

than 20% in U-235. In addition Canada generally maintains controls over subsequent storage of weapons-usable material. The IAEA/France/-South African Agreement specified that spent nuclear material produced by the reactor could only be reprocessed outside South Africa in a facility acceptable to France. The United States generally retains an option to buy back spent fuel and also retains other bilateral controls to ensure that recipients do not stockpile weapons-usable material. The IAEA/FRG/Brazil Agreement left open the question of the nature of the special controls to be applied to any enrichment plant which Germany might eventually sell to Brazil. This would permit the FRG to insist on the international standard before the contract is finalized, but it makes development of such a standard more urgent than ever.

#### Technical Aspects of Safeguards

While the deficiencies of relying exclusively on safeguards to inhibit proliferation have thus been recognized, many Governments have also realized that safeguards agreements, particularly with states not party to the NPT, require improvement above the standard agreed to by the Zangger Committee in 1974 and published in Agency document INFCIRC 209. The chief improvement would be a requirement that any country wishing to import nuclear items submit to safeguards all its nuclear facilities, not merely that part of its nuclear system which is "contaminated" by imports from states requiring safeguards. A draft "full-scope safeguards" agreement with the IAEA required for such an undertaking has been prepared by the Agency but no recipient state has been prepared to enter into such an agreement to date nor have suppliers been prepared to insist on it. In the absence of such full-scope assurances from its non-NPT trading partners, Canada insists on the broadest possible contamination of the fuel cycles of such states by items or information of Canadian origin.

Other areas of improvement, which have regularly found reflection in agreements approved by the IAEA Board of Governors during the year since the successful completion of the London suppliers discussions, have been the requirement for formal prohibition of explosive uses rather than the "peaceful uses only" formulation which has been in disrepute since the Indian nuclear test on March 18, 1974; the retention of a right by the supplying country to designate facilities built by a recipient of its technology as facilities built with supplied technology; the retention of a right to refuse re-export of supplied technology and the insistence that safeguards must continue so long as the supplied item or any subsequent generation of nuclear material produced with supplied materials, equipment or technology remains in existence.

Increasing nuclear sophistication in many non-NPT states however tends to undercut these technical improvements in safeguards, since safeguards lose much of their political effectiveness once a country achieves nuclear independence. A continuing commitment by all states to the political as well as the technical aspects of non-proliferation remains vital if proliferation is to be retarded.