

Current Status of IAEA Multilateral Nuclear Approaches on Nuclear (MNA) Fuel Cycle

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I. Introduction

Past international initiatives for multilateral nuclear cooperation did not result in any tangible results. Proliferation concerns were perceived as not serious enough. Economic incentives were seldom strong enough, and concerns about assurances of supply were paramount. National pride also played a role, alongside expectations about the technological and economic spin offs to be derived from nuclear activities. Many of those considerations may still be pertinent today.

II. Characteristics of MNA

The potential benefits of MNAs for the non-proliferation regime are both symbolic and practical. As a confidence building measure, multilateral approaches have the potential to provide enhanced assurance to the partners and to the international community that the most sensitive parts of the civilian nuclear fuel cycle are less vulnerable to misuse for weapon purposes. Joint facilities with multinational staff put all MNA participants under a greater degree of scrutiny from peers and partners and may also constitute an obstacle against breakout by the host partner. MNAs will also reduce the number of sites where sensitive facilities are operated, thereby curbing proliferation risks; and they diminish the number of potential points of access for non-state actors to sensitive material.

Moreover, these approaches also have the

potential to facilitate the continued use of nuclear energy for peaceful purposes and enhance the prospects for the safe and environmentally sound storage and disposal of spent fuel and radioactive waste.

Multilateral approaches could also provide the benefits of cost effectiveness and economies of scale for smaller countries or those with limited resources, while ensuring the benefits of the use of nuclear technology. However, the case to be made in favor of MNAs is not entirely straightforward. States with differing levels of technology, different degrees of institutionalization, economic development and resources and competing political considerations may not all reach the same conclusions as to the benefits, convenience and desirability of MNAs. Some might argue that multilateral approaches point to the loss or limitation of State sovereignty and independent ownership and control of a key technology sector, leaving unfairly the commercial benefits of these technologies to just a few countries. Others might argue that multilateral approaches could result in higher proliferation risks.

One of the most critical steps is to devise effective mechanisms for assurances of supply of material and services, mechanisms which are commercially competitive, free of monopolies and free of political constraints. In this context, the IAEA could play a pivotal role as a kind of guarantor in an international mechanism for emergency supply.

Appropriate organizational and institutional arrangements, as well as the relevant legal instruments, would need to be developed, both at the State level and at the commercial level.

III. Five Suggested Approaches

The Expert Group on Multilateral Approaches for the Nuclear Fuel Cycle has identified a number of options for MNAs deserving of consideration, and noted a number of pros and cons for each of the options. The Group recommends that steps be taken to strengthen overall controls on the nuclear fuel cycle and the transfer of technology, including safeguards and export controls.

In order to maintain momentum, the Group recommends that attention be given by the IAEA Member States, by the IAEA itself, by the nuclear industry and by other nuclear organizations to multilateral nuclear approaches in general and to the **five approaches** suggested below in particular.

- Reinforcing **existing commercial market mechanisms** on a case by case basis through long term contracts and transparent suppliers' arrangements with government backing.
- Developing and implementing **international supply guarantees** with IAEA participation. Different models should be investigated, notably the **IAEA as guarantor** of service supplies, e.g. as administrator of a fuel bank.
- Promoting voluntary conversion of **existing facilities to MNAs**, and

pursuing them as **confidence building measures**, with the participation of NPT non-nuclear weapon States and nuclear weapon States, and non-NPT States.

- Creating, through voluntary agreements and contracts, **multinational, and in particular regional, MNAs for new facilities** based on joint ownership, drawing rights or co-management for front-end and back-end nuclear facilities, such as uranium enrichment; fuel reprocessing; disposal and storage of spent fuel (and combinations thereof). Integrated nuclear power parks would also serve this objective.
- The scenario of a further expansion of nuclear energy around the world might call for the development of a **nuclear fuel cycle with strong multilateral arrangements** by region or by continent **and broader cooperation**, involving the IAEA and the international community.