. The latter group strongly supported calls for concluding a global treaty on negative security assurances that would make legally binding the unilateral declarations made by the NWS in 1995.<sup>38</sup> The NAM countries proposed the establishment of a subsidiary body (SB) on security assurances as well as a separate body on practical disarmament measures. This proposal appeared to be acceptable to most delegations but was rejected by the USA, which strongly opposed the establishment of a separate subsidiary body on security assurances.<sup>39</sup>

The impasse was broken on 18 May, when the NAM countries reluctantly withdrew their proposal. This paved the way for consensus agreement on a work programme that established a single subsidiary body under each of the Main Committees and allocated the issues to be discussed.<sup>40</sup> The subsidiary body under MC I covered practical disarmament steps, including security assurances. The subsidiary body under MC II covered regional issues, includ-

of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, concerning the adoption of the agenda', New York, 12 May 2005, NPT/CONF.2005/32, URL <<http://www.un.org/events/npt2005/reports.html>>.

<sup>36</sup> Johnson, R., 'Day 25, or "my objection is bigger than your objection"', *Acronym Report*, 26 May 2005, URL <<http://www.acronym.org.uk/npt/05rep11.htm>>.

<sup>37</sup> The chairpersons of the Main Committees were: MC I, Sudjadnan Parnohadinigrat (Indonesia); MC II, László Mólnár (Hungary); and MC III, Elisabet Borsiiin-Bonnier (Sweden).

<sup>38</sup> In 1995, the UN Security Council recognized the unilateral political declarations, made by each of the 5 NWS parties to the NPT, providing negative assurances to the NNWS parties. 'Security assurances', UN Doc S/RES/984 (1995), URL <<http://www1.umn.edu/humanrts/resolutions/SC95/984SC95.html>>.

<sup>39</sup> Successive US administrations have maintained a policy of 'strategic ambiguity' by refusing to rule out the use of nuclear weapons in response to attacks from NNWS involving biological or chemical weapons. See du Preez (note 9).

<sup>40</sup> 'Allocation of items to the Main Committees of the Conference', NPT/CONF.2005/DEC.1, 18 May 2005, URL <<http://www.un.org/events/npt2005/decisions.html>>.



ing implementation of the 1995 Resolution on the Middle East, while the subsidiary body under MC III considered ‘other provisions of the treaty’, including withdrawal from the NPT.<sup>41</sup>

### **Work of the Main Committees and subsidiary bodies**

The adoption of the work programme 17 days into the conference left the Main Committees with less than six days in which to discuss the working papers submitted by the delegations on a wide range of substantive issues. Main Committee I, on nuclear disarmament, and its subsidiary body on practical disarmament steps, completed the only report to be transmitted to the conference presidency.<sup>42</sup> The report included an annex containing a working paper from the chairman of MC I, reviewing the implementation of articles I and II of the NPT,<sup>43</sup> and one from the chairman of SB I, focusing on Article VI and practical steps towards nuclear disarmament. However, the report noted that the committee had not been able to reach a consensus on the text of the working papers, since the proposals contained in them did not ‘reflect fully the views of all States parties’.<sup>44</sup> As a result, the conference president decided not to forward the text of the report to the Drafting Committee.

The other two Main Committees failed to send reports to the presidency. The report from MC II, on nuclear safeguards, was blocked by a disagreement in the subsidiary body that dealt with regional issues (SB II), including the Middle East. Iran objected to a paragraph calling for it to respect the resolutions adopted by the IAEA Board of Governors and to continue to observe its self-imposed moratorium on uranium conversion and enrichment activities, arguing that this amounted to unwarranted criticism of its peaceful nuclear activities.<sup>45</sup> The USA opposed a paragraph calling for the NPT states parties to take additional measures to induce Israel to accede to the treaty as a non-nuclear weapon state.<sup>46</sup> The report from MC III, on nuclear energy and institutional issues, was blocked by the USA after Egypt refused to accept

<sup>41</sup> ‘Decision on subsidiary bodies’, NPT/CONF.2005/DEC.2, 18 May 2005, URL <<http://www.un.org/events/npt2005/decisions.html>>.

<sup>42</sup> ‘Report of Main Committee I’, NPT/CONF.2005/MC.I/1, 25 May 2005, URL <<http://www.un.org/events/npt2005/main%20committee%20documents.html>>.

<sup>43</sup> Article I requires the NWS not to transfer possession or control of nuclear weapons or other nuclear explosive devices to any recipient and not to assist, encourage, or induce any non-nuclear weapon state to acquire nuclear weapons. Under Article II, NNWS parties undertake not to ‘manufacture or otherwise acquire’ nuclear weapons or ‘seek or receive any assistance in the manufacture’ of nuclear weapons.

<sup>44</sup> Among other disagreements, the USA objected to most of the section on negative security assurances contained in the chairman’s working paper from the subsidiary body, in particular its call for ‘the conclusion of multilaterally negotiated legally binding security assurances for all non-nuclear weapon States Parties’. NPT/CONF.2005/MC.I/1 (note 42), p. 13.

<sup>45</sup> Johnson, R., ‘Day 23: closed meetings and bracketed texts’, *Acronym Report*, 24 May 2005, URL <<http://www.acronym.org.uk/npt/05rep09.htm>>.

<sup>46</sup> Johnson (note 45), The proposed measures included a commitment ‘not to transfer nuclear-related material, technology and information to Israel, notwithstanding prior engagements’. The draft text of the subsidiary body report is available at URL <[http://www.acronym.org.uk/npt/MCII\\_SB\\_may24.pdf](http://www.acronym.org.uk/npt/MCII_SB_may24.pdf)>.

annexation of the text of SB III: this text sought to clarify the states parties' rights and obligations under NPT Article X.<sup>47</sup>

In addition to the deadlocks in MCs II and III and their respective subsidiary bodies, there were disagreements between the members of key informal and formal groupings of states parties. The five permanent members of the UN Security Council, which are also the five legally defined nuclear weapon states, were unable to agree on a joint statement. This was due primarily to the United States' opposition to Russia's insistence that the statement should support calls for early entry into force of the CTBT.<sup>48</sup> The NAC states also failed to agree on a final statement. In contrast to 2000, the NAC made little substantive contribution to the 2005 Review Conference, amid signs of serious strains between Egypt and several other NAC members.<sup>49</sup> The European Union (EU) was also hampered by internal divisions, despite having adopted a Common Position on the NPT prior to the conference.<sup>50</sup> The EU produced several working papers for the Main Committees and helped to forge the procedural compromises on the agenda and work programme. However, its effectiveness was limited by the long-standing tensions between the interests of the EU nuclear and non-nuclear weapon state members. Some observers criticized the UK for allegedly using its position as the coordinator of the Western Group to support the obstructionist positions of the USA.<sup>51</sup>

### **The results and an assessment**

The 2005 Review Conference closed on 27 May with the perfunctory adoption by consensus of a Final Document. It was devoted exclusively to procedural matters and did not contain any substantive decisions building on the consensus agreements reached at previous conferences, including recommendations for promoting the implementation of the treaty and improving its operation.<sup>52</sup>

While such a meagre outcome had been widely expected, the reasons for it were the subject of debate. Some participants placed part of the blame on dysfunctional rules of procedure that allowed the intransigence of a few states

<sup>47</sup> Johnson (note 45). Egypt refused to allow the SB III text to be annexed to the report following the committee's rejection of informal paper on universality that it had put forward.

<sup>48</sup> Article XIV of the CTBT requires ratification of the treaty by 44 named states for it to enter into force. US President Bill Clinton signed the CTBT in 1996 but the US Senate voted to reject US ratification in 1999. Although the Bush Administration is continuing with the US nuclear test moratorium that was adopted in 1992, it has made clear its opposition to the CTBT. For the current status of the treaty and the list of 44 states see annex A in this volume.

<sup>49</sup> Müller, H., 'The 2005 NPT Review Conference: reasons and consequences of failure and options for repair', Working Paper No. 31, Weapons of Mass Destruction Commission, Stockholm, URL <<http://www.wmdcommission.org/files/no31.pdf>>, p. 12.

<sup>50</sup> Council Common Position relating to the 2005 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, 2005/329/PESC, Brussels, 25 Apr. 2005, URL <[http://europa.eu.int/eur-lex/lex/LexUriServ/site/en/oj/2005/l\\_106/l\\_10620050427en00320035.pdf](http://europa.eu.int/eur-lex/lex/LexUriServ/site/en/oj/2005/l_106/l_10620050427en00320035.pdf)>.

<sup>51</sup> Müller (note 49), p. 4.

<sup>52</sup> 'Final Document: 2005 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (Organization and work of the Conference)', NPT/CONF.2005/57 (Part I), 27 May 2005, URL <<http://www.un.org/events/npt2005/reports.html>>.

on particular issues to override the preferences of the majority. These included long-standing practices, such as requiring all decisions to be taken by consensus and dividing the conference into caucus groups.<sup>53</sup> According to Canadian Ambassador Paul Meyer, at the 2005 conference a ‘handful of states’ were able to take advantage of ‘consensus rules to prevent, not just the result of a negotiation from being adopted, but the mere initiation of discussion of issues dear to the policy aims of the vast majority of states’.<sup>54</sup> In this regard, Egypt came under widespread criticism for allegedly impeding the work of the Main Committees and their subsidiary bodies.

Many of the NAM countries assigned the primary blame for the conference’s unsatisfactory outcome to the USA. They complained that US-led procedural manoeuvres, which in some instances were supported by other NWS, had prevented the consideration of a number of important disarmament measures and allowed the NWS to avoid scrutiny of their compliance with their treaty commitments. They also complained that the US Administration had undermined the review process by explicitly repudiating some of the 13 steps towards nuclear disarmament that were agreed in 2000. In their view, the US action called into question the status of consensus agreements reached at previous conferences.

The closing session of the conference was accompanied by numerous expressions of regret that the states parties had ‘lost the opportunity to make realistic progress’ towards addressing the pressing challenges facing the NPT.<sup>55</sup> However, some observers speculated that, in the light of the deep divisions at the conference, a number of delegations may have welcomed the adoption of a Final Document confined to procedural matters. The NWS avoided undertaking any new disarmament obligations, while the NAM and other NNWS parties prevented the package of agreements reached at the 1995 and 2000 review conferences from being replaced by a new set of weaker, lowest-common-denominator commitments.<sup>56</sup>

At the same time, the outcome clearly frustrated many of the states parties, especially the NNWS, which were already disenchanted by the lack of progress towards nuclear disarmament. They made it clear that, as long as the USA and the other nuclear weapon states were not working in a serious way towards fulfilling their legally binding disarmament commitment, they were not prepared to agree to proposals—such as reinterpreting Article IV—aimed at strengthening the non-proliferation side of the so-called NPT bargain. One noteworthy development at the conference was the public scepticism towards

<sup>53</sup> For an assessment of procedural weaknesses in the NPT review conferences and possible remedies see Müller (note 49), pp. 3–4.

