

**Strengthening the Nuclear Nonproliferation Regime:  
Searching for Common Ground**

**Session I:  
Ways and Means to Eliminate the Threat of Fissile Material**

Monterey Nonproliferation Strategy Group

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## **Table of Contents:**

<b>I.</b>	<b>Introduction</b>	<b>3</b>
<b>II.</b>	<b>Potential common ground: Observations and Policy Prescriptions</b>	<b>5</b>
	<b>A. Potential regime-wide common ground</b>	
	<b>B. Possible Ways and Means to Eliminate the Threat of Fissile Material</b>	<b>6</b>
<b>III.</b>	<b>Taking stock after 2005: Does common ground still exist?</b>	<b>10</b>
<b>IV.</b>	<b>Strengthening Article IV: Plugging the Fuel Cycle Loophole</b>	<b>15</b>
<b>V.</b>	<b>Combating nuclear terrorism</b>	<b>18</b>
	<b>A. Minimize civilian the use of HEU</b>	<b>18</b>
	<b>B. Prevent the illicit trafficking of nuclear material</b>	<b>21</b>
<b>VI.</b>	<b>Prospects for a Fissile Material Cut-Off Treaty</b>	<b>23</b>
<b>VII.</b>	<b>Conclusion</b>	<b>26</b>

## **Appendices**

- A. Agenda**
- B. List of participants**

## I. Introduction

Judging by events during the past few years, the nuclear nonproliferation regime has entered rough waters. Given widespread complacency, divergent threat perceptions and limited political will, options to regain firmer ground are both limited in scope and support.

The 2005 Review Conference of the States party to the Treaty on the Nonproliferation of Nuclear Weapons (NPT) represented a missed opportunity for the international community to collectively respond to some of the most serious challenges to the Treaty. Instead of building bridges between each other – as was the case in 1995 and 2000 – key States parties found strength in the lack of agreement on how to respond, leading many to predict that a successful Conference was indeed a “mission impossible.”

Even when offered another opportunity to address these challenges at the Heads of State level, deliberate negative tactics prevented the 2005 General Assembly Summit to express itself on ways to deal with some of the most serious disarmament and nonproliferation threats. Secretary-General Kofi Annan aptly commented at the Conference on Disarmament in June 2006 *“Twice last year, Governments had a chance, I repeat, a chance to strengthen the foundations of the Nuclear Non-Proliferation Treaty – first at the Review Conference in May, and then at the World Summit in September. Both times, they failed. This sent a terrible signal -- of waning respect for the Treaty’s authority and of a dangerous rift on a leading threat to peace and prosperity.”*

While sufficient reasons exist to be alarmed at the state of the regime, opportunities to advance the goals embedded in the NPT still remain. Although short on substance, the 2005 Review Conference turned the “spotlight” on possible common ground issues, which if developed further, could form the basis of consensus or near-consensus at the 2010 Review Conference.

In response to the current proliferation predicament and the potential impact of another “failed” Review Conference in 2010, the Monterey Institute’s Center for Nonproliferation Studies recently revived its Monterey Nonproliferation Strategy Group (MNSG) with a more narrowly focused and action-oriented agenda. Conceived as a small body of experienced practitioners and analysts, the revamped Strategy Group aims to identify the basis for forging consensus or near-consensus on creative but realistic approaches that address the key nuclear proliferation challenges.

The Strategy Group’s first meeting was held in Washington DC on 28 and 29 April 2006, and was primarily devoted to issues related to the peaceful use of nuclear energy and other fissile material related issues, including prospects for a treaty banning the production of fissile material for nuclear weapons. The Strategy Group and a select group of other senior analysts examined whether common ground still exists, and if not, what needs to be done to re-create common ground. The Group considered ways to strengthen Article IV by addressing the controversial statement: “Plugging the Fuel Cycle Loophole.” It also investigated options for combating nuclear terrorism by (i) minimizing the nuclear threat in the civilian sector, and (ii) preventing the illicit trafficking of nuclear material. Focusing also on the military use of fissile material, the Group considered prospects for a fissile material treaty.

The Strategy Group meeting was held under “Chatham House rules,” and as such this report does not attribute any positions to specific Strategy Group members, nor is it indicative of the level of agreement among Group members for the issues addressed therein. Prepared by Jean du Preez, Director of the International Organizations and Nonproliferation Program at CNS and Peter Crail, currently affiliated with the CNS Washington, D.C. office, the report is meant to give an overview of the range of issues discussed at the meeting and highlights the policy options identified. The authors bear sole responsibility for its contents and the suggested recommendations herein.

The next meeting of the Group will focus on ways to strengthen verification of and compliance with the nuclear nonproliferation regime.

## **II. Potential common ground: Observations and Policy Prescriptions**

The Strategy Group aims to identify and further develop the basis for forging consensus or near-consensus on creative but realistic approaches that address the key nuclear proliferation challenges. At its first session, a number of a broad range potential common ground issues relevant to the regime as a whole (A) were identified. More focused discussion followed regarding specific proposals (B) to eliminate the threat of fissile material, both in the civilian and military sectors.

### **A. Potential regime-wide common ground**

1. The political will to find and secure common ground no longer exists as it did at the time of the 1995 and 2000 NPT review conferences. It would be more appropriate to ask what needs to be done to re-create common ground. The following general policy prescriptions were identified as potential common ground issues provided the right mix of political will, leadership and realistic expectations exist to implement them:
  - a. Standardize the Additional Protocol
  - b. Promote nuclear-weapons-free zones (NWFZ) as mechanisms to address both nonproliferation and disarmament concerns
  - c. Promote nonproliferation and disarmament training
  - d. Reaffirm Article IV rights for states in full compliance while enforcing its conditionality on Articles II and III, whereby states in violation of their nonproliferation obligations forfeit their rights under Article IV
  - e. Maintain moratoria on nuclear testing until the entry-into-force of the CTBT
  - f. Further reduce tactical nuclear weapons
  - g. Combine cooperative threat reduction (CTR) and arms control measures in a unified approach
  - h. Respond swiftly to NPT withdrawals
  - i. Strengthen the NPT review process
  - j. Re-evaluate the role of political blocs and likeminded states and coalitions
2. Further strengthening nonproliferation measures must be packaged with equal obligations on the NWS. However, since restoring a balance of obligations will not be possible under the present circumstances, progress could be made by taking incremental steps. Discussions regarding common ground need not be limited to balancing all pillars of the Treaty if progress can be made in one.
3. U.S. nonproliferation policy has shifted the focus from the weapons themselves to the actors which obtain or seek to obtain them. It will therefore be important to stress the causal linkage between the continued role and maintenance of nuclear weapons and the justifications for proliferation and highlight the unique threat posed by these weapons.
4. Nuclear disarmament needs to be technically defined. It not only entails a numerical reduction of nuclear weapons, specifically in the context of transparency, verification and irreversibility, but should also include the role of nuclear doctrines and the overall relevance of nuclear weapons.

5. As part of incremental steps towards strengthening the regime, disarmament measures acceptable to the nuclear-weapon states (NWS), such as negotiations on a fissile material cut-off treaty (FMCT), should be identified and pursued.
6. New ways for the regime to accommodate the three NPT non-parties must be explored in a way that does not recognize them as a NWS or without them claiming recognition. The FMCT may provide such a solution, but the negotiation of such a treaty is already fraught with a number of challenges. While the U.S.-India nuclear agreement is widely criticized for undermining nonproliferation objectives, viable alternatives are also lacking.

