



What the Commission Report says on:

MULTILATERALISING THE FUEL CYCLE

If peaceful nuclear energy is to play the role it should, it is critical that it be managed in a way that reduces, and does not add to, the world's problems. The first indispensable dimension of that effective management is safeguards (i.e. ensuring that there is no diversion of nuclear material from civil to military purposes...). The second is security... and the third is safety.... These are not the only factors involved in long-term effective management – others are the development of proliferation-resistant technology, stronger industry–government cooperation and *efforts to multilateralize the fuel cycle.*

The Argument for Multilateralisation.

Multilateralisation of the nuclear fuel cycle – through ...assurances of supply, fuel banks, or multilateral management of facilities – aims to discourage additional states acquiring sensitive nuclear technologies, and thereby to help maintain confidence in the NPT, and the international community's ability to effectively monitor non-proliferation compliance. The idea is to take off the table the “security of supply” and economic reasons for constructing national facilities, ideally also decreasing the number of new facilities constructed, decreasing the number of states in possession of enrichment and reprocessing technology, and ensuring that all these remaining facilities are under safeguards.

The term “multilateral” is used here in its broadest sense incorporating “multilateral” in its usual sense (the broadest and most flexible term, referring to the participation of more than two actors), “multinational” (implying several actors from different states), “plurilateral” (used usually for like-minded multiple actors), “regional” (several actors from neighbouring states) and “international” (actors from different states or international organisations, such as the IAEA).

A vocal advocate for fuel cycle multilateralisation, IAEA Director-General Mohamed ElBaradei convened an Expert Group on Multilateral Approaches to the Nuclear Fuel Cycle in 2004, prompted by a perceived trend towards the weakening of the non-proliferation regime, as exemplified by the crises in Iran and North Korea. The Expert Group's findings, reported in 2005, have had a strong influence on the numerous multilateralization proposals subsequently put forward [twelve proposal currently being considered are discussed in detail in Section 15].

All current proposals take – essentially as an acknowledgement of present political realities – an incentive-based rather than regulatory approach to multilateralisation. In order to succeed, such an approach must attract the participation of states that would otherwise consider developing national enrichment or reprocessing facilities and therefore must address the reasons why states would want to develop such facilities: energy security, a desire to participate in the profits of enrichment, national prestige and a possible desire to leave open the nuclear weapon option for the future. Most of the proposals focus upon energy security and profits, and some attempt to deal with national prestige by facilitating the participation of non-technology holders in multilateral facilities.

No one who supports multilateralisation in any of its forms is challenging the “right” for states to acquire what they need to use nuclear energy for peaceful purposes. Rather, the question is whether there ought to be other arrangements that guarantee states in good standing within the non-proliferation system access to the needed materials without them having to embark on the problematic course of producing their own. Most of the proposals to date have been put forward by supplier states and have received lukewarm support from customer states. Those with stable

The full text of *Eliminating Nuclear Threats: A Practical Agenda for Global Policymakers*, Report of the International Commission on Nuclear Non-proliferation and Disarmament, Co-chairs Gareth Evans and Yoriko Kawaguchi (November 2009), is available at www.icnnd.org

supply relationships are content with present market arrangements; and those with concerns about the risk of politically motivated interruptions to the supply of fuel tend to argue that the proposals now on the table fail to adequately address their concerns, at least in the short to medium term.

The proposals, most of which would ...deny access to multilateral fuel cycle services if the state making the request is not in good standing with IAEA safeguards (such as Iran) or is outside the NPT, have had, unsurprisingly, little or no traction with the states of most current proliferation concern. And proposals requiring states to forego national facilities as a precondition of participation, such as the U.S. fuel bank, are politically unpalatable for many developing states and unlikely to succeed in limiting the spread of sensitive technologies. The issue has become closely tied to the perception that controlling access to nuclear technology in the interests of non-proliferation further consolidates the relative status of the nuclear haves and have-nots, and deflects from the primary objective of nuclear disarmament. One downside concern in the whole debate is that, if not carefully implemented, multilateralising the fuel cycle could create new proliferation dangers by accelerating the early deployment of high-risk technology by states not already possessing an enrichment or reprocessing capability, or promoting its unwarranted transfer to them.

The extent to which multilateralisation realises the benefits and mitigates the risks outlined above depends upon the design of the initiative itself. ... As no one proposal will provide adequate incentives for all states, and some proposals are more ambitious and have longer lead times than others, a flexible, layered and incremental approach to multilateralisation may be required. Simpler proposals may lay an important foundation for the realization of more ambitious proposals, particularly in terms of political will and logistics. While the current proposals [may be looked at] individually, it is important to consider them as mutually reinforcing steps towards a layered multilateral fuel cycle management regime.

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Assurances of Supply Proposals ...

- *World Nuclear Association (WNA) Proposal (2006)...*
- *Six-Country Proposal (2006)...*
- *IAEA Standby Arrangements System (2006)...*

- *UK Nuclear Fuel Assurance Proposal (2007)...*

Fuel Bank Proposals...

- *U.S. Proposal on a Reserve of Nuclear Fuel (2005)...*
- *Nuclear Threat Initiative Fuel Bank (2006)...*
- *Russian LEU Reserve Proposal (2009)...*

Multilateral Facility Proposals...

- *Global Nuclear Power Infrastructure (2006)...*
- *International Uranium Enrichment Centre (2007)...*
- *Global Nuclear Energy Partnership (2006)...*
- *Multilateral Enrichment Sanctuary Project (2007)...*
- *Multilateralisation of the Nuclear Fuel Cycle (Austria) (2007)...*

The Way Forward. Multilateralisation of the nuclear fuel cycle has acquired significant political momentum in recent years, as shown by the numerous proposals put forward to achieve layered and incremental re-structuring of the international fuel cycle. Despite this, there are three main obstacles to the implementation of a multilateralised fuel cycle management system that would successfully stem the proliferation of sensitive nuclear technologies.