<sup>54</sup> Quoted in Middle Powers Initiative, ‘28 states participate in inaugural “Article VI forum”’, Middle Powers Initiative Report and Brief, Nov. 2005, URL <[http://www.middlepowers.org/mpi/pubs/ArticleVI\\_Report.pdf](http://www.middlepowers.org/mpi/pubs/ArticleVI_Report.pdf)>.

<sup>55</sup> ‘Closing statement by South Africa at the 2005 NPT Review Conference: delivered by Mr Abdul Samad Minty’, 27 May 2005, URL <<http://www.reachingcriticalwill.org/legal/npt/RevCon05/GD/statements/SAfrica27.pdf>>.

<sup>56</sup> Boese, W., ‘Nuclear nonproliferation treaty meeting sputters’, *Arms Control Today*, vol. 35, no. 6 (July/Aug. 2005), p. 23.

the NPT expressed by some of the regime's erstwhile strongest supporters, such as Egypt and South Africa. This suggested that the NPT is not only facing a 'crisis of compliance', as described by US officials, but a broader crisis of legitimacy. This in turn calls into question the effectiveness and viability of a treaty regime that relies heavily on the parties' voluntary compliance with its underlying norms.

### III. Iran and nuclear proliferation concerns

In 2005 the international controversy over the scope and nature of Iran's nuclear programme intensified.<sup>57</sup> The controversy has centred on revelations by the IAEA that Iran had failed over an extended period of time to declare important nuclear activities, in contravention of its NPT-mandated full-scope safeguards agreement with the Agency.<sup>58</sup> Iran insists that its nuclear programme is intended solely for peaceful purposes and that any safeguards violations were inadvertent. However, in Europe, the USA and elsewhere, there is concern that Iran is attempting to put into place, under the cover of a nuclear energy programme, the fuel-cycle facilities needed to produce fissile material—plutonium and highly enriched uranium (HEU)—for a secret nuclear weapon programme.<sup>59</sup> Since the end of 2003, three EU member states—France, Germany and the United Kingdom, the 'E3'—have taken the lead in attempting to resolve the controversy through negotiations with Iran. These negotiations have also involved the participation of the High Representative for the EU's Common Foreign and Security Policy, Javier Solana.<sup>60</sup>

In 2005 Iran reaffirmed its plans to develop a complete nuclear fuel cycle, including an indigenous uranium enrichment capability, as part of a long-term energy policy to make up for the expected depletion of its fossil fuel reserves. In May, the Majlis (parliament) approved a new programme to construct, over the next 20 years, nuclear power plants with a total capacity of 20 000 megawatts-electric (MW(e)).<sup>61</sup> Outside experts argued that Iran's plans

<sup>57</sup> For a description of the origins of the nuclear controversy see Kile, S. N., 'Nuclear arms control and non-proliferation', *SIPRI Yearbook 2004: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2004), pp. 604–07. See also Kile, S. N. (ed.), *Europe and Iran: Perspectives on Non-Proliferation*, SIPRI Research Report No. 21 (Oxford University Press: Oxford, 2005).

<sup>58</sup> Iran acceded to the NPT on 2 Feb. 1970. Its full-scope safeguards agreement with the IAEA (INFCIRC/214) entered into force on 15 May 1974. The text of the agreement is available at URL <<http://www.iaea.org/Publications/Documents/Infcircs/Others/infcirc214.pdf>>.

<sup>59</sup> The nuclear fuel cycle consists of front-end steps (milling and mining of uranium ore, uranium conversion and enrichment, fuel fabrication) that lead to the preparation of uranium for use as fuel for reactor operation and back-end steps that are necessary to safely manage, prepare and dispose of the highly radioactive spent nuclear fuel. See also appendix 13C.

<sup>60</sup> European and Iranian views on the nuclear controversy and related issues are presented in ed. Kile, (note 57).

<sup>61</sup> Islamic Republic News Agency (IRNA), 'Iran's parliament approves bill on access to peaceful N-technology', 15 May 2005, URL <<http://www.irna.ir/en/news/view/line22/0505150260114226.htm>>. In 2002 Iran had announced plans to construct nuclear power plants with a total capacity of 6000 MW(e), in addition to the 1000-MW(e) plant under construction at Bushehr.

for its nuclear fuel cycle made little economic sense in the light of the current global surplus of enriched uranium.<sup>62</sup> Iran emphasized that its long-term goal was to achieve self-sufficiency in fuel manufacture, pointing out that the USA had sought to disrupt every major deal with foreign suppliers in the past—in violation of Iran's legal rights under Article IV of the NPT. The desire to achieve independence from outside assistance has been a recurring theme in Iran's justifications for pursuing sensitive fuel-cycle technologies.<sup>63</sup>

### **The Iran–E3 negotiations**

In 2005 the negotiations between Iran and the E3 on Iran's sensitive nuclear fuel cycle activities broke down after having made little progress. The negotiations had been established by the Paris Agreement of November 2004.<sup>64</sup> They were aimed at finding a 'mutually acceptable agreement on long-term arrangements' that would provide 'objective guarantees' that Iran's nuclear programme was exclusively for peaceful purposes as well as 'firm guarantees' on nuclear, technological and economic cooperation between Europe and Iran as well as on security issues'.<sup>65</sup> Under the agreement, Iran had pledged, as a voluntary confidence-building measure, to suspend all enrichment-related and reprocessing activities while talks were under way.<sup>66</sup>

During the spring of 2005, the main point of contention in the negotiations continued to be the future of Iran's enrichment programme. The E3 insisted that Iran accept a complete and permanent cessation of the programme. They argued that this was the only meaningful 'objective guarantee' that Iran's nuclear activities were exclusively for peaceful purposes.<sup>67</sup> At the same time, they recognized Iran's right to develop nuclear energy and pledged to facilitate Iran's access to nuclear technology and fuel. This included a promise to

<sup>62</sup> Moreover, according to a US State Department briefing, Iran's known uranium reserves could only provide enough fuel to operate a single 1000-MW(e) power reactor for 6–7 years. US Department of State, 'Questioning Iran's pursuit of the nuclear fuel cycle—Iran's nuclear fuel cycle facilities: a pattern of peaceful intent?', Briefing slides presented to US and foreign diplomats in Vienna, Sep. 2005, URL <[http://www.globalsecurity.org/wmd/library/report/2005/iran-fuel-cycle-brief\\_dos\\_2005.pdf](http://www.globalsecurity.org/wmd/library/report/2005/iran-fuel-cycle-brief_dos_2005.pdf)>.

<sup>63</sup> 'Communication dated 1 August 2005 received from the Permanent Mission of the Islamic Republic of Iran to the Agency', reproduced in IAEA, INFCIRC/7648, 1 Aug. 2005, URL <<http://www.iaea.org/publications/documents/infcircs/2005/infcirc648.pdf>>.

<sup>64</sup> The agreement between Iran and France, Germany and the UK was signed in Paris on 15 Nov. 2004; it appears in IAEA, INFCIRC/637, 26 Nov. 2004, URL <<http://www.iaea.org/Publications/Documents/Infircs/2004/infcirc637.pdf>>. The Paris Agreement specified that the negotiations were to be held under the auspices of a senior-level Steering Committee, which was also given responsibility for coordinating working groups on political and security issues, technology and economic cooperation and nuclear issues.

<sup>65</sup> INFCIRC/637 (note 64).

<sup>66</sup> These activities were specified in the agreement as: the manufacture and import of gas centrifuges and their components; the assembly, installation testing or operation of gas centrifuges; work to undertake any plutonium separation, or to construct or operate any plutonium separation installation; and all tests or production at any uranium conversion installation. INFCIRC/637 (note 64).

<sup>67</sup> Council of the European Union, 'Text of letter to the president of the Council from Messrs Barnier, Fisher, Straw and Solana on Iran', 7222/05, 11 Mar. 2005, URL <<http://register.consilium.eu.int/pdf/en/05/st07/st07222.en05.pdf>>, p. 4.

support Iran's acquisition of a light-water research reactor to replace the heavy-water reactor under construction at Arak.<sup>68</sup>

Iranian officials categorically rejected the European demand for a permanent cessation of Iran's uranium enrichment programme. They said that the E3 had accepted in the Paris Agreement that suspension of Iran's enrichment activities was a temporary measure.<sup>69</sup> They also emphasized that, as a non-nuclear weapon state party to the NPT, Iran was legally entitled to develop sensitive nuclear fuel-cycle facilities, including uranium enrichment, as part of its civil nuclear programme. Iranian officials stated repeatedly that the country would restart enrichment activities, with appropriate assurances about their peaceful purpose, once the remaining safeguards issues had been resolved.<sup>70</sup>

With the negotiations facing serious difficulties, the E3 and the USA moved to align their policies in order to give Iran additional incentives to abandon its enrichment programme. On 11 March 2005 US Secretary of State Condoleezza Rice stated that, if Iran agreed to renounce the programme permanently, the USA would drop its objections to Iran applying to join the World Trade Organization (WTO); it would also consider, 'on a case by case basis', licensing the sale of spare parts for Iranian civilian aircraft.<sup>71</sup> In return for this change in US policy, the E3 agreed to actively support US efforts to refer Iran to the Security Council if it resumed uranium enrichment.<sup>72</sup> European officials had previously opposed the US calls for a prompt referral, arguing that this move would be premature and possibly counterproductive since it could spur Iran to disengage altogether from its cooperation with the IAEA.

The convergence of the US and European approaches had little effect on Tehran. Iranian officials rejected the US offer as insufficient and emphasized that the USA did not have a role to play in Iran's talks with the E3.<sup>73</sup> They indicated that Iran would restart operations at its uranium conversion plant and eventually move ahead with its uranium enrichment programme, although they added that Iran would not resume enrichment as long as a meaningful dialogue was under way.<sup>74</sup>

<sup>68</sup> Council of the European Union (note 67), p. 3. Heavy-water reactors are suitable for producing weapon-grade plutonium.