## **B. Possible Ways and Means to Eliminate the Threat of Fissile Material**

7. One of the primary issues in which there is considerable common ground is the security of fissile material, including physical protection and accounting measures. Strengthening these measures appears to be less a matter of developing mechanisms and strategies than expanding and strengthening what is already there, including resolution 1540, the CPPNM, the GTRI, as well as IAEA safeguards.

### ***Peaceful use of fissile material***

8. Before states can be expected to renounce fuel cycle activities in return for an assured supply of fuel, criteria to guarantee such supply needs to be practical and clearly defined. It would be difficult for states to rely on a vague notion of assurance of fuel supply for something as important as energy security, particularly since major powers are seeking energy sources around the world to sustain their own energy requirements.
9. Establishing multilateral fuel cycle facilities may not capture the hard proliferation cases. States determined to develop a nuclear weapons option are not likely to support the concept unless facilities are built on their territories. However, as opposed to a national facility, a multilateral facility would place political and technical constraints on the host country. The establishment of extraterritoriality would greatly increase the cost for the host country to seize such a facility.
10. Pilot multilateral facilities, such as proposed by the Russian Federation could address some of the practical concerns and could provide momentum for this approach.
11. While recognizing the efforts by the IAEA so far, the Agency should promote the concept of multinational fuel cycle facilities through regional initiatives, as it is doing in the case of the Additional Protocol. G-8 endorsement of this approach would demonstrate strong support for the concept. The IAEA could also be an authorizing agent for hybrid, public/private endeavors.
12. The establishment of nuclear research centers around the world involving developing countries in the development and sharing of new technologies may increase the willingness of these countries to forgo fuel cycle activities of their own.

13. A dialogue with industry should be initiated to promote research and development into proliferation resistant nuclear power reactors.

***Combating nuclear terrorism***

14. Phasing out the use of highly enriched uranium in the civilian sector would have limited negative impact on most states given its limited use. The most significant obstacles to this approach are neither technical nor economic, but rather political in nature. Options that would allow progress on this issue include:
  - a. Widely disseminating scientific evidence and demonstrating the feasibility and benefits of minimization.
  - b. Technical arguments in favor of conversion will be more persuasive if the United States and Russia accelerate their own conversion programs.
  - c. The United States should rescind its recent relaxation of limitations on the export of HEU since this reduces the incentive for conversion to LEU.
  - d. It should be stressed to the Non-Aligned Movement (NAM) states that HEU minimization does not impede on Article IV of the NPT, and that it is a non-discriminatory measure applying to both NWS and NNWS.
  - e. Outreach efforts linked to 1540 may be useful to overcome the apparent complacency about the dangers posed by nuclear terrorism and the potential international ramifications of such an attack.
  - f. While pursuing initiatives to reduce HEU in the civilian nuclear sector, all options to verify the permanent removal of nuclear materials from the stockpiles of the NWS should be explored.
15. Any initiative to reduce/eliminate HEU in the civilian sector must be non-discriminatory in nature, and apply equally to NWS and NNWS. However, linking progress to disarmament initiatives is likely to lead to inaction.
16. Many countries do not consider the issue of HEU elimination as a global issue but specific to certain countries and certain facilities in particular. It is primarily an issue for the developed world where most of the source material is located. The United States and Russia (with the largest stocks of HEU) should take the lead in minimizing their own HEU stocks to build confidence in broader efforts to address the issue.
17. Existing initiatives to secure fissile material should be strengthened, promoted and expanded. These include the IAEA Code of Conduct, the GTRI and the implementation of Security Council resolution 1540.
18. Existing export control regimes should be strengthened by changing the ways in which they operate, including introducing a weighted voting system, requiring as a condition of supply adherence to the Additional Protocol and strengthening membership criteria and compliance mechanisms.
19. The implementation of Security Council resolution 1540 could be strengthened by:
  - a. Establishing means and methods for differentiating legitimate and illegitimate trade including improvements in reporting and transparency measures.

- b. Developing of model laws and legislation which may be tied to existing customs laws and regulations, such as the World Tariff Code.
  - c. Strengthening the Security Council’s monitoring capabilities along the lines of the Counter Terrorism Committee (CTC).
  - d. Encouraging companies and banks to incorporate nonproliferation considerations into their decision making.
  - e. Promoting universal adherence to the Convention on the Physical Protection of Nuclear Material (CPPNM).
20. Despite the unanimous adoption of Security Council resolution 1540, significant skepticism remains among many states about the resolution and its application to all states. A broader understanding needs to be developed about the role of the 1540 approach in strengthening the nonproliferation regime.
21. Regional activities in support of the implementation of resolution 1540 should be expanded and supported. Regional initiatives would allow a bottom-up approach to the implementation of the resolution. The following approaches were identified as ways to engage states in this manner
- a. A group of like-minded states could engage “friendly” states or trading partners in the developing world on an ad-hoc basis.
  - b. International organizations, including the IAEA and groups such as the G-8, could create model implementation systems which would be designed to fit the needs of individual countries.
  - c. Needs assessments should be conducted to determine which measures individual states should fulfill to provide the greatest benefit for the nonproliferation regime.
22. Cooperation among international organizations to prevent the illicit trafficking of nuclear material is not sufficient. Cross-cutting efforts between existing organizations and regimes should be promoted to strengthen the barriers to illicit trafficking. Industry should be involved in formulating and implementing measures to prevent these activities.
23. The scope of illicit supply networks needs to be further examined. This would require a distinction between supply networks run by states and legitimate commercial supply networks which may be used by proliferators and non-state actors. Nuclear smuggling should also be examined in the broader context of arms smuggling in general, as some of the persons acting within the AQ Khan network were also those engaged in the conventional arms black market

***Prospects for a Fissile Material Cut-Off Treaty***

24. Maintain and expand moratoria on fissile material production and commence FMCT negotiations without conditions.
25. Given the importance of such a treaty, as well as the unlikely prospects for its negotiation, pursuing tentative steps to accomplish limited goals may help to build momentum for an FMCT. Such steps would entail:
- a. A political declaration by the NWS and the de-facto 3 not to produce fissile material for weapons purposes

- b. Securing and consolidating military fissile material with the aim of eventual elimination
  - c. Negotiating a framework FMCT encompassing basic norms and transparency and voluntary measures while setting a timetable to address verification and stocks
26. Due to the position of many states that an FMCT must include verification provisions, a draft declarations protocol could help determine what transparency measures for such a treaty could look like.
27. A series of managed inspections with surrogate sensitive materials may provide insight into the risks involved in the practice of verification.
28. An FMCT which took into account existing stocks would entail knowledge of the amount of fissile material held by various states. The compilation of a fissile material inventory prior to negotiations may provide some insight into what such a treaty would be dealing with.
29. A decision will have to be made as to whether an FMCT would encompass fissile material for military purposes altogether, or only apply to nuclear explosive devices. An exemption for naval reactors would pose serious difficulties for any verification mechanism, however, key states, including the United States, are averse to putting naval reactors on the table in FMCT negotiations.

### **III. Taking stock after 2005: Does common ground still exist?**

This exploratory question was addressed by two Strategy Group members who identified specific areas where the group could pursue practical ways to promote agreement, if not consensus. Since this Strategy Group meeting was the first of a series of meetings, each focusing on a different aspect of the nuclear nonproliferation regime, this introductory session considered potential common ground issues for the regime as a whole.

