Facts from the Savannah River Site
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L Area Facility

Personnel at the Savannah River Site (SRS) have extensive experience in safely receiving and storing a wide variety of spent nuclear fuel (SNF) assemblies from both domestic and foreign research reactors. Since 1964, SRS has received more than 2,300 casks containing over 46,000 SNF assemblies.

Since 1996, the L Area Facility (LAF) has received about 10,500 SNF assemblies in 516 casks from off-site sources. Fuel types include high and low enriched uranium used fuel. LAF has received and handled about 10 different SNF transportation casks weighing up to 65,000 pounds. LAF also made about 371 on-site spent fuel cask transfers during this time.

Underwater storage facilities, called disassembly basins, were located in all five SRS production reactor areas. These facilities were designed to store SNF and target assemblies discharged from the reactor cores. This storage allowed the nuclear material to cool after being irradiated in the reactors. The basins were also used to prepare the nuclear materials for transport to F and H Area processing facilities.

In 1996, L Basin equipment was reconfigured to safely handle and store SNF from off-site (foreign and domestic) research reactors. In February 1997, the first off-site fuel was received and stored in L Basin. To avoid the cost of operating multiple facilities, SRS decided in 1998 to consolidate all of SRS's stored spent fuel into the much larger, refurbished L Basin. By 2003, L Basin was SRS's only fuel receipt and storage facility. L Basin currently stores 27.5 metric tons of heavy metal in used fuel.

L Basin has concrete walls two and a half to seven feet thick and holds approximately 3.5 million gallons of water with pool depths of 17 to 50 feet. All spent fuel assemblies have low enough radioactivity, or are "cool" enough, to be safely stored without an active basin water cooling system. The basin water provides shielding to protect workers from radiation.

SFP can receive numerous types of Aluminum-clad SNF assemblies from offsite. These assemblies are shipped to the LAF in various cask types, depending on the geometry of the fuel assemblies. Most cask types are placed directly into the Disassembly Basin prior to unloading to minimize worker exposure. Once in the basin, the fuel is removed from the cask and either directly placed onto carriers or into bundles for long term storage or cropped using an underwater saw to improve storage efficiency prior to being bundled and stored. When ready to be processed, the fuel is removed from storage, placed into a 70-ton cask, and then the cask is removed from the Disassembly Basin and placed on a railcar for onsite transfer to H Canyon.

Cask receipt in L-Basin

Spent nuclear fuel assemblies in L Basin

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