<sup>69</sup> Mehr News Agency, 'Iran will not be bound to commitments if EU officially demands halt to enrichment: Govt', *Tehran Times*, 5 Mar. 2005, pp. 1, 15.

<sup>70</sup> Reuters, 'Iran says determined to resume uranium enrichment', 24 Apr. 2005, URL <<http://www.iranvajahan.net/cgi-bin/news.pl?l=en&y=2005&m=04&d=24&a=1>>.

<sup>71</sup> US Department of State, Bureau of Public Affairs, 'US support for the EU-3', Statement of Secretary of State Condoleezza Rice, Washington, DC, 11 Mar. 2005, URL <<http://www.state.gov/secretary/rm/2005/43276.htm>>.

<sup>72</sup> Sanger, D. and Weisman, S., 'US and European allies agree on steps in Iran dispute', *New York Times* (Internet edn), 11 Mar. 2005, URL <<http://www.nytimes.com/2005/03/11/politics/11iran.html>>.

<sup>73</sup> Islamic Republic News Agency (IRNA), 'Asefi says incentives will not persuade Iran to forsake rights', 12 Mar. 2005, URL <<http://www.irna.ir/en/news/view/line-22/0503120791143125.htm>>.

<sup>74</sup> IRNA, 'Iran to quit talks if Europe turns out to be dishonest: Rowhani', 20 Apr. 2005, URL <<http://www.irna.ir/en/news/view/line-22/0504200895153401.htm>>.

*Iran's proposal for a general framework agreement*

On 3 May 2005 Iran proposed a four-phase 'general framework' for resolving the nuclear controversy.<sup>75</sup> Under the proposal Iran would be allowed to resume operations at the uranium conversion facility (UCF) at Esfahan and to begin assembly, installation and testing of 3 000 gas centrifuges at the pilot-scale enrichment plant at Natanz.<sup>76</sup> At the same time, Iran would implement additional transparency and confidence-building measures, beyond those mandated by its Additional Safeguards Protocol, in order to provide 'objective guarantees' about the peaceful nature of its enrichment activities. Iran pledged to immediately convert all enriched uranium to fuel rods to preclude the technical possibility of further enrichment; ratify the Additional Protocol while continuing to abide by the Protocol's provisions prior to its entry into force; allow continuous on-site presence of IAEA inspectors at the Esfahan and Natanz facilities; and commit itself to having an open nuclear fuel cycle (i.e., one that does not involve plutonium reprocessing).

In return, the E3 would agree to sell light-water nuclear power reactors (which are more proliferation-resistant) to Iran; provide 'firm guarantees' on the supply of nuclear reactor fuel to supplement Iranian domestic production; loosen export control regulations on the sale of advanced technology to Iran; and give greater access to the EU market for Iranian goods. In addition, the Iranian proposal called for the establishment of joint task forces on strategic cooperation and defence requirements as well as for a 'joint commitment to principles' governing Iran–EU relations.

European negotiators promptly rejected the proposed framework's central bargain: namely, that Iran be allowed to maintain a limited uranium enrichment capability in exchange for new, intrusive transparency measures.<sup>77</sup> They refused to deviate from their position that Iran must permanently suspend all enrichment-related activities, including uranium conversion. However, the E3 reportedly struggled to put together a package of inducements essentially aimed at buying out Iran's fuel cycle programme without compromising on this position.<sup>78</sup> Their dilatory response to the Iranian proposal led to complaints from Tehran that the E3 states were protracting the negotiations in

<sup>75</sup> 'General framework for objective guarantees, firm guarantees and firm commitments', 3 May 2005, URL <[http://abcnews.go.com/images/international/iran\\_eu\\_objectives.pdf](http://abcnews.go.com/images/international/iran_eu_objectives.pdf)>.

<sup>76</sup> For a description of Iran's nuclear fuel cycle infrastructure see International Institute for Strategic Studies (IISS), *Iran's Strategic Weapons Programme: A Net Assessment* (Routledge: Abingdon, 2005), pp. 33–51.

<sup>77</sup> Sciolino, E., 'Europe gets Iran to extend freeze in nuclear work', *New York Times* (Internet edn), 26 May 2005, URL <<http://www.nytimes.com/2005/05/26/international/europe/26iran.html>>; and Traynor, I., 'EU warns Iran: no talks if freeze ends', *The Guardian* (Internet edn), 3 Aug. 2005, URL <<http://www.guardian.co.uk/iran/story/0,12858,1541351,00.html>>.

<sup>78</sup> Dombey, D., Smyth, G. and Fidler, S., 'US fires warning shot over Iran nuclear talks', *Financial Times*, 25 May 2005, p. 9; and Nuclear Threat Initiative, 'Chirac urges softening of EU stance on Iran', Global Security Newswire, 14 Apr. 2005, URL <[http://www.nti.org/d\\_newswire/issues/2005/4/14/3af87c7e-dee5-46be-98ca-e768ff55dac5.html](http://www.nti.org/d_newswire/issues/2005/4/14/3af87c7e-dee5-46be-98ca-e768ff55dac5.html)>.

order to keep Iran's enrichment suspension in place long enough to make its permanent cessation a *fait accompli*.<sup>79</sup>

*The E3 proposal for a long-term framework agreement*

On 5 August 2005 the E3 proposed a framework for a long-term agreement consisting of linked packages of incentives on nuclear energy, technology cooperation, and political and security issues.<sup>80</sup> The central pillar of the framework involved providing assurances to Iran that it would have access to international nuclear fuel services at market prices. These assurances would consist of the following elements: an Iran–E3 'ad hoc mechanism', to be used in the event that a contracted supplier was not able to provide nuclear fuel to Iran for non-commercial reasons; a buffer store of fuel, sufficient to maintain supplies at the contracted rate for five years, to be located in a mutually acceptable third country; and cooperation with the IAEA to develop new multilateral approaches to the nuclear fuel cycle. In addition, the E3 pledged to support Iran's acquisition of a research reactor and to cooperate with Iran in the fields of nuclear safety and security.<sup>81</sup>

In return, the E3 proposal called for Iran to take a series of steps. These included making a 'binding commitment not to pursue fuel cycle activities other than the construction and operation of light water power and research reactors'; committing itself to full cooperation and transparency with the IAEA to resolve all remaining safeguards issues and ratify the Additional Protocol by the end of 2005; making a legally binding commitment not to withdraw from the NPT and to keep all nuclear facilities under IAEA safeguards; promising to return all spent fuel to the original supplier after the minimum necessary cooling down period for safe transport; and halting construction of the planned heavy-water reactor at Arak.<sup>82</sup>

With regard to political and security issues, the E3 proposal called for enhanced cooperation in countering terrorism; joint programmes to combat illicit drug production and trafficking; and establishment of an EU–Iran regional security dialogue. In the area of technology and economic cooperation, the proposal confirmed European support for Iran's accession to the WTO and called for cooperation in a variety of areas, including scientific research, civil aviation, railway and shipping transport, petrochemicals and communications.<sup>83</sup>

<sup>79</sup> IAEA, 'Communication dated 1 August 2005 received from the Permanent Mission of the Islamic Republic of Iran', INFCIRC/648, Vienna, 1 Aug. 2005, p. 5, URL <<http://www.iaea.org/Publications/Documents/Infcircs/2005/infcirc648.pdf>>.

<sup>80</sup> IAEA, 'Communication dated 8 August 2005 received from the Resident Representatives of France, Germany and the United Kingdom to the Agency', INFCIRC/651, Vienna, 8 Aug. 2005, URL <<http://www.iaea.org/Publications/Documents/Infcircs/2005/infcirc651.pdf>>.

<sup>81</sup> INFCIRC/651 (note 80).

<sup>82</sup> INFCIRC/651 (note 80).

<sup>83</sup> INFCIRC/651 (note 80). The proposal also called for cooperation in a variety of areas, including scientific research, civil aviation, railway and shipping transport, petrochemicals and communications.



Iran's newly inaugurated president, Mahmoud Ahmadinejad, immediately rejected the E3 proposal as 'an insult to the nation'.<sup>84</sup> Iranian negotiators complained that the proposal sought to 'establish a subjective, discriminatory and baseless set of criteria' that would lead to the dismantlement of most of Iran's nuclear infrastructure.<sup>85</sup> Moreover, it did not include any 'firm commitments' on economic and technology cooperation with Iran, other than to repeat 'vague, conditional and partial restatements' of previous offers. Iran's harsh language in rejecting the proposal suggested that the new nuclear negotiating team put in place by Ahmadinejad intended to take a tougher approach to the nuclear talks with the E3 than its predecessor. Both Ahmadinejad and the new secretary of the Supreme National Security Council, Ali Larijani, had denounced the negotiations during their campaigns leading up to the June 2005 presidential election. More generally, some analysts have argued that there is a growing belief within the Iranian leadership that they are negotiating from a position of strength vis-à-vis the USA and its allies, making it possible for them to be more forthright in pursuing their goals.<sup>86</sup>

### **Iran's resumption of uranium conversion operations**

On 8 August 2005 Iran announced that it had begun preparations to resume uranium conversion activities at the Esfahan facility, under IAEA monitoring.<sup>87</sup> While emphasizing that the decision was non-negotiable, Iran stated that it would continue to observe its moratorium on uranium enrichment after restarting operations at Esfahan, as specified in phase one of its May 2005 framework proposal.

Iran's resumption of uranium conversion prompted the E3 to cancel the next round of talks, scheduled for the end of August.<sup>88</sup> It also elicited sharp warnings from the three capitals that they were prepared to support US calls for Iran to be referred to the Security Council if Tehran did not immediately reinstate a freeze on all enrichment-related activities. At an emergency meeting of the IAEA Board of Governors on 9 August 2005, the European Union denounced the move as a 'flagrant disregard for the Board's repeated calls on Iran to suspend all enrichment related and reprocessing activities as a

<sup>84</sup> Mehr News Agency, 'EU proposal an insult to Iranian nation, Ahmadinejad tells Annan', 9 Aug. 2005, URL <<http://www.mehrnews.com/en/NewsDetail.aspx?newsid=216526>>.

<sup>85</sup> 'Response of the Islamic Republic of Iran to the framework agreement proposed by the EU3/EU' (undated), available at URL <<http://www.basicint.org/countries/iran/Iranresponse.pdf>>.