It was pointed out that the past five years have arguably been the most challenging in the treaty's 35 year history. Options on how to face the challenge presented by North Korea are running out despite that country's announced withdrawal from the NPT more than three years ago and subsequent actions in pursuit of nuclear weapons. Clear evidence exists that other states, such as Iraq, Iran and Libya, have previously been, or continue to be, in noncompliance with their IAEA safeguards obligations. While the IAEA Board of Governors found Iran to be in noncompliance with its IAEA safeguards agreement after 18 years of non-transparent behavior, there is presently no agreement on how to collectively respond to this concern. Despite strengthened export control measures and international cooperation, the acquisition of nuclear material by sub-national terrorist groups and clandestine networks such as that of Dr. A.Q. Khan intensified, especially in the post 9/11 era. These challenges have caused many to question the "inalienable right" of states to acquire and use nuclear material and technologies for peaceful uses, opening an additional rift between those intent on limiting access to certain nuclear technologies and those that defend the right to nuclear technology as immutable. Moreover, it has proven to be impossible to coerce the only three states (India, Israel and Pakistan) that have not joined the NPT —now armed with nuclear weapons – to join the Treaty. Instead, at least one of them – India – has now been offered a lucrative nuclear cooperation deal.

Furthermore, it was emphasized that the majority of states believe that the states with nuclear weapons, in particularly those recognized by the NPT, have failed to comply with their legal disarmament obligations, or in some cases have walked away from undertakings crucial to the indefinite extension of the Treaty. The view was also held that the updated U.S. National Security Strategy document is indicative of the wide gap in approaches to nonproliferation and disarmament. The United States was considered to be selective in its support for non-proliferation efforts, finding value in some agreements or aspects of certain agreements such as the NPT, while disregarding others. The National Security Strategy document also reiterates the U.S. interest in regime change and its shift in focus from the weapons themselves to the possessors.

The 2005 Review Conference was widely considered as a missed opportunity by the NPT States parties to address these and other proliferation challenges and to consolidate efforts to address long-standing disarmament issues. Given the current political and security environment, it is doubtful as to whether common ground does still exist as it did at the time of the 1995 and 2000 NPT review conferences. It begs the question whether in fact it would not be more appropriate to ask what needs to be done to re-create common ground. One analyst observed that two different perceptions have emerged from the Conference in regard to finding common objectives: 1) that States parties should build on the agreements reach in 2000, and 2) that the 2000 agreements, in particular the 13 practical steps, were a mistake, and consensus final documents in general hold

less value. But, it was also emphasized that, in spite of the Treaty's difficulties, the vast majority of States parties continue to support the goals of the NPT, and agree on the need to build on this deep commitment to find a way forward.

The following issues were identified as potential common ground given the right mix of political will, leadership and realistic expectations. It was pointed out that the apparent imbalance in the list is indicative of the current impasse between states on how to strengthen the regime given its focus on nonproliferation initiatives and measures to restrict peaceful uses, without equal emphasis on nuclear disarmament.

Nonproliferation:

- 1) *Standardize the Additional Protocol:* In order gain acceptance for such an additional restriction, progress would need to be made in other areas, including disarmament.
- 2) *Strengthen efforts to address the illicit trafficking of nuclear material:* Resolution 1540 will play an important role in this regard. However, concerns about the implementation of the Resolution will have to be addressed in order to allow states to fulfill their obligations. As many developing States have yet to carry out 1540's basic requirements, clear gaps exist in nuclear control mechanisms worldwide which may be exploited by terrorist groups or illicit networks. These controls need to be strengthened, including through national and regional training seminars.
- 3) *Minimize the need for HEU in the civilian sector and promote research and development in proliferation resistant nuclear power reactors:* Initiatives by the IAEA and Norway have provided technical evidence in support of the goal of minimizing civilian HEU use. However, key states have linked their support for such a measure to the elimination of military stockpiles. Efforts to further develop proliferation resistant technologies need to be further pursued, and it was pointed out that technological progress in this regard should be fully explored. This would include activities under the Global Nuclear Energy Partnership (GNEP), technologies that enable recycling and consumption of spent fuel without separating plutonium, and new safeguards technologies.
- 4) *Effectively deal with noncompliance:* Cooperation with a state found to be in noncompliance is already prohibited in the Treaty and the 2000 Review Conference final document. However, agreement to suspend such cooperation will be dependent upon whether such violations are defined in terms of Article I, II, and III of the NPT, or IAEA safeguards agreements. Lessons must also be learned from safeguards violations, including the cases of Iran and South Korea. It may be useful to develop criteria for distinguishing between the degree of seriousness of violations as well as the violator's willingness to take steps to correct the matter. Different sets of responses could be tailored to address violators appropriately. One analyst, however, pointed out that international safeguards and the associated inspection process can only be credible if its neutrality can be ensured. It was recalled that the United Nations Monitoring, Verification and Inspection Commission (UNMOVIC) process was undermined by the urge to go to war and that the IAEA's inspections in Iran are being sidelined as a result of political considerations.
- 5) *Engage the de-facto 3 in a pragmatic way:* Calls for the D-3 to join the Treaty have proven ineffective and more pragmatic approaches are needed. However, any effort to draw these states into the regime by rewarding them with nuclear cooperation at the

- expenses of States parties in full compliance with their treaty obligations would have a negative impact on the treaty's credibility in the long run.
- 6) *Promote nonproliferation and disarmament training*: Shifting the emphasis from education to training may yield advantages since this approach could address the lack of experience and resources required to implement more demanding nonproliferation obligations such as those set forth in Security Council resolution 1540.

#### Peaceful Uses of Nuclear Energy:

- 7) *Multilateral approaches to the nuclear fuel cycle*: The proposal put forward by IAEA Director-General ElBaradei to establish multilateral fuel cycle controls was considered the most promising initiative to further safeguard peaceful nuclear energy from diversion to nuclear weapons programs. In addition to strong support at the Review Conference, the UN Secretary-General and his High Level Panel on Threats, Challenges and Change also advocated this initiative. Concerns over Iran's nuclear program have also highlighted the importance of this approach, and President Putin's proposal to establish a multinational enrichment center in Russia and enrich uranium for Iran could both put pressure on Iran to suspend its fuel cycle activities and demonstrate how such a multilateral approach may work in practice. While there may be some merit to technology restraints (for example restricting enrichment capabilities only to those states that have the capacity already), and expanding the use of export controls, the renewed demand for nuclear power would make any further restrictions on the use nuclear technology for peaceful purposes unsustainable. Moreover, such restrictions would require a reinterpretation of Article IV. Multilateral arrangements will need to address both the issues of the availability and the reliability of supplies of nuclear fuel. States would need to be ensured that these arrangements could be reliable enough to forgo the development of national fuel cycle facilities. Concerns regarding Iran have highlighted the importance of this approach, and President Putin's proposal to establish a multinational enrichment center in Russia and enrich uranium for Iran could both put pressure on Iran to give up its fuel cycle activities and demonstrate how such a multilateral approach may work in practice.
- 8) *Enhance the physical protection of nuclear material, nuclear safety standards and control over radioactive sources*: The amendment of the Convention for the Physical Protection of Nuclear Material (CPPNM) is an important step, and efforts must now be pursued to universalize the Convention. Following the strong support at the Review Conference for IAEA efforts to enhance physical protection, including the IAEA Code of Conduct, it is now a matter of fully implementing these measures and providing assistance to do so.

#### Nuclear Disarmament:

- 9) *Maintain and expand moratoria on fissile material production and start unconditional FMCT negotiations*: While China has not joined the moratorium on fissile material production, it has also not expressed opposition to it, and a joint declaration by the NPT nuclear weapons states (NWS) regarding such a moratorium could signal positive progress towards capping the production of nuclear weapons material. This step would also put pressure on the 3 de-facto nuclear weapon states to accept similar obligations. It was pointed out that the U.S.-India nuclear cooperation deal, however, missed an opportunity to cap India's production of military fissile material, as the inclusion of such

a pre-condition could have brought India closer to adherence with the principles of the non-proliferation regime. In regard to negotiations on a fissile material ban treaty, it was recalled that the 1995 Shannon mandate does not preclude any delegation from raising issues related to the scope and verification of the Treaty. Negotiations could therefore commence without preconditions, thereby signaling another positive development in the nuclear disarmament field.

