

Information Circular

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General Distribution

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Communication dated 30 May 2007 from the Permanent Mission of the United Kingdom of Great Britain and Northern Ireland to the IAEA concerning Enrichment Bonds - A Voluntary Scheme for Reliable Access to Nuclear Fuel

1. The Secretariat has received a letter dated 30 May 2007 from the Permanent Mission of the United Kingdom of Great Britain and Northern Ireland to the IAEA attaching a UK Non-paper entitled "Food for Thought: Enrichment Bonds – A Voluntary Scheme for Reliable Access to Nuclear Fuel".
2. As requested in that letter, the letter and the attachment is now being circulated for the information of all Member States.



United Kingdom Mission

30 May 2007

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Dear Mr Cserveny

UK FOOD FOR THOUGHT NON-PAPER

- 1) I attach a UK Non-paper entitled 'Food For Thought: Enrichment Bonds - A Voluntary Scheme for Reliable Access to Nuclear Fuel'. I would be grateful if you could arrange for this to be circulated to all members as an INFCIRC.
- 2) The UK would also have no objection to the Agency attaching the paper as an annex to the Agency document on Multilateral Nuclear Fuel Cycle Assurances for the June board.

Regards,

Carol Cliff

Carol Cliff
UK Mission

UK Food for Thought Non-paper

Enrichment Bonds: A Voluntary Scheme for Reliable Access to Nuclear Fuel

The fewer the number of enrichment installations, and the more they are under multi-national control, the lower the potential for nuclear proliferation. The proposal on an IAEA Mechanism for Reliable Access to Nuclear Fuel (RANF) presented to the Board of Governors was a step towards achieving this aim through robust fuel assurances.

Normally, the world market will work to deliver supplies at market prices. The arrangements in RANF sought to deal with circumstances in which a supplier (or supplier state) might choose for non-commercial reasons to withhold supplies to a state. They sought to put in place an assurance of supply backed up by international commitments through the IAEA.

The aim of the present paper is to set out one way in which the RANF concept could be developed in practice. Whether potential recipients wanted to participate would be a matter for them to decide, balancing the value of the assurance against the huge cost and technological challenge of developing their own enrichment capabilities. We welcome any comments.

An enrichment "bond"

States with no direct access to stocks of uranium, like the UK, would find it difficult to support a reserve of enriched uranium with physical supplies. Consequently we have been developing a "bonding" principle, which might enable supplier states to participate through national enrichment providers. At this stage we have dealt only with the supply of enrichment services; the inclusion of suppliers of uranium would broaden the nature of the assurance.

An enrichment bond would involve an agreement between supplier state government(s), the recipient state and the IAEA, in which the supplier government(s) would guarantee that, subject to compliance with international law and to meeting the non-proliferation commitments to be assessed by the IAEA, national enrichment providers will not be prevented from supplying the recipient state with enrichment services in the event that the guarantee is invoked.

Conditions for invoking the bond

The assurance mechanism will need to depend on the meeting of conditions on both sides: that the recipient state has in place arrangements to assure the international community that they are not proliferating; and that the LEU supplier company/state will not unreasonably withhold supplies through the IAEA. These are outlined in more detail below.

Conditions to be Satisfied by the Recipient State

To take advantage of the assurance, a number of conditions would have to be satisfied. These might include:

- The recipient state is not able to secure enrichment services through the normal operation of the world market for reasons other than commercial or non-proliferation issues.
- The recipient state has a comprehensive safeguards agreement based on INFCIRC/153 in force, together with an additional protocol containing all the measures set out in INFCIRC/540 and the IAEA has determined that all nuclear material in the state is in peaceful use.
- Various recipient state commitments are in place; these might include:
 - peaceful use of supplied material;
 - no retransfer of material supplied under the Mechanism, except for fabrication into fuel for use in a reactor in the original recipient state.
 - Physical Protection levels will meet those specified in INFCIRC/225

Supplier State Assurances

In order to give recipients sufficiently strong confidence that the supply will be fulfilled, supplier states will need to provide advance assurance that export approvals will be given where the IAEA has determined that the specified conditions have been met. To be effective, such assurances will need to be very robust and probably underpinned by legal agreements between suppliers, the IAEA and recipient states. They will need to comply with international law (e.g. properly mandated UNSC resolutions) and international treaties (e.g. Euratom) and undertakings (e.g. Nuclear Suppliers Group Guidelines).

Legal Mechanism

One possibility for a legal mechanism would be an agreement between a group of supplier states, a recipient state and the IAEA, based on a standard model. This agreement would set out the enrichment and 'prior consent for export' assurances, the conditions for the export to take place and the commitments provided by the recipient.

Creating Confidence: the IAEA as a Guarantor

A key factor in providing confidence in the reliability of the supply mechanism will be the role of the IAEA. The legal agreement underpinning the enrichment bond captures the role of IAEA as guarantor. The IAEA would take the final decision as to whether the conditions had been met to allow the export of LEU from enrichment plants. As a consequence, the transparency of decision-making involved in this agreement should serve to provide a credible guarantee of supply.