<sup>86</sup> Giacomo, C., 'US policy on Iran called ineffective', Reuters, 4 Dec. 2005, URL <<http://www.iiss.org/news-more.php?itemID=1834>>.

<sup>87</sup> Mehr News Agency, 'Operations at Isfahan UCF restarted', 8 Aug. 2005, URL <<http://www.mehrnews.com/en/newsdetail.aspx?NewsID=216032>>; and IAEA, 'Iran starts feeding uranium ore concentrate at uranium conversion facility', Press release, PR 2005/09, Vienna, 8 Aug. 2005, URL <<http://www.iaea.org/NewsCenter/PressReleases/2005/prn200509.html>>.

<sup>88</sup> Bennhold, K., 'Europeans call off next round of nuclear talks with Tehran', *International Herald Tribune*, 24 Aug. 2005, p. 3.

confidence building measure'.<sup>89</sup> At the end of the meeting, the IAEA Board of Governors adopted a unanimous resolution urging Iran to 're-establish full suspension of all enrichment-related activities'.<sup>90</sup>

Iran's decision to resume uranium conversion activities, despite the diplomatic costs involved, may have been motivated in part by the desire of the Atomic Energy Organization of Iran (AEOI) to address serious technical problems that reportedly had emerged at the UCF. According to accounts in nuclear industry trade journals, the uranium hexafluoride produced at Esfahan was contaminated with metal particles that rendered it unsuitable for use as gas centrifuge feedstock.<sup>91</sup> To the extent that this problem posed a long-term technical challenge, it represented a major obstacle to Iran's development of an indigenous uranium enrichment capability.

### **The IAEA Director General's assessment of Iran's nuclear programme**

On 2 September 2005 the IAEA Director General, Mohamad ElBaradei, sent to the Agency Board of Governors the seventh in a series of written reports on progress in verifying Iran's implementation of its safeguards agreement.<sup>92</sup> This was the Director General's first report to the Board since in November 2004, when he issued a comprehensive assessment that included detailed summaries of the IAEA findings that Iran had failed to report or declare a wide range of nuclear activities, including uranium conversion and enrichment experiments, as required under its safeguards agreement.<sup>93</sup>

ElBaradei's new report identified two main safeguards compliance questions that the IAEA was working with Iran to resolve.<sup>94</sup> The first had to do with the origins of low-enriched uranium (LEU) and HEU particles discovered in environmental samples taken by inspectors at various sites in Iran.<sup>95</sup> There has been speculation that the LEU particles were produced in undeclared enrichment experiments inside Iran.<sup>96</sup> According to ElBaradei's report, the

<sup>89</sup> 'Statement by the United Kingdom on behalf of the European Union at the IAEA Board of Governors, 9 August 2005', Vienna, 9 Aug. 2005, URL <[http://www.iaea.org/NewsCenter/Focus/iaeaIran/bog092005\\_statement-eu.pdf](http://www.iaea.org/NewsCenter/Focus/iaeaIran/bog092005_statement-eu.pdf)>.

<sup>90</sup> IAEA, 'Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran and related Board resolutions: Resolution adopted on 11 August 2005', Vienna, 11 Aug. 2005, URL <<http://www.iaea.org/Publications/Documents/Board/2005/gov2005-64.pdf>>, p. 2.

<sup>91</sup> Hibbs, M., 'Intelligence estimates vary widely on Iran's timeline to purify UF<sub>6</sub>', *Nuclear Fuels*, vol. 30, no. 18 (29 Aug. 2005), p. 1; and Hibbs, M., 'Iran can be producing impure UF<sub>6</sub>, trying to solve upstream process issues', *Nuclear Fuels*, vol. 30, no. 17 (15 Aug. 2005), p. 1.

<sup>92</sup> IAEA, 'Implementation of the NPT safeguards agreement in the Islamic Republic of Iran', Report by the Director General to the IAEA Board of Governors, GOV/2005/67, Vienna, 2 Sep. 2005, URL <<http://www.iaea.org/Publications/Documents/Board/2005/gov2005-67.pdf>>.

<sup>93</sup> IAEA, 'Implementation of the NPT safeguards agreement in the Islamic Republic of Iran', Report by the Director General to the IAEA Board of Governors, GOV/2004/83, Vienna, 15 Nov. 2004, URL <<http://www.iaea.org/Publications/Documents/Board/2004/gov2004-83.pdf>>.

<sup>94</sup> For further detail see Kile and Hart (note 16), pp. 558–60.

<sup>95</sup> HEU is uranium enriched to 20% or above in the isotope uranium-235 (U-235); LEU is uranium enriched to 0.72–20% U-235. Weapons-grade uranium is uranium enriched to more than 90% U-235.

<sup>96</sup> Albright, D. and Hinderstein, C., 'The centrifuge connection', *Bulletin of the Atomic Scientists*, vol. 60, no. 2 (Mar./Apr. 2004), pp. 62–63.

results of the environmental samples taken in Pakistan in the summer of 2005 ‘tended, on balance, to support Iran’s statement’ attributing the presence of the enriched uranium particles to contamination from centrifuge components imported through ‘foreign intermediaries’ (i.e., the A. Q. Khan nuclear smuggling network).<sup>97</sup> However, the IAEA had yet to establish a definitive conclusion with respect to all of the contamination, particularly the LEU contamination.<sup>98</sup>

The second main issue had to do with the chronology of Iran’s work on advanced centrifuge designs. The IAEA was continuing to investigate Iran’s claims about its research and development (R&D) work on an advanced centrifuge design, known as the P-2 centrifuge. Iran has admitted to the IAEA that it received Pakistani design plans for the P-2 centrifuges through foreign intermediaries in 1995; however, because of a ‘shortage of professional resources’, it did not begin manufacturing work and mechanical testing of the centrifuge’s composite rotors until 2002. IAEA investigators questioned this account, citing the investment made by Iran in obtaining the design drawings and the country’s technical capabilities. They also expressed doubt about the feasibility of carrying out centrifuge tests based on the P-2 design—which required the procurement of magnets, bearings and other parts from abroad as well as the manufacture of casings and centrifuge components—within the stated period of less than a year. They have sought additional documentation in order to verify Iran’s claim that it did not work on the P-2 centrifuge design in 1995–2002.<sup>99</sup>

ElBaradei’s report gave further detail about other transactions between Iran and the Khan network. Papers made available to IAEA inspectors by Iran in January 2005 included a copy of a handwritten, one-page document reflecting an offer allegedly made by a foreign intermediary in 1987 to sell centrifuge components and equipment to Iran.<sup>100</sup> Iran stated that only components from one or two disassembled centrifuges, and supporting drawings and specifications, had been delivered by the intermediary. The inspectors repeatedly asked to have access to original documentation related to the 1987 offer, but Iran maintained that the only existing paper reflecting the offer was the one-page document.<sup>101</sup>

In addition to these issues, ElBaradei reported that the IAEA was still assessing other aspects of Iran’s nuclear programme, including the dates of plutonium separation experiments; the purpose of experiments involving the

<sup>97</sup> GOV/2005/67 (note 92), p. 11.

<sup>98</sup> The environmental samples revealed that domestically manufactured components were contaminated mainly with LEU, while imported components showed both LEU and HEU contamination; some of the imported components, along with associated assembly equipment and work areas, were contaminated with particles of *c.* 36% U-235 and others with *c.* 54% U-235. GOV/2004/83 (note 94), p. 9.

<sup>99</sup> GOV/2005/67 (note 92), p. 11.

<sup>100</sup> GOV/2005/67 (note 92), p. 5. The document contained drawings and specifications for the production of centrifuges; drawings, specifications and calculations for a ‘complete’ centrifuge plant; and lists of materials for manufacturing 2 000 centrifuges. The document also referred to uranium reconversion and casting capabilities, which Iran said it had not requested from the foreign intermediaries.

<sup>101</sup> GOV/2005/67 (note 92), p. 11.

isotope polonium-210; and certain activities at the Gchine uranium mine. The IAEA also continued to press for expanded access to two sites outside Tehran where undeclared nuclear weapon-related activities may have taken place. The first was the Parchin military complex, which is dedicated to the development and production of ammunition and high explosives.<sup>102</sup> Traditionally, military sites are considered off limits to IAEA inspectors, whose mandate is to monitor civilian nuclear facilities. In November 2005, after lengthy discussions, Iran granted IAEA inspectors access to buildings in an area of the complex chosen by the inspectors and allowed them to take environmental samples there. With regard to the second site, at Lavisan-Shian, ElBaradei reported that the IAEA was still awaiting permission to undertake additional inspections of relevant military-owned workshops and dual-use equipment associated with the Physics Research Centre previously located there.<sup>103</sup>

#### *Iran as a special verification case*

ElBaradei's report to the Board of Governors painted a mixed picture of the results achieved by the IAEA's special safeguards inspections. It stated that inspectors were able to verify that none of the declared nuclear material inside Iran had been diverted to prohibited activities. However, the IAEA was still not in a position to conclude that there were no undeclared nuclear materials or activities in Iran. ElBaradei told the Board that, in the light of Iran's 'past concealment efforts over many years', its full transparency was 'indispensable and overdue'.<sup>104</sup> He urged Iran to adopt additional transparency measures extending beyond the formal requirements of its comprehensive safeguards agreement and Additional Protocol. These would include granting IAEA inspectors unhindered access to key personnel, workshops and R&D sites as well as making available all original documentation related to the procurement of dual-use equipment and sensitive technologies. Other experts, including Pierre Goldschmidt, who was the IAEA's Deputy Director for Safeguards until July 2005, have argued that the Agency cannot fully reconstruct the history and assess the current capabilities of Iran's nuclear programme without expanded investigative powers authorized by the Security Council.<sup>105</sup>

#### **The IAEA Board of Governors resolution**

On 24 September 2005 the IAEA Board of Governors passed a resolution stating that 'Iran's many failures and breaches of its obligations to comply'

<sup>102</sup> Some reports have suggested that a separately secured site for the testing of high explosives within the complex could be part of a programme to develop conventional explosives for a nuclear warhead. See Albright, D. and Hinderstein, C., 'Parchin: possible nuclear weapons-related site in Iran', Institute for Science and International Security (ISIS), *ISIS Issue Brief*, 17 June 2004, URL <<http://www.isis-online.org/publications/iran/parchin.html>>.

<sup>103</sup> GOV/2005/67 (note 92), p. 10.

<sup>104</sup> GOV/2005/67 (note 92), p. 11.