- 10) *Maintain moratoria on testing until the entry-into-force of the CTBT*: While the priority remains for Annex II states to sign and ratify the CTBT, a large number of other countries have not yet signed or ratified the treaty. Increased ratifications amongst these states would place pressure on the Annex II States to do so as well.
- 11) *Combine CTR and arms control measures in a unified approach*: While transparency, irreversibility and verification remain of utmost importance to measure progress towards nuclear disarmament, it may be useful to consider these issues in a redefined context. In this regard it would be necessary to recognize the spectrum of the nuclear weapon sector, as it consists of operational weapons, weapons held in reserve, weapons that have been withdrawn for dismantlement, and weapons-grade materials. Historically, CTR programs have focused on the back end of this spectrum while arms control agreements have focused on the front end. A combination of CTR and arms control measures may provide a broad unified approach to the entire nuclear weapons sector. It would also increase transparency and facilitate the pursuit of irreversibility.

#### Institutional mechanisms and the strengthened review process

- 12) *Swift response to withdrawals*: Significant support existed at the Review Conference for proposals to discourage withdrawals from the Treaty and establish mechanisms to address nuclear technology held by the withdrawing state. Given strong U.S. support for this approach, the U.S. delegation's last minute withdrawal of support for the text prepared by the chairperson of Main Committee remains puzzling.
- 13) *Strengthening the review process*: It was unfortunate that the Review Conference could not consider in any substantive manner proposals to further strengthening the review process, especially given events during the past review cycle. While commonly accepted that the first session of the Preparatory Committee session for the 2010 Conference will be held in 2007, its mandate is unclear. The French position that each Review Conference "stands on its own" and the U.S. opposition to recognize the outcome of the 2000 Conference, raise a question about the future utility of the strengthened review process.
- 14) *Re-evaluate the role of likeminded states and coalitions*: Like-minded states and coalitions, such as those leading to the successes of 1995 and 2000 can still play an important role provided they share fundamental principles and given the necessary political will. The view was expressed that these groups are no longer effective, are mostly symbolic in nature, and in the case of the New Agenda Coalition, have become more of a political hurdle for its members than an effective political platform. While likeminded coalitions remain important vehicles in finding and strengthening common ground, great care should be taken not to force like-mindedness on states where the political will or the belief in common objectives do not exist.

## Discussion

### *Change in strategic environment*

The Strategy Group considered these and other potential common ground issues against the backdrop of the change in the strategic environment since the end of the Cold War. It was noted that, during the 60's, the United States and the Soviet Union concluded that proliferation problems were best addressed through multilateral agreements based on a set of technical expectations. However, changes in the international political environment and advances in technology have not been met with real attempts to consider the overall consequences of these developments. It was observed that, as opposed to a decade ago, the NPT may no longer be the only framework for addressing nuclear proliferation concerns, and that the non-proliferation regime is moving towards a framework which encompasses additional mechanisms. It was suggested that a new, broader framework still needs to be defined; one which should recognize that the NPT today has a different meaning for different states.

### *Package vs. Incremental approaches*

A number of participants stressed that the only way to find common ground would be to maintain a balance of obligations. Such a balance may either involve going back to the principles embodied in the NPT, or creating a new “grand bargain.” In light of the current emphasis on nonproliferation, it was suggested that movement in an incremental process would entail more obligations on the non-nuclear-weapon states (NNWS) while maintaining the status quo for the NWS. Further strengthening nonproliferation measures must therefore be packaged with equal obligations on the NWS. It was asserted that this is not a matter of holding one process hostage to the other, but instead addressing the dynamics that motivate the pursuit nuclear weapons, especially given the role of nuclear weapons in the military doctrines of NWS. It was pointed out that this dynamic works the other way around as well: if the NWS can recognize nonproliferation gains from nuclear disarmament and justify such gains to their populations, then it would be easier to engage these states in nuclear disarmament. For example, the United Kingdom's consideration of nuclear disarmament has received little domestic support because it is unclear what benefits would be incurred.

Some participants, however, argued that restoring a balance of obligations will not be possible under the present circumstances and that if progress is to be made, it will have to be done in an incremental fashion on largely technical issues, such as advancing the Additional Protocol as the safeguards standard and strengthening the physical protection of nuclear materials and facilities. It was also emphasized that, while maintaining a balance is important, discussions regarding common ground need not be limited to balancing all pillars of the Treaty if progress can be made in one. Security Council resolution 1540 was highlighted as an issue with traction, and it was suggested that there is sufficient momentum to strengthen the nonproliferation regime by promoting the full implementation of the requirements set forth in the resolution. Other suggestions regarding potential avenues for progress included creating new and strengthening existing nuclear-weapons-free zones (NWFZ) as mechanisms to address both nonproliferation and disarmament concerns; further reductions in tactical nuclear weapons; and acknowledging that states in violation of their nonproliferation obligations forfeit their rights under Article IV while at the same time reaffirming those rights for states in full compliance.

### *U.S. Approaches to Nonproliferation*

It was observed that, contrary to the widely held norm that nuclear weapons constitute a unique danger which should be controlled and eliminated, current U.S. nonproliferation policy has shifted the focus from the weapons themselves to nuclear weapon possessors – both current and potential – depending on political and security considerations. It was emphasized that this approach is diametrically opposed to the NPT framework and, until reconciled, it would be difficult to make much progress in strengthening the regime as a whole. It was also suggested that U.S. policy has always recognized a distinction between who hold nuclear weapons, with Israel being a key example. The question was asked whether there may be some merit to the U.S. approach, and whether there is something to be learned from it. If a distinction between who is allowed to have nuclear weapons is to be made, it raises a related question about the criteria used to determine the allowance of nuclear weapons. Since the only existing international recognized criteria is embodied in the NPT, it was questioned how such criteria would be developed otherwise. It was also argued that a more fundamental difference in the U.S. approach is its belief that Article VI no longer matters. It was pointed out that it was hopeless to expect the Bush Administration to change its policy given preoccupation with the war on terrorism, and dealing with nuclear threats in North Korea and Iran. The challenge would be to convince the United States that progress on nuclear disarmament could have significant pay-offs.

### *Nuclear Disarmament*

While generally accepted that progress towards nuclear disarmament is needed, it was also recognized that it would be important to define what is technically meant by disarmament. Although Article VI and the 2000 Review Conference's "13 practical steps" define the process broadly, this framework is not sufficient and would require further definition. In this context, the question was posed whether nuclear disarmament entailed a numerical outcome or the direction in which disarmament efforts were moving. If disarmament were only a matter of reducing the number of weapons, then the NWS can argue that progress has been made since 2000. However, this approach does not address the issue of nuclear doctrines and the overall relevance of nuclear weapons. Another participant argued that reductions are not enough and that the NWS have to state clearly that at some point nuclear weapons will be completely eliminated. In this regard, it was recalled that the NPT NWS "unequivocally" undertook at the 2000 Review Conference "to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament." Several participants agreed that there is a need to find disarmament measures which the NWS would find acceptable. Efforts to start negotiations on an FMCT were considered particularly relevant for this purpose.

## **IV. Strengthening Article IV: Plugging the Fuel Cycle Loophole \***

\* **Note:** The topic "Plugging the fuel cycle loophole" was deliberately chosen to provoke debate on the inalienable right to nuclear energy for peaceful purposes.

