F Canyon

F Canyon is located in F Area, one of two chemical separations areas at the U.S. Department of Energy's (DOE) Savannah River Site (SRS). The facility's production mission was completed in March 2002, when solvent extraction processing was concluded.

The facility has now been deactivated and awaits its final end state, to be determined by the DOE. It is being maintained in a safe state until those decisions are made. While awaiting the decision, portions of the facility are being utilized to repackage noncompliant transuranic waste for shipment to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, NM. This campaign is expected to conclude during Fiscal Year 2008.

Historically, F Canyon operations chemically dissolved aluminum-clad materials that were irradiated at the sites's nuclear reactors and other test and research reactors so that plutonium-239 and uranium-238 could be recovered. During separations operations, nuclear materials were directly fed to chemical dissolvers. Plutonium and uranium were then separated from each other and from fission products. Waste was transferred to the site's high-level waste storage tanks for eventual vitrification in the SRS Defense Waste Processing Facility.

The Pu-239 was recovered and used to support the nuclear weapons applications. Depleted U-238, in an oxide (solid) form, was recovered as a by-product; a large portion remains stored at SRS. No new production of Pu-239 is needed because of the reduction in the nation's nuclear weapons stockpile.

In February 1995, the DOE decided to resume chemical separation operations in F Canyon to stabilize and manage most of the remaining inventory of plutonium-bearing materials at SRS. Most of the stabilization actions utilized the same chemical dissolving process. However, the DOE has committed that Pu-239 from stabilization actions will not be used for nuclear weapons purposes.

F Canyon was constructed in the early 1950s and began operation in 1954. The interior of the building resembles a canyon because the processing areas resemble a gorge in a deep valley between steeply vertical cliffs. The canyon facility is 835 feet long, 122 feet wide and 66 feet high. So that worker exposure to radiation is minimized, work in the canyon, including maintenance, is remotely performed by overhead bridge cranes. The thick, dense concrete walls that separate workers from the actual processing areas provided added protection.

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