<sup>105</sup> Goldschmidt, P., 'Decision time on Iran', *New York Times*, 14 Sep. 2005, URL <<http://www.iranfocus.com/modules/news/article.php?storyid=3708>>.

with its safeguards agreement, as described in previous reports by Director General ElBaradei, ‘constitute non-compliance in the context of Article XII.C of the Agency’s Statute’.<sup>106</sup> The resolution was drafted by the E3, in consultation with the USA. However, under pressure from China and Russia, the E3 dropped a demand contained in an earlier draft that would have forced the Board to immediately report Iran to the Security Council.<sup>107</sup> Instead, the version approved by the Board stated that Iran’s concealment for 18 years had resulted in the ‘absence of confidence’ that its nuclear programme was exclusively for peaceful purposes and had ‘given rise to questions that are within the competence of the Security Council’.<sup>108</sup> The resolution obligated the Board to report Iran to the Council but left open when this would happen.

Iran reacted angrily to the resolution, with the foreign minister denouncing it as ‘illegal and illogical’.<sup>109</sup> Officials in Tehran argued that, since Iran had accepted inspections of unprecedented intrusiveness and cooperated fully with the IAEA to remedy past safeguards breaches, it was now in compliance with its obligations under the NPT. They also argued that the divided vote on the Board of Governors—22 member states in favour, with 12 abstentions (including Russia and China) and one rejection (by Venezuela), rather than the customary consensus—demonstrated that the resolution had the backing only of Western countries and was politically motivated.<sup>110</sup> They warned that Iran might respond to the Board’s resolution by restarting uranium enrichment and suspending its adherence to the unratified Additional Protocol. The Majlis subsequently passed legislation requiring the government to block international inspections of the country’s nuclear facilities if the IAEA Board reported Iran to the Security Council.<sup>111</sup>

### **Postponement of the referral decision by the IAEA Board of Governors**

The Board’s adoption of the resolution stating that Iran was in non-compliance with its safeguards agreement gave rise to expectations that the USA and the E3 would push at the next meeting of the Board, in November 2005, for Iran to be referred to the UN Security Council. However, prior to the meeting, US and European officials indicated that they would postpone calling for a referral

<sup>106</sup> IAEA, ‘Implementation of the NPT safeguards agreement in the Islamic Republic of Iran’, Resolution adopted by the IAEA Board of Governors, GOV/2005/77, Vienna, 24 Sep. 2005, URL <<http://www.iaea.org/Publications/Documents/Board/2005/gov2005-77.pdf>>, p. 1. According to Article XII of the IAEA Statute, the ‘Board shall call upon the recipient State or States to remedy forthwith any [safeguards] non-compliance which it finds to have occurred. The Board shall report the non-compliance to all members and to the Security Council and General Assembly of the United Nations’.

<sup>107</sup> Landler, M., ‘Nuclear agency expected to back weaker rebuke to Iran’, *New York Times* (Internet edn), 24 Sep. 2005, URL <<http://www.nytimes.com/2005/09/24/international/middleeast/24iran.html>>.

<sup>108</sup> GOV/2005/77 (note 106), p. 2.

<sup>109</sup> Associated Press, ‘Iran rejects UN resolution’, 25 Sep. 2005, URL <<http://www.cbsnews.com/stories/2005/09/25/world/main882946.shtml>>.

<sup>110</sup> Mehr News Agency, ‘International consensus against Iran fails’, MehrNews.com, 24 Sep. 2005, URL <<http://www.mehrnews.com/en/NewsDetail.aspx?newsid=233325>>.

<sup>111</sup> Dareini, A., ‘Iran votes to block nuclear inspections’, Associated Press, 20 Nov. 2005, URL <<http://www.breitbart.com/news/2005/11/20/D8E0B9IO0.html>>.

in order to give Iran more time to consider a compromise proposal for ending the diplomatic impasse that had been put forward by Russia.<sup>112</sup> Their decision reportedly reflected an acknowledgement that such a call lacked broad support from the Board, including key member states such as China and Russia.<sup>113</sup>

The Board's deliberations were complicated by a new report from Director General ElBaradei, issued on 18 November 2005, on safeguards implementation in Iran. Among other findings, the report noted that IAEA inspectors had discovered a document, dating from 1987, on 'the casting and machining of enriched, natural and depleted uranium metal into hemispherical forms'.<sup>114</sup> This discovery attracted considerable media attention, since uranium metal hemispheres can be used in making the core of an implosion-type nuclear weapon.<sup>115</sup> According to ElBaradei's report, Iran stated that it had never requested this information and had been given it by a foreign intermediary. Officials in Tehran also asserted that the fact that they turned over the document demonstrated their commitment to full transparency.

Although the document did not contain detailed design or engineering information, its discovery heightened international concern about Iran's nuclear activities. Speaking on behalf of the EU, the ambassador of the UK to the IAEA warned that the document was an 'indication of weaponisation', since it showed that Iran was interested in acquiring, starting at least 18 years before, the technologies and expertise relevant to building a nuclear weapon.<sup>116</sup> This warning came in the wake of a US claim, made public earlier in 2005, that Iran had a secret programme to develop a compact re-entry vehicle for its Shahab intermediate-range ballistic missile that could carry a nuclear warhead.<sup>117</sup> The discovery of the document also raised questions about whether there were other documents in Iran's possession which were relevant to IAEA investigations and which Iran had neglected to turn over.<sup>118</sup>

<sup>112</sup> 'More time for Iran in nuclear row', BBC News Online, 21 Nov. 2005, URL <<http://news.bbc.co.uk/1/4457772.stm>>; and Jahn, G., 'US, Europe won't push for move on Iran', Associated Press, 21 Nov. 2005, URL <<http://www.apnews.myway.com/article/20051121/D8E13P400.html>>.

<sup>113</sup> Dinmore, G. and Bozorgmehr, N., 'Rice fails to win support for Iran referral to Security Council', *Financial Times*, 17 Oct. 2005, p. 4.

<sup>114</sup> IAEA, 'Implementation of the NPT safeguards agreement in the Islamic Republic of Iran', Report by the Director General to the IAEA Board of Governors, GOV/2005/87, Vienna, 18 Nov. 2005, URL <<http://www.iaea.org/Publications/Documents/Board/2005/gov2005-87.pdf>>, p. 3.

<sup>115</sup> Heinrich, M. and Murphy, F., 'Iran gives UN bomb part instruction', Reuters, 18 Nov. 2005, URL <<http://www.iranfocus.com/modules/news/article.php?storyid=4475>>.

<sup>116</sup> 'Statement by UK Ambassador Peter Jenkins to the IAEA Board of Governors', 24 Nov. 2005, URL <<http://www.iranwatch.org/IAEAgovdocs/uk-fco-statement-iaea-board-112405.htm>>.

<sup>117</sup> In 2004, the USA allegedly obtained 1000 pages of Persian-language documents—including computer simulations and accounts of experiments—related to a missile warhead that US officials maintained was designed to carry a nuclear weapon. Broad, W. and Sanger, D., 'Relying on computer, US seeks to prove Iran's nuclear aims', *New York Times*, 13 Nov. 2005, URL <<http://www.mezomorf.com/technology/news-11854.html>>.

<sup>118</sup> 'Statement by UK Ambassador Peter Jenkins to the IAEA Board of Governors' (note 116).

### Resumption of the Iran–E3 talks

Shortly after the conclusion of the Board meeting, European Union foreign ministers agreed to an Iranian request to resume talks on the country's nuclear programme.<sup>119</sup> The subsequent 'talks about holding talks' were held in Vienna on 21 December 2005 and ended with the parties agreeing to meet again in January 2006. The negotiators reportedly deferred any substantive discussion of Iran's enrichment programme until the next meeting, amid signs that the two sides remained far apart on the issue.<sup>120</sup> The political climate for the resumed talks had deteriorated following a series of vitriolic anti-Israel remarks made by President Ahmadinejad. His comments elicited sharp rebukes from many governments and were formally condemned at a European Council meeting in Brussels on 15 December 2005.<sup>121</sup>

One of the main subjects to be taken up by Iranian and European negotiators was Russia's informal proposal for it to establish a joint venture with Iran to produce nuclear fuel.<sup>122</sup> In general terms, the proposal called for Iran to outsource to Russia the most sensitive part of its enrichment programme. Iran would be permitted to continue converting uranium ore into uranium tetrafluoride (an intermediate step in the production of uranium hexafluoride) at the Esfahan facility, under IAEA safeguards and with appropriate transparency measures. The uranium tetrafluoride would then be shipped to a facility in Russia for conversion into uranium hexafluoride and subsequent enrichment into LEU fuel for nuclear power plant; this facility could operate under joint Iranian–Russian ownership. Iran would return the spent reactor fuel to Russia for long-term storage and disposition, as it had already agreed to do with the Russian-supplied fuel for the Bushehr plant.

The initial reaction of Iranian officials to the Russian proposal was negative. A spokesman of the Iranian Foreign Ministry insisted that any fuel supply deal would have to guarantee that the nuclear fuel cycle remained inside Iran.<sup>123</sup> Larijani told a news conference in early December 2005 that he saw 'no need' for the proposed fuel services deal with Russia and reaffirmed that Iran intended to produce nuclear fuel domestically.<sup>124</sup> He did not specify when this might occur, but he emphasized that Iran preferred to do it as a result of negotiations, which might take several months. Senior Iranian officials subse-

<sup>119</sup> Associated Press and Agence France-Presse, 'EU offers to resume nuclear negotiations with Iran', *International Herald Tribune* (Internet edn), 28 Nov. 2005, URL <<http://www.iht.com/articles/2005/11/28/news/iran.php>>.

<sup>120</sup> Nuclear Threat Initiative, 'No progress made on Iran's nuclear program', *Global Security Newswire*, 22 Dec. 2005, URL <[http://www.nti.org/d\\_newswire/issues/2005\\_12\\_22.html#8C17BDDF](http://www.nti.org/d_newswire/issues/2005_12_22.html#8C17BDDF)>.

<sup>121</sup> Nuclear Threat Initiative, 'EU condemns Iranian President's anti-Israel comments, warns Tehran on nuclear program', *Global Security Newswire*, 16 Dec. 2005, URL <[http://www.nti.org/d\\_newswire/issues/2005\\_12\\_16.html#54C8DF8A](http://www.nti.org/d_newswire/issues/2005_12_16.html#54C8DF8A)>.