In spite of polarized arguments calling for restrictions on the nuclear fuel cycle on one hand and asserting the absolute inalienability of the right to peaceful nuclear technology on the other, most delegations at the 2005 Review Conference expressed support for the IAEA's report on "Multilateral Approaches to the Nuclear Fuel Cycle." Although Main Committee III of the 2005 NPT Review Conference did not adopt agreed language, the substantive part of its draft report

was negotiated in full. It called for states to examine “proposals and options related to the nuclear fuel cycle, including those outlined in the recent report of the IAEA expert group...” The ill-fated disarmament and nonproliferation segment of the draft World Summit outcome document also offered possible guidance on ways to find a palatable solution to this prickly issue.

The Strategy Group grappled with a number of pertinent questions related to the topic, such as how to overcome practical and political concerns about multilateral approaches to the fuel cycle; whether limits to the development of fuel cycle technologies should be accompanied by demonstrable and significant progress on disarmament; what it will take to standardize the Additional Protocol as the universal level of compliance; what can be done to enhance the IAEA’s capability to verify the peaceful application of nuclear material; and whether the “inalienable right” can be denied.

The topic under discussion was aptly protested by some and it was pointed out that recognizing this right in Article IV of the NPT was the result of “thorough and sturdy negotiation positions” of a number of NNWS during the 1968 negotiating process. It was further emphasized that Article IV was intended to include enrichment and reprocessing technologies when it was negotiated. From the inception of the NPT, the renouncement of nuclear weapons was clearly understood not to constrain discriminatorily any aspect of civilian nuclear energy. However, it has become necessary to reconcile the peaceful use of nuclear energy and the prevention of its misuse, since the same technology confers a nuclear weapons option. Different restrictive strategies have been developed to provide such reconciliation. These strategies have been either discriminatory or cooperative in nature. The Baruch plan was a key example of a discriminatory strategy, while Atoms for Peace was a key example of a cooperative strategy. The adoption of the NPT codified a norm of nonproliferation as well as international verification. Given the balance of obligations in the Treaty, defining pre-existing rights runs the risk of undermining the nonproliferation regime created by the Treaty. However, it is possible to revisit Treaty provisions, as had been done with Article V. Any approach to modify the regime would have to be carefully approached and be universal in application.

Two approaches were identified as dominating the debate over how to address Article IV. The first is the Bush Administration’s proposal for the Nuclear Suppliers Group (NSG) to agree not to transfer enrichment and reprocessing technologies to states which do not already possess them in return for supply guarantees. This initiative is also reflected in President Bush’s Global Nuclear Energy Partnership (GNEP), which distinguishes between “fuel cycle states” and “reactor states.” It was argued that these proposals may have serious difficulty attracting middle-range states which would want to have the capability to engage in advanced technology and to be self-sufficient in nuclear fuel. These proposals also create additional discriminatory categories of states, posing a political problem.

The second approach is the multinationalization of the nuclear fuel cycle, which avoids the creation of additional haves and have-nots by establishing a multilateral arrangement for sensitive nuclear activities while guaranteeing the supply of nuclear fuel and offering options for spent fuel management. The five options generated by the IAEA expert group on multilateral

approaches placed an emphasis on “bottom-up” voluntary approaches responsive to market considerations rather than a “top-down” approach which was irresponsible to the market.

Neither approach is likely to be sufficient. On the one hand the imposition of additional restrictions on the peaceful use of nuclear energy will be rejected on political grounds, while on the other approaches based on voluntary restraint will not capture the hard cases in which states insist on developing national facilities for reasons of national pride, or their foreign policy or security agendas. It was also pointed out that a multinational framework can cut two ways. While allowing a multinational staff to maintain self control (by keeping an eye on one another), it could also result in increased access to sensitive information. The examples URENCO and EURODIF were cited as potential models for such multinational efforts.

## **Discussion**

### *Assurance of Supply*

A number of participants questioned whether compliance should be the only criteria to guarantee supply of nuclear fuel or if other considerations, particularly political considerations, would be taken into account. The point was raised that it would be difficult for states to rely on a vague notion of assurance for something as important as energy security, particularly since the major powers themselves are seeking energy sources around the world to sustain their own energy requirements. It was suggested that the proposal for assured supply should consider the conditions under which a state would lose its inalienable right, with Iran being a case in point. It was, however, also pointed out that the criteria to guarantee supply need to be practical and clearly defined. For example, would failure to comply with resolution 1540 detract from this right? In this regard it was noted that several states have yet to submit their resolution 1540 reports and that the level of implementation in most states is very limited..

It was recognized that proposals in this regard were dependent upon assumptions regarding the future of nuclear energy use. The number of nuclear reactors in the future poses very different considerations for proliferation, and one of the tasks is to consider the direction of the industry. In light of the role of private industry, there was some agreement that it will be beneficial to bring them into such discussions.

There was some disagreement regarding the technical questions of the assurance of supply and whether it will be technically possible to match political assurances given the differing enrichment needs of different reactors. One participant indicated that, while it is true that different reactors require different enrichment levels, it is possible to establish a bank to blend down fuel for any reactor requirement. Another highlighted the fact that types of fuel fabrication are highly proprietary, and that, even if there is a stock of uranium, if no one is willing to fabricate fuel for a given facility, then there is no assurance of supply. For example, if Russia does not produce fuel for Bushehr reactor in Iran, then no one will.

### *Multinational Fuel Cycle Facilities*

A number of questions were raised regarding the proposed multilateral fuel cycle facilities, including whether or not the IAEA was doing enough to promote this approach and address its practicality, whether or not it may be able to capture the hard cases which must be addressed,

and where such facilities would be located. It was noted that IAEA Director-General ElBaradei has made it clear that the IAEA has done all that it can to promote this proposal and that it is now up to states. It was, however, suggested that the IAEA, as in the case with the promotion of the Additional Protocol, could take a similar approach by promoting the concept through regional initiatives. It was also suggested that G-8 endorsement of this approach would demonstrate strong support for the concept. Another suggestion was that the IAEA could be an authorizing agent for hybrid, public/private endeavors. If such an option were provided on commercially available terms, only then would the development of national facilities could become a sharper indicator of a weapons program. Given the wide array of proposals in this regard, it was suggested that the IAEA should draw on all of the proposals together. A similar suggestion was to combine the IAEA proposal with GNEP. It was considered that the establishment of nuclear research centers around the world which brought developing countries into the development and sharing of new technologies may increase their willingness to forgo fuel cycle activities of their own.

There was some agreement that the multilateral fuel cycle proposal may not capture the hard proliferation cases. States determined to develop a nuclear weapons option are not likely to support the concept unless a multilateral facility was built on their own territory. This raises the question of where such facilities would be located and who would use them. Establishing multilateral or regional facilities in countries of proliferation concern would clearly not be seen as a positive development and not be supported. In this regard it was recalled that Iran offered to host a multilateral facility which triggered a discussion over the costs and benefits involved of hosting a multilateral facility. On one hand, it was recognized that there would be a transfer of technical knowledge and that the host country could seize control of the site if it so decides. However, as opposed to a national facility, a multilateral facility would place political and technical constraints on the host country. The establishment of extraterritoriality would greatly increase the cost for the host country to seize such a facility.

There was wide support for the creation of a pilot multilateral facility, which would likely be tied to Russian proposals both in general and in regard to Iran. It was recognized that such a pilot facility would allow some of the practical considerations to be addressed, would provide an example of how the proposal would work, and provide momentum for such an approach. It was also suggested that, while the Russian proposal was primarily driven by commercial interest, this was not necessarily a negative development.

