

Thorium Reactors

From Gordon Edwards

Thorium is NOT a reactor fuel. To make a "thorium reactor" work, one must (a) mix the thorium with plutonium that has been stripped of the highly radioactive fission products; (b) use the MOX (mixed-oxide thorium-plutonium) fuel in a reactor, whereby the plutonium atoms fission and produce power while the thorium atoms absorb neutrons and are turned into uranium-233 (a man-made isotope of uranium that has never existed in nature); (3) strip the fission products from the uranium-233 and mix THAT with thorium in order to continue the "cycle"; in this phase, the U-233 atoms fission and produce power while the thorium atoms absorb neutrons and generate MORE uranium-233. And so the cycle continues, generating more and more fission product wastes.

This "thorium cycle" is a very dirty and dangerous business. Not only is the reprocessing of irradiated nuclear fuel required (creating large volumes of high-level liquid waste containing the fission products) but the handling of weapons-usable strategic nuclear materials (plutonium and uranium-233) is also required. Unlike any other type of uranium fuel, uranium-233 is 100 percent enriched from the outset and thus is an excellent weapons-grade material. This makes it very proliferation-prone and a tempting target for theft by criminal and terrorist organizations.