<sup>122</sup> Nuclear Threat Initiative, 'Russia wants nuclear fuel deal with Iran', *Global Security Newswire*, 3 Nov. 2005, URL <http://www.nti.org/d%5Fnewswire/issues/2005/11/3/683cea4e%2Dfcea%2D4882%2D902e%2D40ad8cb344f7.html> >.

<sup>123</sup> 'EU offers to resume nuclear negotiations with Iran' (note 119).

<sup>124</sup> Agence France-Presse, 'Iran will NPT give up uranium enrichment programme says Larijani', *SpaceWar*, 5 Dec. 2005, URL <<http://www.spacewar.com/news/iran-05zzzzzzf.html>>.

quently offered a more positive public assessment of the Russian proposal, but they insisted that Iran's policy to have a domestic uranium enrichment capability had not changed.<sup>125</sup>

On 3 January 2006, Iran informed the IAEA that it 'has decided to resume from 9 January 2006 those R&D [activities] on the peaceful nuclear energy programme which has been suspended as part of its expanded voluntary and non-legally binding suspension'.<sup>126</sup> Iran did not immediately specify which enrichment R&D activities it planned to resume. The announcement, which was criticized by ElBaradei, appeared to set the stage for an imminent collision between Iran and the E3 and the USA.<sup>127</sup> The EU had previously said that any decision by Iran to resume work on its uranium enrichment programme would be a 'red line' that would end their attempts to negotiate differences with Iran.<sup>128</sup> As 2006 began, however, it was unclear whether a tougher approach to addressing concerns about Iran's nuclear fuel cycle activities, including a referral of the issue to the Security Council for possible sanctions, would be acceptable to Russia, China and other states.<sup>129</sup>

#### IV. North Korea's nuclear programme and the Six-Party Talks

During 2005 the protracted confrontation over North Korea's nuclear programme showed no sign of abating. It had entered into a new, more perilous phase in 2002, when a series of tit-for-tat moves by Pyongyang and Washington resulted in the collapse of the 1994 Agreed Framework.<sup>130</sup> In April 2003 North Korea further raised the stakes in the crisis by formally withdrawing from the NPT.<sup>131</sup> North Korea is widely believed to have produced

<sup>125</sup> Nuclear Threat Initiative, 'Iran pledges to study compromise nuclear proposal, Global Security Newswire, 3 Jan. 2006, <[http://www.nti.org/d\\_newswire/issues/2006\\_1\\_3.html#1E575FA9](http://www.nti.org/d_newswire/issues/2006_1_3.html#1E575FA9)>; and IRNA, 'Asefi says nuclear talks with Russia positive', 8 Jan. 2006, URL <[http://www.irna.ir/en/news/view/line-22/0601081605\\_141451.htm](http://www.irna.ir/en/news/view/line-22/0601081605_141451.htm)>.

<sup>126</sup> IAEA, 'Iran to resume suspended nuclear research and development', Press release 2006/01, Vienna, 3 Jan. 2006, URL <<http://www.iaea.org/NewsCenter/PressReleases/2006/prn200601.html>>.

<sup>127</sup> Jahn, G., 'Iran rebuffs IAEA chief', Associated Press, 5 Jan. 2006, URL <<http://www.washingtonpost.com/wp-dyn/content/article/2006/01/05/AR2006010500877.html>>.

<sup>128</sup> Dareini, A., 'Iran plans to resume nuclear research', Associated Press, 3 Jan. 2005, URL <<http://www.washingtonpost.com/wp-dyn/content/article/2006/01/03/AR2006010300303.html>>.

<sup>129</sup> Russia's announcement in early Dec. 2005 that it would sell new air defence missiles to Iran elicited sharp criticism from both Europe and the United States. Jahn, G., 'EU protests Russian-Iran missile deal', Associated Press, 15 Dec. 2005, URL <<http://www.forbes.com/business/services/feeds/ap/2005/12/15/ap2395314.html>>.

<sup>130</sup> On the 1994 Agreed Framework between North Korea and the USA, and the events leading up to its breakdown, see Kile, S. N., 'Nuclear arms control, non-proliferation and ballistic missile defence', *SIPRI Yearbook 2003: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2003), pp. 578–92. For the text of the Agreed Framework see URL <<http://www.kedo.org/pdfs/AgreedFramework.pdf>>.

<sup>131</sup> North Korea's withdrawal from the treaty, which it announced on 10 Jan. 2003 for reasons of 'supreme national interest', took effect on 10 Apr. 2003. North Korea's safeguards agreement (INFCIRC/403) was considered to have lapsed on that date as well.



and separated enough plutonium from the spent fuel of its 5-MW(e) research reactor at Yongbyon to build a small number of nuclear warheads.<sup>132</sup>

In 2005 there were two new rounds of the Six-Party Talks between China, Japan, North Korea, South Korea, Russia and the USA aimed at resolving the diplomatic impasse over North Korea's nuclear programme. The talks, organized by China, had been suspended for more than a year after the third round ended in June 2004 with North Korea rejecting a US proposal for a nuclear deal and announcing that it would not participate in further rounds.<sup>133</sup> The prospects for resuming the talks were complicated when, on 10 February 2005, North Korea announced for the first time that it had developed operational nuclear weapons.<sup>134</sup> In addition, in April 2005 there was speculation within the US intelligence community that North Korea was preparing to carry out a nuclear explosive test near Kilju, on the country's north-east coast.<sup>135</sup>

At the same time, in the spring of 2005 North Korea indicated that it was prepared to return to the talks if the USA agreed to end its 'hostile policy' and treat it with appropriate respect.<sup>136</sup> For its part, the US Administration showed greater diplomatic flexibility in responding to overtures from Pyongyang, including by holding informal discussions with North Korean officials at the United Nations.<sup>137</sup> The shift in US policy was motivated in part by a desire to allay the concerns of some regional allies that the administration was not interested, for ideological reasons, in holding serious negotiations with North Korea.<sup>138</sup>

On 10 July 2005 North Korea announced that it would return to the Six-Party Talks. According to a foreign ministry spokesman, the decision had been taken after the USA gave assurances that it recognized the North as a sovereign state, had no intention of invading it and would hold bilateral talks within the framework of the multilateral negotiations.<sup>139</sup> In addition, China and South Korea reportedly had strongly encouraged North Korea to end its boycott of the talks. Following the announcement, South Korea said that it had

<sup>132</sup> According to one non-governmental assessment, in mid-2005 North Korea possessed 15–38 kg of separated plutonium, which would be enough to build 3–9 nuclear weapons. Institute for Science and International Security (ISIS), 'The North Korean plutonium stock, mid-2005', *ISIS Issue Brief*, 7 Sep. 2005, URL <<http://www.isis-online.org/publications/dprk/dprkplutoniumstockmid05.pdf>>.

<sup>133</sup> The first round of the Six-Party Talks had been held on 27–29 Aug. 2003, the second on 25–28 Feb. 2004 and the third round on 23–26 June 2004.

<sup>134</sup> Korea Central News Agency (KCNA), 'DPRK FM on its stand to suspend its participation in Six-Party Talks for indefinite period', 10 Feb. 2005, URL <<http://www.kcna.co.jp/item/2005/200502/news02/11.htm#1>>

<sup>135</sup> Sanger, D., 'What are Koreans up to? US agencies can't agree', *New York Times* (Internet edn), 12 May 2005, URL <<http://www.nytimes.com/2005/12/politics/12intel.html>>.

<sup>136</sup> KCNA, 'DPRK Foreign Ministry spokesman on denuclearization of Korea', 31 Mar. 2005, URL <<http://www.kcna.co.jp/item/2005/200504/news04/01.htm#17>>.

<sup>137</sup> Sanger, D. and Shanker, T., 'North Korea is reported to hint at nuclear talks', *New York Times* (Internet edn), 6 June 2005, URL <<http://www.nytimes.com/2005/06/06/international/asia/06korea.html>>.

<sup>138</sup> Eckert, P., 'US should renew focus on N. Korea talks—analysts', Reuters, 25 Jan. 2005, URL <<http://www.reuters.ch/newsArticle.jhtml?type=reutersEdge&storyID=7429557>>.

<sup>139</sup> KCNA, 'Spokesman for DPRK FM on contact between heads of DPRK and US dels', 10 July 2005, URL <<http://www.kcna.co.jp/item/2005/200507/news07/11.htm#1>>.

offered to supply the 2000 MW of electric power to North Korea if it returned to the talks and pledged to eliminate its nuclear weapon programme.<sup>140</sup>

### **The North Korean–US Joint Statement**

The fourth round of the Six-Party Talks was held in Beijing, China, on 26 July–7 August 2005 and, following a recess, on 13–19 September 2005. It ended with the parties issuing a Joint Statement on principles guiding future talks aimed at the ‘verifiable denuclearization of the Korean Peninsula in a peaceful manner’.<sup>141</sup> In the Joint Statement, North Korea and the USA undertook a number of specific commitments. North Korea pledged to ‘abandon all nuclear weapons and existing nuclear programs’ and to return, at an early date, to the NPT and to IAEA safeguards. The USA affirmed that it had no nuclear weapons on the Korean Peninsula and had ‘no intention to attack or invade’ North Korea with nuclear or conventional weapons. The two countries also undertook to ‘respect each other’s sovereignty’ and to ‘take steps to normalize their relations subject to their respective bilateral policies’. In addition to these commitments, China, Japan, South Korea, Russia and the USA declared their willingness to provide energy assistance to North Korea.<sup>142</sup> They also ‘expressed their respect’ for North Korea’s statement that it had the right to peaceful uses of nuclear energy and ‘agreed to discuss, at an appropriate time, the subject of the provision of a light water reactor’ to the North.<sup>143</sup>

Although the signing of the Joint Statement was hailed by some diplomatic observers as a breakthrough, it left unsettled a number of key questions and points of contention that had emerged in the Six-Party Talks. North Korea’s commitment to ‘abandon’ its nuclear weapons and existing nuclear programmes in exchange for aid and security guarantees appeared to fall short of the USA’s insistence in the talks that Pyongyang agree to verifiably dismantle all of its nuclear facilities. North Korea was also unwilling to admit that it had a secret uranium enrichment programme—something which the US intelligence community suspects that it is developing, in addition to the declared plutonium reprocessing facility. At the same time, the Joint Statement did not include a long-standing North Korean demand: that the USA provide North Korea with formal security guarantees, including a non-aggression treaty.

