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Sommario/riassunto	Thermal and neutron physics analysis show that above certain concentrations of the isotope Pu-238 hypothetical nuclear explosive devices, made of reactor-grade plutonium, are technically not feasible. Future proliferation-proof fuel cycles are proposed which make use of methods of actinide transmutation. Reactors operating in the thorium/uranium fuel cycle are loaded with <20% U-235 uranium fuel which can be made proliferation-proof against re-enrichment by adding a certain ppm level of U-232.