The first is the perpetuation of discrimination among supplier and customer states. All proposals, with the exception of the NTI, WNA and Austrian proposals, have been developed by supplier states. Greater consultation with, and participation by, customer states might help ensure that proposals receive more support from those states who will ultimately determine the success or failure of the proposal in supporting non-proliferation. Second, all proposals either explicitly or implicitly exclude states not complying with IAEA safeguards or outside the NPT. A situation such as that currently unfolding in Iran would thus not be addressed by any of the above proposals. Third, those proposals that are likely to be implemented in the short to medium term, such as the assurances of supply and fuel banks, might not provide sufficient economic and energy security incentives for states with current plans to expand

their civilian nuclear power programs to not develop indigenous enrichment and reprocessing capabilities.

Spent fuel take-back as part of multilateral arrangements would greatly increase its attractiveness to customer states, but is only included in long-term proposals such as the Russian proposal and GNEP. However domestic aspects of GNEP have been cancelled and the Obama administration position on its international arm has yet to be announced. This administration is also less enthusiastic about reprocessing than its predecessor, though funding of research and development in relation to proliferation-resistant technologies is likely to continue.

Fuel fabrication is a complicating factor in all front-end fuel cycle initiatives such as fuel banks – different reactors require customized fuel assemblies, and stockpiling fuel for every reactor would not be feasible. States could however develop national fuel fabrication facilities without posing an additional proliferation risk.

The longer term multilateral facility proposals are more likely to encourage states not to develop these capabilities, but may not be implemented soon enough to provide states currently expanding their nuclear programs with a sufficiently attractive alternative to developing sensitive nuclear technologies nationally.

Assurance mechanisms such as the WNA proposal and six-country proposal are likely to come online in the next few years but are unlikely to stem the spread of enrichment technology. The establishment of the NTI – and Russian – proposed fuel banks will depend upon how long it takes the IAEA Board of Governors to agree, if at all, upon the details: the first discussions in June 2009 were not promising in this respect. The establishment of an entirely new multilateral infrastructure lacks a compelling economic rationale, especially as current and planned global enrichment capacity among established technology holders is likely to satisfy present demand until 2030. No supplier state is likely to be eager to multilateralise existing facilities in a manner that shares control as well as providing access to fuel cycle services. And even if they were, this may not dissuade those countries determined to build their own national facility as a matter of principle, except at such time that all sensitive nuclear technologies are under safeguards in a world entirely free of nuclear weapons.

It must be noted, however, that most countries with nuclear programs are not proliferators. For the large majority, they are concerned simply with reaping the benefits of peaceful nuclear energy.

Energy security, including access to nuclear power on a timely, predictable and economically attractive basis is their principal objective. For the most part, furthermore, they recognise the risks of widely dispersed weapons-useable material, and understand the need for restraint. Still, many of these same countries find it difficult to accept the notion that some states are more equal than others in the peaceful nuclear sector, and consequently are likely to reject the establishment of principles that further codify discrimination. In this regard, any new binding international norm stipulating that sensitive fuel cycle activities must be conducted exclusively in the context of a multilateral arrangement and no longer as a national undertaking, would amount to a reinterpretation of Article IV of the NPT and the rights specified therein for each party to pursue their own national programs.

Such a reinterpretation might not be entirely impossible, but would likely only be agreed in the context of a broader negotiation in which all existing facilities, wherever located, in nuclear-weapon states or elsewhere, would need to be subsumed into the new arrangement. Any new restrictions on independent national operations would need to apply to all, including non-NPT, nuclear-armed states as well as to non-nuclear-weapon states, thus bringing them to the same level of obligation as the latter. Clearly, negotiating this would be a tall order, not least given the predictable resistance of existing industry and technology holders. And that is to leave aside other possible preconditions that most likely would include demands for additional steps regarding disarmament and summary conclusion of an FMCT. All of this would be a time consuming process at best.

In the absence, therefore, of any near term new binding or universal norm, the best that might be hoped for in the medium term is a voluntary arrangement in which, in return for assurances of supply, recipient states would renounce the national construction and operation of sensitive fuel cycle facilities for the duration of the agreement. In practice, countries would enter or not into such an arrangement according to their individual perception of advantage. The hope would have to be that a satisfactory experience in a multilateral venture in securing reliable and adequate supplies of fuel and services would lead most states to conclude that this way of meeting their nuclear requirements was preferable to a more independent, but problematic, alternative.

The Commission strongly believes that multilateralising the nuclear fuel cycle would play an invaluable role in building global confidence in the peaceful uses of nuclear energy, and any efforts to that end should be encouraged. Such

arrangements would provide an important foundation for a world free of nuclear weapons, where all sensitive fuel cycle activities will need to be under multilateral verification and control.

Recommendations:

Multilateralisation of the nuclear fuel cycle – in particular through fuel banks and multilaterally management of enrichment, reprocessing and spent fuel storage facilities – should be strongly supported. Such arrangements would play an invaluable role in building global confidence in the peaceful uses of nuclear energy, and provide an important foundation for a world free of

nuclear weapons, for which a necessary requirement will be multilateral verification and control of all sensitive fuel cycle activities.

Pending the acceptance of more far-reaching proposals, support should be given to voluntary arrangements whereby, in return for assurances of supply, recipient states would renounce the national construction and operation of sensitive fuel cycle facilities for the duration of the agreement.

[Section 15, Recs 39, 40]