Immediately after the statement was issued, the two main antagonists presented conflicting views about what had actually been agreed. The fundamental difference between North Korea and the USA continued to be over the timing, or sequencing, of a possible deal. US negotiators emphasized

<sup>140</sup> Brinkley, J., ‘South Korea offers power if North Korea quits arms program’, *New York Times* (Internet edn), 13 July 2005, URL <<http://www.nytimes.com/2005/07/13/international/asia/13dipl.html>>. The energy offered was equal to the combined capacity of the 2 light-water nuclear power reactors that were promised to North Korea under the 1994 Agreed Framework.

<sup>141</sup> US Department of State, Office of the Spokesman, ‘Joint Statement of the Fourth Round of the Six-Party Talks’, 19 Sep. 2005, URL <<http://www.state.gov/r/pa/prs/ps/2005/53490.htm>>.

<sup>142</sup> South Korea reaffirmed its July 2005 offer to provide the North with 2 million MW of electric power.

<sup>143</sup> US Department of State (note 141).

that they had not moved away from insisting on a 'complete, verifiable and irreversible' end to all of North Korea's nuclear activities. In their view, the 'appropriate time' to discuss providing a nuclear power reactor to North Korea would come only after it had met two conditions: the prompt elimination of all nuclear weapons and nuclear programmes, to be verified by international inspections; and full compliance with the obligations of a non-nuclear weapon state party to the NPT, including its safeguards agreement with the IAEA.<sup>144</sup> For its part, North Korea warned that the USA 'should not even dream of the issue of the DPRK's dismantlement of its nuclear deterrent' before providing it with a light-water reactor as a 'physical guarantee for confidence-building'.<sup>145</sup> North Korean officials subsequently clarified that the delivery of the reactor was a precondition for North Korea to rejoin the NPT as a non-nuclear weapon state and readmit IAEA inspectors.<sup>146</sup>

Little progress was subsequently made towards resolving the diplomatic impasse, against the background of a hardening of the positions of both Pyongyang and Washington.<sup>147</sup> The fifth round of the Six-Party Talks, which were held in Beijing on 9–11 November 2005, ended inconclusively. On 11 December North Korea announced that it had suspended 'for an indefinite period' its participation in the talks.<sup>148</sup> It declared it that would not return until Washington first lifted financial sanctions imposed against the North over its suspected involvement in a number of illegal activities, including money laundering, counterfeiting and weapon smuggling. In addition, Pyongyang continued to insist that it should receive political and economic compensation for the cancellation of the two light-water power reactors to be built in North Korea as part of the Agreed Framework.<sup>149</sup> On 23 November 2005 the USA and its partners in the Korean Peninsula Energy Development Organization decided to terminate the project, which had been suspended since 2002.<sup>150</sup>

<sup>144</sup> Statement by Assistant Secretary of State Christopher R. Hill to the Closing Plenary of the Fourth Round of the Six-Party Talks, US Department of State, Office of the Spokesman, 19 Sep. 2005, URL <<http://www.state.gov/r/pa/prs/ps/2005/53499.htm>>.

<sup>145</sup> KCNA, 'Spokesman for DPRK Foreign Ministry on Six-Party Talks', URL <<http://www.kcna.co.jp/item/2005/200509/news09/21.htm#1>>.

<sup>146</sup> Nuclear Threat Initiative, 'North Korea demands energy reactor as precondition to resuming international inspections', Global Security Newswire, 7 Oct. 2005, URL <[http://www.nti.org/d\\_newswire/issues/2005\\_10\\_7.html#BEDD96F5](http://www.nti.org/d_newswire/issues/2005_10_7.html#BEDD96F5)>.

<sup>147</sup> Sanger, D., 'US widens campaign on North Korea', *New York Times* (Internet edn), 24 Oct. 2005, URL <<http://www.nytimes.com/2005/10/24/international/asia/24korea.html>>.

<sup>148</sup> Agence France-Presse, 'Nuclear talks suspended indefinitely: N. Korea', SpaceWar, 11 Dec. 2005, URL <<http://www.spacewar.com/news/korea-05zzzzze.html>>.

<sup>149</sup> KCNA, 'DPRK FM spokesman demands US compensate for political and economic losses', 28 Nov. 2005, URL <<http://www.kcna.co.jp/item/2005/200511/news11/29.htm>>.

<sup>150</sup> Nuclear Threat Initiative, 'North Korea reactor project terminated', Global Security Newswire, 23 Nov. 2005, URL <[http://www.nti.org/d\\_newswire/issues/2005\\_11\\_23.html](http://www.nti.org/d_newswire/issues/2005_11_23.html)>; and Kim, K-T., 'North Korea demands that US lifts sanctions', *The Guardian* (Internet edn), 6 Dec. 2005, URL <<http://www.guardian.co.uk/worldlatest/story/0,1280,-5460734,00.html>>.

## V. International cooperation to secure nuclear materials and facilities

International concern about the dangers of nuclear material falling into the hands of non-state actors that could use them in act of terrorism has been accompanied by a growing awareness that national measures for protecting nuclear material and facilities are uneven in their substance and application. As a result, a number of international non-proliferation and disarmament assistance (INDA) programmes have been launched in recent years aimed at securing and accounting for fissile and other hazardous radiological materials and reducing the potential for their theft.<sup>151</sup> During 2005 the European Union discussed how Community instruments could contribute to securing global stocks of nuclear material stocks as part of the EU's Strategy to Prevent the Proliferation of Weapons of Mass Destruction.<sup>152</sup> In the USA, the Bush Administration requested a significant increase in funding in financial year (FY) 2006 for the Department of Energy's material protection control and accounting programmes, designed to enhance the security of nuclear materials in the former Soviet Union and elsewhere in the world.<sup>153</sup> The request for increased funding reflected growing concern in Congress about nuclear security in Russia and the risks of terrorist acquisition of nuclear or radiological weapons.<sup>154</sup>

### US–Russian cooperation on nuclear security

On 24 February 2005, at a summit meeting in Bratislava, Slovakia, US President Bush and Russian President Vladimir Putin agreed to expand and deepen bilateral cooperation aimed at combating nuclear terrorism.<sup>155</sup> The two presidents pledged to accelerate projects to upgrade the security of Russian nuclear facilities and develop a plan of work through and beyond 2008. To facilitate this work, they established the US–Russian Senior Interagency Group for cooperation on nuclear security, including the disposal of fissile

<sup>151</sup> For a summary of current INDA activities see Fedchenko, V., Maerli, M. and Anthony, I., 'Nuclear security: reinforcing EU co-operative threat reduction programmes, Background Paper 2 to the Interim Report, *Strengthening European Action on WMD Non-proliferation and Disarmament: How Can Community Instruments Contribute?* (Stockholm: SIPRI, Dec. 2005), URL <<http://www.sipri.org/contents/expcon/BP2.pdf>>, pp. 22–39.

<sup>152</sup> In 2005 a pilot project was initiated to provide independent recommendations for the use of Community resources within the framework of the EU's WMD Strategy during the budget period 2007–13. See SIPRI, 'EU Pilot Project conference materials', URL <<http://www.sipri.org/contents/expcon/eupconmaterials.html>>.

<sup>153</sup> Ruppe, D., 'White House threat reduction budget stresses Energy Department activities', *Global Security Newswire*, 8 Feb. 2005, URL <[http://www.nti.org/d\\_newswire/issues/2005\\_2\\_8.html#1FA28A1A](http://www.nti.org/d_newswire/issues/2005_2_8.html#1FA28A1A)>. The administration's FY 2006 budget request proposed an increase for the Department of Energy's overall threat reduction activities from \$439 million to \$526 million.

<sup>154</sup> Pincus, W. and Baker, P., 'US–Russia pact aimed at nuclear terrorism', *Washington Post* (Internet edn), 24 Feb. 2005, URL <<http://www.washingtonpost.com/wp-dyn/articles/A48465-2005Feb23.html>>.

<sup>155</sup> The White House, 'US–Russia Joint Fact Sheet: Bratislava Initiatives', News release, 24 Feb. 2005, URL <<http://www.whitehouse.gov/news/releases/2005/02/20050224-7.html>>.

material no longer needed for defence purposes. In addition, the presidents undertook to work jointly to develop LEU fuel for use in any US- and Russian-designed research reactors in third countries currently using HEU fuel and to repatriate fresh and spent HEU from these reactors.<sup>156</sup> The closer bilateral cooperation envisioned by the Bratislava initiative came at a time when the US and Russian security establishments were clashing over sensitive INDA activities. Some observers pointed out that it failed to address several important outstanding issues, such as the controversy over allowing US access to Russian nuclear material nuclear warhead storage sites, and did not provide for sustaining nuclear security improvements with Russian resources after international assistance is phased out.<sup>157</sup>

In July 2005 the US and Russian governments reached an agreement in principle on the resolution of a lengthy legal dispute over liability issues that had blocked implementation of the 2000 US–Russian Plutonium Management and Disposition Agreement.<sup>158</sup> The dispute centred on the level of protection that US officials and contractors should receive from lawsuits arising from their work to implement assistance projects in Russia, in particular in the area of plutonium disposition.<sup>159</sup> Resolution of the dispute was also expected to facilitate the extension of the 1992 Cooperative Threat Reduction programme’s ‘umbrella agreement’, which serves as the basis for most US-funded nuclear projects in Russia and is scheduled to expire in June 2006.<sup>160</sup> At the same time, however, no final agreement had been reached on funding the project to build a Russian mixed-oxide (MOX) fuel plant to convert excess plutonium from weapons into civil nuclear reactor fuel.<sup>161</sup>

In 2005 progress was made in implementing the US-funded Global Threat Reduction Initiative (GTRI) programme. The purpose of this programme, which was launched under the auspices of the US Department of Energy’s National Nuclear Security Administration (NNSA) in May 2004, is to ‘consolidate, accelerate, and expand existing efforts to remove potential nuclear weapon-usable material from vulnerable sites’ and to ‘identify and prioritize nuclear materials and equipment of proliferation concern not being addressed

<sup>156</sup> The White House (note 155).

<sup>157</sup> See Bunn, M. and Weir, A., *Securing the Bomb 2005: The New Global Imperatives*, Project on Managing the Atom, Belfer Center for Science and International Affairs, Kennedy School of Government, Harvard University, May 2005, URL <[http://www.nti.org/e\\_research/report\\_cnwmupdate2005.pdf](http://www.nti.org/e_research/report_cnwmupdate2005.pdf)>, p. 22.

