MOX FUEL FABRICATION FACILITY | Fact Sheet

MIXED OXIDE FUEL FABRICATION FACILITY AT THE SAVANNAH RIVER SITE • AIKEN, SC

What is MOX fuel?

Mixed Oxide (MOX) fuel contains a mixture of approximately 95 percent uranium oxide and 5 percent plutonium oxide. Low enriched nuclear fuel that is normally used in U.S. commercial power plants only contains uranium oxide.

Typical fuel element

Shaw AREVA MOX Services, LLC is basing its design work on the successful Melox and La Hague facilities in France. These facilities currently produce MOX fuel for 30 European nuclear reactors.

The MOX Fuel Fabrication Facility will blend plutonium oxide (PuO_2) with uranium oxide (UO_2) powder to make a mixed oxide powder.

This powder is milled to ensure uniform distribution of the plutonium, and to adjust the particle size of the MOX powder. The MOX powder is made into small pellets about the size of a pencil eraser. The pellets are pressed into shape, sintered (baked at high temperatures) and ground to the required dimensions of approximately 1/3 inch in diameter and 4/10 inch in length.

Inspecting MOX fuel pellets

The finished pellets are loaded into fuel rods through an open end. An end plug is then inserted into the open end of the fuel rod and the rod is welded shut. The fuel rods are inspected, decontaminated, and bundled together to form fuel assemblies. Each fuel assembly will contain 264 fuel rods. The assembly will then be prepared for transportation to a commercial reactor.

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