## **V. Combating nuclear terrorism: Minimizing the nuclear threat in the civilian sector and preventing illicit trafficking of nuclear material**

Given the nature of the threat, the Strategy Group devoted two sessions to consider minimizing the nuclear risk in the civilian sector and preventing illicit trafficking of nuclear material.

### **A. Minimize civilian the use of HEU**

Proposals to minimize the use of highly enrich uranium (HEU) in peaceful nuclear activities drew significant interest and little opposition at the 2005 Review Conference. Although not adopted, the substantive part of the Main Committee III Chairperson's report implied agreement

that the NPT States parties will “seek to further the development of a new generation of proliferation-resistant nuclear power reactors and to minimize the need for highly enriched uranium for peaceful purposes.” The initiative to phase out civil use of HEU also is being pursued in the context of the IAEA. The Strategy Group considered, among other issues, the major technical, economic, and political obstacles to phase out the use of HEU in the civilian nuclear sector; the potential inducements available to overcome these impediments; and the possible steps that could be taken to de-legitimize commerce in and use of HEU in the civilian sector.

It was recalled that the motivation to address the issue of the threat of civilian HEU use is based on three considerations: (i) HEU is the material of choice for terrorists seeking nuclear weapons; (ii) there are between 50 and 100 tons of HEU in the civilian sector globally, much of which needs to be better secured; and (iii) there are very few civilian uses for HEU, most of which can be substituted for low enriched uranium (LEU). It was pointed out that a number of initiatives to convert facilities to LEU use are ongoing, and proposals to phase out the civilian use of HEU enjoyed strong support at both the 2005 Review Conference and the 2005 IAEA General Conference. In this regard, reference was made to a Norwegian paper introduced at the Review Conference which included four main proposals: (i) encouraging all states to consider additional means to control existing stocks of HEU; (ii) minimizing the use and commerce in HEU with a goal of elimination as soon as technically feasible; (iii) a commitment by all states to convert HEU facilities to LEU as soon as technically feasible; and (iv) discouraging all states from taking on new civil HEU projects with the exception of down-blending and converting facilities. A call for an IAEA inventory of HEU was originally included, but was dropped due to the sensitive nature of such information.

It was emphasized that an HEU phase-out would have limited impact on most states since HEU is not widely used for commercial purposes. Moreover, there appears to be a growing consensus on this issue, and there are no deal breakers that would cause a stalemate. There are however, a number of potential obstacles, including: the cost of conversion and the commercial interests of radio-isotopes exporters. It was, however, pointed out that the most significant obstacles to de-legitimizing the commercial use of HEU probably are neither technical nor economic, but rather political in nature. These obstacles pertain to the relative importance of combating nuclear terrorism vis-à-vis other international challenges, including nuclear weapons disarmament; strong reaction against any hint of further limiting peaceful uses of nuclear energy; the perception of the phase-out initiative as one mainly of interest to the developed world; and the view of some states that HEU is a strategic resource to leverage concessions on military HEU stockpiles.

A number of options were mentioned that would allow progress on this issue. (i) Wide dissemination of scientific evidence and demonstrating, through example, the feasibility and benefits of minimization—reference was made to the International Symposium on Minimization of HEU in the Civilian Nuclear Sector held in Oslo from June 17-20, 2006 in this regard; (ii) technical arguments in favor of conversion will be more persuasive if the United States and Russia accelerate their own conversion programs; (iii) the United States should rescind its recent relaxation of limitations on the export of HEU since this reduces the incentive for conversion to LEU; and it should be emphasized to the Non-Aligned Movement (NAM) states that HEU

minimization does not impede on Article IV of the NPT, and moreover, that it is a non-discriminatory measure applying to both NWS and NNWS. It was pointed out that it would disproportionately affect the NWS since these states have the largest stocks of HEU.

It was mentioned that, while the initiative is gaining momentum among a diverse group of states, some states have not internalized the dangers posed by nuclear terrorism and the potential ramifications of such an attack. Outreach efforts linked to 1540 may be useful in attempting to overcome such complacency as well as the inclination to link steps to counter nuclear terrorism with progress on disarmament. The speaker also suggested that while pursuing initiatives to reduce HEU in the civilian nuclear sector all options to verifying the permanent removal of nuclear materials from the stockpiles of the NWS should be explored including in the context of FMCT negotiations and the full implementation of the Trilateral Initiative.

## **Discussion**

### *Scope of the HEU Issue*

There was some agreement that the issue of HEU elimination was not a global issue but specific to certain countries and certain facilities in particular, and that it was primarily an issue for the developed world where most of the source material is located and where the threat of nuclear terrorism is the greatest. On this point, there was additional agreement that the U.S. and Russia, as states with the largest stocks of HEU, should take the lead to build confidence in broader efforts to address the issue. Consequently, it was noted that ground now exists to reinvigorate the Trilateral Initiative as Russian may be more willing to bear the costs involved. It was also suggested that the Initiative should be linked to a fuel bank, with material from weapons being placed into the bank to provide a supply of fuel for civilian usage.

### *Linkage to Military Stocks*

A number of participants stressed that such any initiative to reduce/eliminate HEU must be non-discriminatory in nature, and apply equally to NWS and NNWS. Some also expressed the view that there was a linkage between civilian and military stocks. Given that their much larger stocks of HEU the suggestions was made that the NWS should take care of their own stocks before worrying about the lesser amounts elsewhere. Other participants argued that, due to the political environment, it would be difficult to get agreement on a universal norm and that efforts should focus on acute cases where there are large stocks and/or poor security. Others argued that the risks associated with HEU are so severe that linking the initiative to eliminate this risk to progress on disarmament is not something that states have the leisure to do since the result would be a lack of action.

### *Security and Physical Protection*

Many participants stressed the need for greater efforts to secure fissile material, particularly since this is a norm which has already been established by measures such as the IAEA Code of Conduct. Increasing such efforts may be done through the promotion of the GTRI as well as the implementation of 1540.

## **B. Prevent the illicit trafficking of nuclear material**

Despite the export control measures implemented by members of the NSG and Zangger Committee, as well as other nuclear supplier countries, clandestine activities such as the A.Q. Khan network managed to route nuclear technologies and material to a number of proliferant states, including Libya, Iran and North Korea. The discovery of the Khan network and subsequent illicit trafficking activities has focused the international community's attention on this weak link in the nonproliferation regime. Significant agreement existed at the 2005 Review Conference on the need to prevent these activities. While most states recognized the utility of Security Council resolution 1540 in this regard, concerns remain about the ability to comply fully with all the requirements set forth in the resolution.

The Strategy Group considered ways to counter illicit trafficking networks and non-state actors seeking nuclear weapons and/or fissile material, including the relevant role of Security Council resolution 1540. It also examined what kind of assistance can be extended to states to improve and enforce export controls and physical protection mechanisms.

It was suggested that existing export control regimes should be strengthened by changing the ways in which they operate, including introducing such weighted voting system. It was also suggested these regimes include linkages to existing elements of the nonproliferation regime, such as requiring as a condition of supply adherence to the Additional Protocol. Other measures could include strengthening membership criteria and compliance mechanisms. Cooperative measures can also be used to assist countries with compliance, and a feedback loop may be created as a review mechanism.

With regard to the implementation of resolution 1540, it was suggested that three categories of activities would be needed. The first activity would consist of establishing means and methods for differentiating legitimate and illegitimate trade, including improvements in reporting and transparency measures. In this regard, it was recalled that proposals have been made to universalize the reporting requirements and for the Security Council to instruct the IAEA to develop a reporting model. The second entails developing model laws and legislation which may be tied to existing customs laws and regulations, such as the World Tariff Code. In all such cases, it will be important to find ways to place barriers to illicit trafficking which will not impede legitimate trade. Thirdly, strengthening the Security Council's monitoring capabilities along the lines of the Counter Terrorism Committee (CTC).