<sup>158</sup> Under the terms of the agreement, each party must dispose of at least 34 tonnes of weapon-grade plutonium declared to be in excess of defence needs by irradiating it as fuel in reactors or by immobilizing it with high-level radioactive waste and thereby rendering it suitable for geological disposal. The text of the agreement is available at URL <[http://www.nnsa.doe.gov/na-20/docs/2000\\_Agreement.pdf](http://www.nnsa.doe.gov/na-20/docs/2000_Agreement.pdf)>.

<sup>159</sup> Saradzhyan, S., ‘Key nuclear dispute is resolved’, *Moscow Times*, 20 July 2005, p. 2, URL <<http://themoscowtimes.com/stories/2005/07/20/010.html>>.

<sup>160</sup> Pincus and Baker (note 154); and Antonov, A., Address to the Centre for Policy Studies in Russia (PIR Centre) Advisory Board [in Russian], 13 July 2005, URL <<http://www.pircenter.org/cgi-bin/pirnews/getinfo.cgi?ID=1954>>.

<sup>161</sup> Francis, D., ‘Washington, Moscow come to liability agreement for US-backed nuclear projects in Russia’, *Global Security Newswire*, 9 Nov. 2005, URL <[http://www.nti.org/d\\_newswire/issues/2005\\_11\\_9.html](http://www.nti.org/d_newswire/issues/2005_11_9.html)>.

by existing threat reduction efforts'. The creation of the programme reflected growing concerns in the USA and elsewhere about the proliferation risks posed by the existence of large number of unsecured sites with civilian nuclear materials.<sup>162</sup> As part of a global 'nuclear clean-out', the USA is working with Russia, the IAEA and other partners to convert the cores of civilian research reactors that use HEU fuel to LEU fuel and to repatriate from locations around the world all fresh and spent HEU fuel of Russian or US origin.<sup>163</sup> On 27 September 2005 the NNSA announced that 14 kg of HEU had been removed from the Czech Technical University's VR-1 Sparrow research reactor, in Prague, and returned to a secure facility in Dimitrovgrad, Russia, where the material will be down-blended to LEU. This marked the eighth shipment of Russian-origin HEU reactor fuel back to Russia under the GTRI programme.<sup>164</sup> In November 2005 the NNSA announced that the Czech research reactor was the first Russian-supplied reactor to successfully convert HEU to LEU fuel.<sup>165</sup>

### IAEA initiatives

In 2005, concern about the dangers of nuclear material falling into the hands of terrorists led to the adoption of an amendment strengthening the 1980 Convention on the Physical Protection of Nuclear Material.<sup>166</sup> The convention, which is the only multilateral treaty in force that deals with physical protection issues, obligates the parties to make specific arrangements and meet defined standards for the protection of nuclear material in international transport or storage incidental to such transport. On 8 July 2005 delegations from 89 states parties voted in favour of amending the convention to make it legally binding for the parties to protect nuclear facilities and material in domestic use, transport and storage.<sup>167</sup> The amendment requires parties to establish and maintain a legislative and regulatory framework to govern physical protection according to a set of fundamental principles. In addition, it provides for

<sup>162</sup> For an overview of these concerns, see Bleek, P., *Global Cleanout: an Emerging Approach to the Civil Nuclear Material Threat*, Project on Managing the Atom, Belfer Center for Science and International Affairs, Kennedy School of Government, Harvard University, Sep. 2004, URL <[http://www.bcsia.ksg.harvard.edu/publication.cfm?program=STPP&ctype=paper&item\\_id=464](http://www.bcsia.ksg.harvard.edu/publication.cfm?program=STPP&ctype=paper&item_id=464)>.

<sup>163</sup> IAEA, 'IAEA welcomes US new Global Threat Reduction Initiative' 27 May 2004, URL <[http://www.iaea.org/NewsCenter/News/2004/GTRI\\_Initiative.html](http://www.iaea.org/NewsCenter/News/2004/GTRI_Initiative.html)>.

<sup>164</sup> US Department of Energy, National Nuclear Security Administration, 'Highly enriched uranium recovered from Czech Technical University', Press release no. NA-05-22, 27 Sep. 2005, URL <[http://www.nnsa.doe.gov/docs/newsreleases/2005/PR\\_2005-09-27\\_NA-05-22.htm](http://www.nnsa.doe.gov/docs/newsreleases/2005/PR_2005-09-27_NA-05-22.htm)>. As of Sep. 2005, fresh Russian-origin HEU fuel had also been repatriated to Russia from Bulgaria, the Czech Republic, Latvia, Libya, Romania, Serbia and Montenegro, and Uzbekistan.

<sup>165</sup> US Department of Energy, National Nuclear Security Administration, 'NNSA completes Czech research reactor conversion', Press Release No. NA-05-28, 4 Nov. 2005, URL <[http://www.nnsa.doe.gov/docs/newsreleases/2005/PR\\_2005-11-04\\_NA-05-28.htm](http://www.nnsa.doe.gov/docs/newsreleases/2005/PR_2005-11-04_NA-05-28.htm)>.

<sup>166</sup> The text of the convention is available at URL <<http://www.iaea.org/Publications/Documents/Infcircs/Inf274r1.shtml>>.

<sup>167</sup> IAEA, 'States agree on stronger physical protection regime', Press Release 2005/03, 8 July 2005, URL <<http://www.iaea.org/NewsCenter/PressReleases/2005/prn200503.html>>. The amendments will take effect once they have been ratified by two-thirds of the currently 112 parties to the convention.

expanded cooperation between states in rapidly locating and recovering stolen or smuggled nuclear material.<sup>168</sup>

In September 2005 the IAEA Board of Governors adopted a Nuclear Security Plan covering the period 2005–2009.<sup>169</sup> The new plan builds on the Plan of Activities to Protect against Nuclear Terrorism adopted by the Board in March 2002.<sup>170</sup> It is intended to increase worldwide protection against acts of terrorism involving fissile and other radioactive nuclear materials by assisting countries working at the national level to upgrade physical protection of their nuclear material and nuclear facilities, detect illicit nuclear trafficking across borders and improve control of radioactive sources.

### Global measures

On 13 April 2005 the UN General Assembly adopted, by consensus, the International Convention for the Suppression of Acts of Nuclear Terrorism, addressing the unlawful possession or use of nuclear devices or materials by non-state actors.<sup>171</sup> The purpose of the convention is to complement existing UN instruments against other manifestations of terrorism by providing a legal basis for international cooperation in the investigation, prosecution, and extradition of those who commit terrorist acts involving radioactive material or a nuclear device. The Nuclear Terrorism Convention calls for states to develop appropriate legal frameworks criminalizing nuclear terrorism-related offences. With its focus on the investigation and prosecution of individuals, the convention also addresses to a limited extent the treatment of detainees and extradition policies. The treaty was opened for signature on 14 September 2005 and will enter into force 30 days after it has been ratified by 22 states.

## VI. Conclusions

The year 2005 was marked by a number of failures, or missed opportunities, to solve some of the pressing challenges coming from within and outside the nuclear non-proliferation regime. Most notably, the 2005 NPT Review Conference concluded without producing a final report containing any substantive decisions on issues of treaty implementation. The deadlock at the conference

<sup>168</sup> For the text of the amendment see 'Nuclear security measures to protect against nuclear terrorism: amendment to the Convention on the Physical Protection of Nuclear Material', Report by the Director General to the Board of Governors General Conference, GOV/INF/2005/10-GC(49)/INF/6, Vienna, 6 Sep. 2005, URL <<http://www.iaea.org/About/Policy/GC/GC49/Documents/gc49inf-6.pdf>>.

<sup>169</sup> IAEA, 'Nuclear security: measures to protect against nuclear terrorism', Resolution adopted by the 49th IAEA General Conference, GC(49)/res/10, 30 Sep. 2005, URL <<http://www.iaea.org/About/Policy/GC/GC49/documents/gc49res10.pdf>>.

<sup>170</sup> IAEA, 'IAEA Board of Governors approves IAEA Action Plan to combat nuclear terrorism', Press Release PR2002/04, 19 Mar. 2002, URL <<http://www.iaea.org/NewsCenter/PressReleases/2002/prn0204.shtml>>.

<sup>171</sup> International Convention for the Suppression of Acts of Nuclear Terrorism, UN General Assembly A/59/766, 13 Apr. 2005, URL <<http://www.un.int/usa/a-59-766.pdf>>. As of 31 Dec. 2005, the convention had been signed by 99 states but none had ratified it.

highlighted the long-standing—and deepening—division between the nuclear ‘have’ and ‘have not’ states over the nature and purpose of the NPT, and it raised doubts about the future viability of the treaty regime. While there was general consensus among the states parties at the conference that the regime was becoming dangerously debilitated, they did not agree on the causes or on solutions. As one participant lamented, the conference’s lack of results reflected ‘the broader malaise and paralysis that abounds in multilateral disarmament diplomacy under its various current configurations’.<sup>172</sup>

Developments in 2005 suggested that recent innovations in multilateral approaches to preventing the spread of nuclear weapon-usable materials and technologies are likely to be controversial for some time to come. Many states acted during the year to implement the legal and regulatory measures mandated by UN Security Council Resolution 1540, and more states cooperated within the US-organized Proliferation Security Initiative. There was also growing interest in the idea of repairing alleged shortcomings or loopholes in the NPT by limiting civil uranium enrichment and plutonium reprocessing programmes to a handful of fully transparent nuclear fuel cycle facilities, operating under multinational or international control.

At the same time, however, considerable concern was expressed by some states about the consequences of a paradigmatic shift, led by the USA, from treaty-based disarmament to ad hoc counter-proliferation approaches involving self-selecting coalitions of the willing. This shift was criticized as intruding on the sovereign rights of individual states as well as undermining the existing legal and normative foundations of international efforts for combating the spread of WMD. While acknowledging that there was an urgent need for the international community to work to revitalize and strengthen the non-proliferation regime, the NAM states and many other non-nuclear weapon states argued that achieving this goal required, above all, a renewed commitment by all states to fully implement their arms control and disarmament commitments within the existing multilateral treaty framework.

<sup>172</sup> Closing statement made by Tim Caughley, Ambassador for Disarmament of New Zealand, at the 2005 Review Conference on the Treaty on the Non-proliferation of Nuclear Weapons, 27 May 2005, URL <<http://www.reachingcriticalwill.org/legal/npt/RevCon05/GDstatements/index.html>>.