

APR10-2009-000048

Abstract for an Invited Paper  
for the APR10 Meeting of  
the American Physical Society

**Leo Szilard Lectureship Award Talk: Controlling and eliminating nuclear-weapon materials**

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Fissile material – in practice plutonium and highly enriched uranium (HEU) – is the essential ingredient in nuclear weapons. Controlling and eliminating fissile material and the means of its production is therefore the common denominator for nuclear disarmament, nuclear non-proliferation and the prevention of nuclear terrorism. From a fundamentalist anti-nuclear-weapon perspective, the less fissile material there is and the fewer locations where it can be found, the safer a world we will have. A comprehensive fissile-material policy therefore would have the following elements:

1. Consolidation of all nuclear-weapon-usable materials at a minimum number of high-security sites;
2. A verified ban on the production of HEU and plutonium for weapons;
3. Minimization of non-weapon uses of HEU and plutonium; and
4. Elimination of all excess stocks of plutonium and HEU.

There is activity on all these fronts but it is not comprehensive and not all aspects are being pursued vigorously or competently. It is therefore worthwhile to review the situation.