It was also suggested that companies and banks should incorporate nonproliferation considerations into their decision making. Voluntary measures in this regard may be a first step. In addition, the U.S. illicit activities initiative should be expanded to a more international initiative similar to the Proliferation Security Initiative (PSI). A campaign to universalize the Convention on the Physical Protection of Nuclear Material (CPPNM) was also considered to be a positive step.

## Discussion

### *Concerns over the 1540 approach*

Several participants noted that, in spite of the unanimous adoption of resolution 1540 and its application to all states, there is significant skepticism regarding its approach. One participant questioned whether the 1540 approach was indicative of a new top-down theory of multilateralism in which the Security Council determines national legislation. Another participant warned that support for the resolution should not be misinterpreted as support for export controls and that there continues to exist a deep suspicion amongst the NAM that, since the resolution essentially represents an agreement amongst the P5, the most powerful states are now dictating national law. Concern was also expressed that, given the imposition involved in the resolution, there was no sense of ownership for the countries which need to demonstrate more responsible behavior. It was suggested that there is a need to develop a broader understanding about the role of the 1540 approach in strengthening the nonproliferation regime. In this context, it was pointed out that while states may embrace the notion of national export legislation and regulations, effectively enforcing these measures nationally and internationally would require more proactive engagement by states than is likely present at the moment.

### *Assistance in implementation*

Many participants recognized and supported regional activities in support of the implementation of resolution 1540. It was asserted that such regional efforts allow a bottom-up approach to the implementation of the Resolution.

Two approaches were suggested to assist states in implementing the resolution: (i) a group of like-minded states (most likely a sub-group of the suppliers organizations) could engage “friendly” states or trading partners in the developing world on an ad-hoc basis; and (ii) international organizations, including the IAEA and groups such as the G-8 could to create model implementation systems which would be designed to fit the needs of individual countries. In this regard, the participants considered the possibility of establishing best practices to enable the full implementation of the resolution. It was suggested that it would be useful to look at what lessons could be drawn from other regimes, including in the conventional arms sector. A number of participants questioned the utility of best practices and cautioned against a one-size-fits-all approach. It was widely agreed that efforts to provide assistance and capacity building should avoid the temptation for the most powerful states, such as the United States to pressure into implementing measures in accordance with their own priorities as opposed to that of the priorities and means of the states in need of assistance. It was also suggested that needs assessments could be conducted to determine which measures individual states should fulfill to provide the greatest benefit for the nonproliferation regime.

### *Other Initiatives Addressing Illicit Trafficking*

It was noted that cooperation among international organizations in the illicit trafficking sphere was not encouraging. The IAEA illicit trafficking database, for example, depends on national governments and has limited participation. It was suggested that cross-cutting efforts between existing organizations and regimes should be promoted to strengthen the barriers to illicit trafficking. In this regard reference was made to potential cooperation between the International maritime organization (IMO) and the PSI. The role of industry was also considered as important

and that lessons could for instance be drawn from how the chemical industry was involved in formulating and implementing the Chemical Weapons Convention (CWC).

## **VI. Prospects for a Fissile Material Cut-Off Treaty**

Given the linkage between the need to address both the civilian and military use of fissile material, the Strategy Group was tasked to consider whether efforts to prevent the abuse of Article IV could be reinforced by the commencement of negotiations on a Fissile Material Cut-off Treaty (FMCT).

One Strategy Group member pointed to the irony that, in spite of the long-standing support for the FMCT's objectives and the agreed negotiating mandate, no progress has been made in formulating a treaty. A number of reasons were offered for this lack of progress: (i) the concept of an FMCT was devalued after the South Asian tests; (ii) the unique structure of the Conference on Disarmament (CD), which includes all states with nuclear weapons and operates by consensus; (iii) past linkages between three other core issues on the CD's agenda, i.e. security assurances, preventing an arms race in outer-space (PAROS), and nuclear disarmament. It was recalled that even though Russia and China accepted the idea of a discussion, rather than a negotiating mandate for PAROS in 2003, the United States was not prepared to discuss outer space issues. After a lengthy review, the United States subsequently declared that an FMCT could not be effectively verifiable, and rejected any mandate that included verification. The opinion was voiced that an FMCT may have become so devalued from a U.S perspective that it is no longer considered significant enough to warrant any compromise on other issues. It would therefore be difficult to persuade the current U.S. Administration that the treaty is worth any concessions. Given the expectation that agreement within the CD would be very difficult, if at all possible, other negotiating options could include an informal diplomatic mechanism, or an ad hoc committee of the General Assembly. It was, however, pointed out that incentives for states to participate in a framework outside of the CD would need to be considered. The underlying concern for those that believe that an FMCT remains the next logical step toward nuclear disarmament is whether or not there consensus still exist that it is the next logical step.

It was further suggested, therefore, that prospects for an FMCT are poor to non-existent. The question was asked whether an FMCT still remains worthwhile objective today. It was, however, pointed out that the objectives of an FMCT remain valid only if the treaty addresses both nonproliferation and disarmament, and that progress in this regard may instill a new momentum in the nonproliferation regime. Given today's security threats, an FMCT was considered as important as it was in the past, and, perhaps even more important. There used to be consensus amongst the Western Group, but with the U.S. position on verification, that has now changed. However, even if negotiations already began, the issue of verification would have arisen, with a conflict between those desiring comprehensive verification and those wishing to protect sensitive information.

While it is necessary to explore all possibilities to get negotiations started, it was pointed out that it would be unfortunate to rush to a result which would not be meaningful. In this regard it was considered necessary to consider how to incorporate the issues of stocks as well as verification in

the negotiations. It was emphasized that existing excess stocks can simply not be discounted given the sheer number of weapons that can be created by using this material. It was suggested that in order to address the stocks issue, transparency, security and accounting should be taken into consideration. It was also suggested that that states should report on efforts to prevent access to such stocks. In regard to verification, the notion that an FMCT is unverifiable was considered to be unfounded. It was recalled that verification provisions are already in place to ensure similar obligations required by the NNWS, i.e. not to produce or divert fissile material for military purposes. It was asserted that the principle of non-discrimination must also be maintained, and NWS and NNWS must be placed on the same footing.

In spite of the unlikely prospects for the negotiation of an FMCT in the near future, there was agreement that some progress will be needed to regain momentum for the treaty. In this regard, a phased approach that would allow some tentative steps to be taken at first in order to build such momentum was considered to be useful. It was suggested that the first step should be a political declaration by at least the NWS and de-facto NWS which should include commitments not to produce fissile material for weapons purposes; to establish appropriate accounting and security measures; and to enter negotiations on a legally-binding FMCT without preconditions. The next step could be negotiating a framework FMCT encompassing basic norms over fissile material and putting in place transparency and voluntary measures while at the same time setting a timetable to deal with more controversial issues such as stricter verification and stocks. Additional measures could be added to incorporate stronger verification and widen the scope of the treaty, as well as potentially address the use of HEU in civilian reactors, tritium, and naval reactors.

