

Facts



● F Canyon and FB Line -DEACTIVATED-

The Savannah River Site's (SRS) F Canyon and FB Line historically operated as one of two chemical separations areas, but have been deactivated from this mission. The primary mission-related operating areas are in a cold, dark and dry state; yet, a portion of F Canyon operates temporarily as the epicenter for transuranic (TRU) waste remediation.

Historically, F Canyon and FB Line worked in unison to recover plutonium-239 and uranium-238. F Canyon chemically dissolved aluminum-clad materials irradiated at SRS's nuclear reactors and other test and research reactors. Nuclear materials were directly fed to chemical dissolvers separating Pu-239 from U-238 and from fission products.

FB Line received the Pu-239 nitrate solution produced in F Canyon and converted it to a solid form, recovering Pu-239. Then, in subsequent operations, Pu-239 was precipitated, filtered, dried and finally reduced to metal form, called a button. Depleted U-238, in an oxide (powder) form, was recovered as a by-product, and waste was transferred to the Site's high-level waste storage tanks.

Both facilities were shut down after the Cold War. From 1995 to 2002, chemical separation operations resumed to stabilize and manage most of the remaining inventory of plutonium-bearing materials at SRS. DOE committed that Pu-239 from stabilization actions would not be used for nuclear weapons.

For nearly two years after completion of stabilization operations, FB Line stabilized and packaged legacy nuclear materials for safe, long-term storage. This technology, developed at SRS, involved packaging materials using a process in which stabilized plutonium was placed in rugged, welded stainless steel cans. FB Line was the first facility in the DOE complex to successfully use this new method of packaging. Materials were stabilized, packaged and shipped to other Site locations awaiting completion of the Mixed Oxide Fuel Fabrication Facility.

Today, F Canyon is a critical, hand's-on step in the TRU Waste Program. Nearly 30 percent of the Site's TRU Waste drums and all miscellaneous waste containers must be repackaged before characterization and disposal. There are currently four facilities at SRS operating to repackage TRU waste containers, two of which are within F Canyon: F Box Line and F Drum Line. F Drum Line is the only facility handling drummed waste, while F Box Line processes high-plutonium equivalent curies (PEC) boxes. Both processes repackage waste into approved steel boxes, which can be shipped to the Waste Isolation Pilot Plan in Carlsbad, New Mexico for final disposal.



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's walls are 835 feet long, 122 feet wide and 66 feet high.