H Canyon

Highly enriched uranium process operations

1 Load In

Fuel bundles

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Fuel bundles processed at SRS are spent nuclear fuel from domestic and foreign reactors.

2 Dissolver

Dissolve fuel bundles by heating nitric acid to boiling point

Converts solids to a liquid solution

Uranium solution

3 Head End

Clarify dissolver solution

Strike tank
gelatin added to make slurry

Centrifuge
separates gelatin and clarifies solutions

4 First Cycle

Process solution to separate uranium into individual stream for further processing

Mixer-settler
Uranium separated from fission products and chemical impurities

Uranium separated from neptunium

Uranium stripped from solvent into dilute nitric acid

5 Second Cycle

Further decontaminate uranium solution

Evaporator

Mixer-settler
Solution decontaminated

Uranium stripped from solvent stream into aqueous stream

Evaporator

6 Load Out

Low-enriched uranium blending and load out

fyi

300

metric tons of low enriched uranium have been sent to the Tennessee Valley Authority since March 2003. That's enough to power all U.S. homes for 47 days.

Savannah River Site

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