## **Discussion**

### *Incremental Approaches*

Several participants asserted that progress on an FMCT can only be made through incremental approaches and that these steps need not begin with the negotiation of a treaty. According to one participant, steps outside a treaty framework could be taken in three phases: the enhanced security of military fissile material, the consolidation and reduction of this material, and movement towards elimination. Another suggestion was to pursue a fissile material cut-off incrementally by countries. In this regard, it was suggested that since China is the only NPT NWS that has not officially declared a fissile material moratorium, pressure should be placed on China to officially join the moratorium, thereby paving the way for a joint P-5 statement on fissile material production. The P-5 could then jointly engage the de facto nuclear weapons states to also accept moratoria, which would have the effect of a de-facto cut-off of fissile material production for weapons.. One participant responded that a joint declaration of the eight states armed with nuclear weapons would only be a non-proliferation as opposed to a disarmament measure and would do little to accomplish the original goals set forth by the 1995 and 2000 NPT Review Conferences. A number of other steps were also proposed, including tabling a draft treaty by a group of like-minded states; tabling a declarations protocol in order to determine what transparency measures for facilities could look like; tabling of a streamlined verification protocol; the use of a series of managed access inspections with surrogate sensitive materials to determine how dangerous verification would be in practice; and offering an equivalent of a

military exclusion protocol which would exclude certain sites from a fissile material verification protocol.

#### *Impact of the U.S.-India nuclear cooperation deal*

The participants agreed that the U.S.-India nuclear cooperation increased the attention paid to the need for an FMCT. There was some agreement that the U.S. Congress and/or the NSG could demand linkages between the deal and negotiations on the FMCT. Doubt was expressed however, as to whether the NSG would make such a linkage. It was recognized that, while the agreement stipulated that India would work with the U.S. on the FMCT, this did not mean that it would work towards an FMCT per se. Moreover, since Prime Minister Singh announced that there would be no restriction on India's strategic options, there is increased skepticism regarding progress on an FMCT which will encompass India.

#### *The role of the Conference on Disarmament*

There was some consideration regarding efforts to address the FMCT outside of the CD. Given the commitments already made in regard to the FMCT in the CD, including the negotiating mandate, there was significant opposition to taking the matter out of the CD. However it was also recognized that paralysis within the CD should not prevent progress on a fissile material cut-off from taking place. One of the key issues was the presence of linkages in the CD. One participant argued that a negotiation of an FMCT cannot begin without progress on other issues, such as PAROS and nuclear disarmament. Another participant expressed the belief that the United States does not want an FMCT of any kind, and that other states, such as India and Pakistan, are hiding behind the U.S. position. There was some agreement that the U.S. sincerity regarding its support for the Treaty was right to be questioned; given the importance of the agreed mandate, the U.S. position may be an attempt to prevent negotiations.

#### *FMCT Scope*

A number of participants also questioned whether the FMCT was to ban production of fissile material for military purposes altogether, or simply for nuclear weapons. It was asserted that if there were no exemptions for material for use in naval reactors, an FMCT would be easier to verify. There was some consideration of the use of HEU in naval reactors and the problems the corresponding facilities pose for diversion. In light of the discussion on limiting the use of HEU, it was highlighted that using LEU rather than HEU fuel for submarines would avoid FMCT exemptions for naval reactors and the verification and diversion problems such exemptions pose. However, it was asserted that LEU-fueled submarines are not as efficient as those fueled by HEU as the former would have to be re-fueled during the course of the submarine's lifetime while the use of HEU may avoid such re-fueling. Unless improvements in LEU-fueled submarines were accomplished, it would be difficult for states with HEU-fueled submarines to agree to employ less-efficient military systems. Another participant argued that the discussion over the FMCT scope should avoid naval reactors, which constitute a "third rail," particularly for the United States.

One participant suggested that an effective disarmament agreement regarding fissile material could be a database on storage of such material. Given the difficulties of verifying such material in the military sector, and the experience in which the UK and U.S. estimates of plutonium

holdings did not add up, it is clear that there are technical considerations which would need to be addressed in the course of an agreement.

## **VII. Conclusion**

The concluding session of the first Strategy Group meeting discussed possible practical ways and means to eliminate the threat presented by fissile material in a broader context.

Looking at the nuclear nonproliferation regime as a whole, there appears to be less of a coherent, centralized mechanism addressing the threat of nuclear weapons than a set of many different activities geared to various aspects of the problem. The NPT review process has been moving away from focusing on the core issues to becoming a forum for the discussion of nuclear issues in general. Moreover, new situations arise, additional activities are created to address them. Should the next NPT review process put all of these activities together, or should efforts be made on an ad hoc basis, making progress where progress can be made?

One of the primary issues in which there is considerable common ground is the security of fissile material, including physical protection and accounting measures. There are a number of cross-cutting mechanisms, both through multilateral organizations and like-minded groups, which are designed to accomplish such tasks. Moving forward in this vein appears to be less a matter of developing new mechanisms and strategies than expanding and strengthening what is already in place, including resolution 1540, the CPPNM, the GTRI, as well as IAEA safeguards. At the same time, the scope of illicit supply networks needs to be discussed. While there has been a consideration of nuclear smuggling, a distinction needs to be made between supply networks run by states and legitimate commercial supply networks which may be used by proliferators and non-state actors. Nuclear smuggling must also be examined in the broader context of arms smuggling in general, as some of the persons acting within the AQ Khan network were also those engaged in the conventional arms black market.

There is also the realization that new ways for the regime to accommodate the three NPT non-parties must be explored in a way that does not recognize them as a NWS or without them claiming recognition. The FMCT may provide such a solution, but the negotiation of such a treaty is already fraught with a number of challenges. Moreover, the approach by the U.S.-India nuclear agreement is widely criticized for undermining nonproliferation objectives—yet viable alternatives are also lacking.

The intended objective of discussions on nuclear disarmament must also be considered. Is it disarmament, or a number close to zero? It may be useful to have some non-official body discuss questions about what nuclear disarmament would look like in the current context and what it would mean technically.

Article IV has been seen as flawed, at least from 1974 onwards. Is there an inalienable right to develop dual-use capabilities? While there was an attempt to avoid the experience of the 1974 test with the creation of the NSG, that problem has now returned with Iran. It is not seen as satisfactory that states can obtain a “break-out” capacity, however it is not clear how Article IV

can be reinterpreted to address this problem. In theory, the multilateral fuel cycle approach appears to be the answer to a number of problems related to Article IV, as well as nonproliferation, including Iran. However, in practice, it is very difficult to implement. There are a number of political and technical hurdles to overcome, some of which may be easier to work out with the initiation of a pilot facility. Moreover, the development of proliferation resistant technologies will be also important, which means establishing closed fuel cycles. However, it is not clear what the timescale or the costs would be, and who would carry the burden of additional costs. In light of such technical and economic considerations, industry needs to be engaged in the nonproliferation dialog due to their role in the nuclear sector. Industry does not currently participate in NPT discussions as it does with the IAEA. It may be useful for industry to participate in NPT Review Conferences.

The exploration of common ground in the nuclear nonproliferation regime is essentially a consideration of how to move forward and address existing and emerging problems. Is the way forward a matter of incrementalism or the development of a new grand bargain? There is a temptation to think that a grand bargain is the best path, and that is what was intended during the 1960s. However, this idea did not prove possible in practice, and the disarmament process was dealt with separately and sequentially with no common ground on the course to take. Due to the severity of the threats posed by nuclear weapons, it therefore seems logical to take smaller, more focused steps to respond to specific concerns. Yet then question then arises, what and whose concerns are to be addressed-if the NPT is to provide greater security for some than others then states may be increasingly tempted not to take any steps at all. At this point, it seems the only suggestion is to try both and see what happens. From putting in place mechanisms to counter illicit trafficking in nuclear material to preventing the misuse of fissile material, it will be important to build on initiatives where there is near agreement while paving the way for strengthening a balanced and sustainable nuclear nonproliferation regime.