

# Nuclear Nonproliferation and Disarmament – The Future of the NPT

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## *Multilateralization of the Nuclear Fuel Cycle: Assessing the Existing Proposals*

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## An Idea Whose Time Has Come

**“Bold measures, including assurances of nuclear fuel supply and multinationalizing sensitive parts of the nuclear fuel cycle are vital if we are to enlarge the contribution of atomic energy to peace, health and prosperity throughout the world while curbing the proliferation of nuclear weapons and eliminating them altogether.”**

**Introductory Statement to the Board of Governors  
by IAEA Director General Dr. Mohamed ElBaradei  
2 March 2009**

## Developing a New Mechanism

IAEA Director General proposed a three-stage process in developing a new multilateral mechanism:

- the first step would be to establish a *system for assuring supply* of fuel for nuclear power reactors;
- the second step would be to have all *new* enrichment and reprocessing activities in future put exclusively under multilateral control; and
- the third step would be to convert all *existing* enrichment and reprocessing facilities from national to multilateral operations.

## Existing Proposals (1)

- **United States' Proposal on a nationally-controlled reserve of low-enriched uranium (LEU)**
- **Russian Global Nuclear Power Infrastructure**
- **United States' Global Nuclear Energy Partnership**
- **World Nuclear Association (WNA) Proposal**
- **Six-Country (France, Germany, the Netherlands, Russia, the United Kingdom, and the United States) Concept**
- **Japan's Standby Arrangements Proposal**

## Existing Proposals (2)

- **Nuclear Threat Initiative (NTI) Fuel Bank**
- **United Kingdom's Nuclear Fuel Assurance Proposal**
- **Russian International Uranium Enrichment Center (IUEC) in Angarsk**
- **German Multilateral Enrichment Sanctuary Project (MESP)**
- **Austria's Proposal on Multilateralization of the Nuclear Fuel Cycle**
- **EU Proposal on Nuclear Fuel Cycle**

## Points of Agreement

- any multilateral mechanism *should not disturb the international market* for nuclear fuel cycle services;
- the establishment of multilateral fuel cycle arrangements should be implemented *step by step*;
- there would be *no uniform approach* that would be satisfactory for all technologies and all countries and that successful implementation of the multilateralization would depend on the flexibility of its application.

## Far-Reaching Visions (1)

- **Russian Global Nuclear Power Infrastructure**

**A system of international centers providing complete set of fuel cycle services on a non-discriminatory basis and under the IAEA control**

- **United States' Global Nuclear Energy Partnership**

**Front-end and back-end fuel-cycle services provided by a limited number of supplier states using new proliferation-resistant technologies**

## Far-Reaching Visions (2)

- **Austria's Proposal on Multilateralization of the Nuclear Fuel Cycle**

**Placement of all enrichment and reprocessing facilities and nuclear fuel supply activities worldwide under multilateral control**

## More Specific Proposals (1)

- **World Nuclear Association (WNA) Proposal**
- **Six-Country (France, Germany, the Netherlands, Russia, the United Kingdom, and the United States) Concept**
- **United Kingdom's Nuclear Fuel Assurance Proposal**
- **Japan's Standby Arrangements Proposal**

**Backup arrangements in addition to the existing commercial uranium market**

## More Specific Proposals (2)

- **Russian Guaranteed Reserve of LEU in Angarsk**
- **Nuclear Threat Initiative (NTI) Fuel Bank**
- **U.S. Reserve of LEU**
- **World Nuclear Association (WNA) Proposal**
- **Six-Country (France, Germany, the Netherlands, Russia, the United Kingdom, and the United States) Concept**

**Establishment of nationally-controlled or IAEA-controlled reserves of low-enriched uranium**

## More Specific Proposals (3)

- **Russian IUEC in Angarsk**

**Creation of an international uranium enrichment center based on the existing national enrichment facility**

- **German Multilateral Enrichment Sanctuary Project (MESP)**

**Establishment of a new IAEA-controlled multinational uranium enrichment facility in an extraterritorial area**

## Implementation Policies (1)

- U.S. Reserve of LEU
- Russian IUEC in Angarsk
- World Nuclear Association (WNA) Proposal
- Six-Country (France, Germany, the Netherlands, Russia, the United Kingdom, and the United States) Concept
- Japan's Standby Arrangements Proposal
- United Kingdom's Nuclear Fuel Assurance Proposal

**Rely on great extent on national policies and existing infrastructure**

## Implementation Policies (2)

- **NTI/IAEA Fuel Bank**
- **German Multilateral Enrichment Sanctuary Project (MESP)**

**Projects that would require substantial efforts to create the necessary political, legal, financial and physical conditions**

Timeframe	Proposal	Scope
Short-term	Russian IUEC in Angarsk	An IUEC under the IAEA safeguards and an IAEA-controlled LEU reserve
	U.S. Reserve of LEU	A nationally-controlled LEU reserve
	Six-Country Concept and WNA proposal supplemented by UK Nuclear Fuel Assurance and Japanese Standby Arrangements	Backup assurances of LEU and fuel supply in addition to the existing market; nationally-controlled LEU reserves
	NTI Fuel Bank	An IAEA-controlled LEU reserve
Mid-term	German MESP Proposal	An IAEA-controlled international uranium enrichment plant in an extraterritorial area
Long-term	Russian Global Nuclear Power Infrastructure	A global nuclear supply mechanism
	U.S. Global Nuclear Energy Partnership	A global nuclear supply mechanism
	Austrian Proposal on Multilateralization of the Nuclear Fuel Cycle	Eventual placing of the existing civilian enrichment and reprocessing facilities and fuel supply activities under multilateral control

## Additional Motivations

- **Proposals that respond to the “entitlement” motivation of the customer states – in terms of their participation in ownership, management, operation, decision-making, profit-sharing – perhaps would be more attractive than just backup supply mechanisms for the existing market**
- **Proposals that would include taking away spent nuclear fuel after it was used and providing other back-end services would create stronger incentives to rely on international mechanisms for fuel supply**

## Diversity of Approaches

- **There would be no single multilateral formula that would be satisfactory for all technologies and all countries. The establishment of multilateral fuel cycle arrangements should be implemented step by step, with existing proposals pursued on their own merits drawing important lessons for the future. The IAEA and its member states should support a broad menu of these proposals**

## Rights of Customer States

- **Multilateral nuclear fuel cycle mechanisms should not deprive customer states from their rights under the NPT and IAEA Statute. Instead they should offer palatable political and economic incentives as well as provide “entitlement” motivation to participate. The issue of a multilateral approach to the nuclear fuel cycle needs to be addressed in terms of opportunity and advantage, not in terms of denial**

## Broad Agreement Needed

- **Any real progress toward a multilateral approach to the nuclear fuel cycle can be achieved only in the context of broad agreement that in the face of global problems such as nuclear proliferation and nuclear terrorism, an international non-discriminatory nuclear fuel cycle control regime has the potential to benefit the whole mankind**

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*Thank you for your attention!*

*Questions?*

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