

**Panel 3: Importance of Ensuring Nuclear Non-Proliferation
in Peaceful Nuclear Energy Cooperation**

**NON-PROLIFERATION
IN THE ERA OF NUCLEAR RENAISSANCE:**

Background Information and Discussion Points

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Nuclear Non-Proliferation Tools

Concern: Proliferation of Enrichment and Reprocessing Technologies to More and More States in the Era of Nuclear Renaissance

Possible Measures

(1) Direct Approach:

Ban on or Waiver of Enrichment and Reprocessing

1) Ban on Transfer; 2) Waiver of the Right

(2) Indirect Approach: Fuel Supply Assurance as Disincentive

(3) Verification Approach:

Universalization of Additional Protocol

Existing Conditionality for Transfer

(1) NPT Imposes no restriction on possession or transfer of specific nuclear technologies on condition of peaceful use

Cf. para 31, NPTRC FD 2010

(2) NPT (Art. 3.2): Item-Specific Safeguards (legally binding obligation)

“Each State Party to the Treaty undertakes not to provide [nuclear material or equipment] to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this Article.” (1968)

(3) NSG (para. 4(a)): Comprehensive Safeguards (political guidelines)

“Suppliers should transfer trigger list items or related technology to a non-nuclear weapon State only when the receiving State has brought into force an agreement with the IAEA requiring the application of safeguards on all source and special fissionable material in its current and future peaceful activities.” (1992)

(4) CSA requirement was adopted by NPT parties in 1995 (regarding new supply arrangements), recalled in 2010 NPT RC Final Document (para.12)

Earlier Initiatives

(1) ElBaradei Proposal (2003): Multilateral Nuclear Approaches (MNA)

“it is time to limit the processing of weapon-usable material (separated plutonium and high-enriched uranium) in civilian nuclear programmes, as well as the production of new material through reprocessing and enrichment, by agreeing to restrict these operations exclusively to facilities under multinational control.”

(2) Bush Proposal (2004): Ban on Enrichment and Reprocessing Technologies

“the Nuclear Suppliers Group should refuse to sell enrichment and reprocessing equipment and technologies to any state that does not already possess full-scale, functioning enrichment and reprocessing plants.”

“The world’s leading nuclear exporters should ensure that states have reliable access at reasonable cost to fuel for civilian reactors, so long as those states renounce enrichment and reprocessing.”

(2)-1 G8 Summit agreement on moratorium (2004-2008)

“for the intervening year, we agree that it would be prudent not to inaugurate new initiatives involving transfer of enrichment and reprocessing equipment and technologies to additional states.” Cf. New agreement at Hokkaido in 2008

Reaction: NAM countries’ negative reactions to any restrictions on “inalienable right” to peaceful uses of nuclear energy as guaranteed by Art. 4 of NPT

Recent Move (1)

- (1) Unilateral Approach: Australia, etc.**
- (2) Bilateral Approach: US-UAE Agreement**
- (3) Multilateral Approach: NSG, G8; NTI-IAEA**

(1) Unilateral Approach:

Australian Conditionality for Transfer of Uranium (Additional Protocol)

France and Japan?

Recent Move (2): Bilateral Approach

US-UAE Nuclear Cooperation Agreement (2009)

1) Sensitive Nuclear technology Transfer (Art. 7)

“[UAE] shall not possess sensitive nuclear facilities within its territory or otherwise engage in activities within its territory for, or relating to, the enrichment or reprocessing of material ...” ‘Gold Standard’ (Crowley)

2) Additional Protocol (Agreed Minute)

“Prior to the Licensing by the [USA] of exports of nuclear material, equipment, components, or technology pursuant to this Agreement, the [UAE] shall ... bring into force the Additional Protocol approved by the IAEA Board of Governors ...”

Prospect: Few followers expected (Vietnam, Turkey, Jordan, Saudi Arabia, etc); MFN clause

“the fields of cooperation, terms and conditions accorded by the [USA] to the [UAE] for cooperation in the peaceful uses of nuclear energy shall be no less favorable in scope and effect than those which may be accorded, from time to time, to any other non-nuclear weapon State in the Middle East in a peaceful nuclear cooperation agreement.”

Recent Move (3): Multilateral Approach-1

1) NSG's 20 November 2008 Clean Text

Conditions for the transfer of enrichment and reprocessing technologies

Cf. US to end NSG guidelines revamp? (Samore)

2) G-8 summit 2009 and 2010

“8. ... Pending completion of work in the NSG, we agree to implement this text [NSG's clean text of 20 November 2008] on a national basis in the next year.” (L'Aquila, 2009)

“29. ... We reiterate our commitment as found in paragraph 8 of the L'Aquila Statement on Non-Proliferation.” (Muskoka, 2010)

Recent Move (4): Multilateral Approach-2

4) SCR 1887 (2009); 2010 NPT RC Final Document

14. Encourages the work of the IAEA on multilateral approaches to the nuclear fuel cycle, including assurances of nuclear fuel supply and related measures, ..., and *urges* the IAEA Board of Governors to agree upon measures to this end as soon as possible;

Action 58: Continue to discuss further, in a non-discriminatory and transparent manner under the auspices of IAEA or regional forums, the development of multilateral approaches to the nuclear fuel cycle, including the possibilities of creating mechanisms for assurance of nuclear fuel supply, as well as possible schemes dealing with the back-end of the fuel cycle without affecting rights under the Treaty and without prejudice to national fuel cycle policies, ...

5) IAEA LEU bank

On 3 December 2010, the IAEA Board authorized the DG to establish an IAEA LEU bank.

The LEU is available upon advance payment at the market price to **eligible IAEA Member States**, (1) experiencing LEU supply disruption and unable to secure LEU from market, (2) no diversion of declared nuclear material and no issue relating to safeguards implementation, (3) having CSA in force.

Issues to be Discussed -1

1. Non-Proliferation Requirements in nuclear supplies

- (1) Possible conditions to be sought to ensure nuclear non-proliferation in exporting/importing fuel, equipment, etc.
- (2) Role to be played by the NSG, Bilateral Agreements, and the G8 in harmonizing export control requirements (propriety of the categorization of emerging nuclear states, depending on their status in nuclear non-proliferation)
- (3) Ways and means to ensure the 3S (nuclear security, safety and safeguards) in sales competition (e.g., prospect in state system for nuclear security and non-proliferation, and their sustainability)

Issues to be Discussed -2

2. Fuel Supply Assurance and Multinational Control

- (1) Measures to effectively operate the IAEA fuel supply assurance system
- (2) Package service in the front-end and back-end of nuclear fuel cycle (combining fuel supply with radioactive waste repositories):
 - Could it lead to the multinational control system?
 - Bilateral agreements' restrictions on the service (e.g. regulation on transfer to the third country)
- (3) Feasibility of establishing a regional framework in Asia as one of the multinational control systems