

Energy and Environment

Storage of DOE SNF at the Savannah River Site

For more information

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LAC employees move a fuel assembly to its storage location in L Basin.

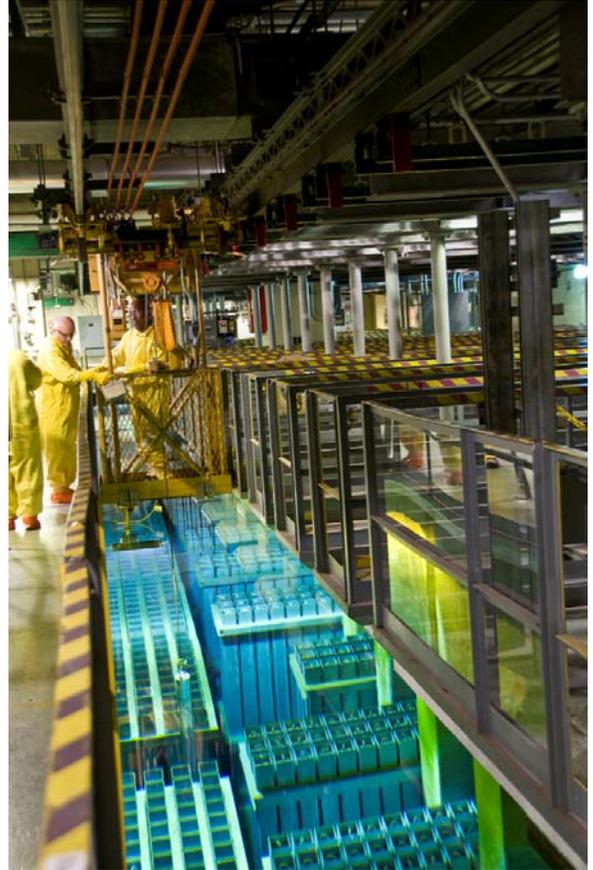
At the Savannah River Site (SRS) all spent nuclear fuel (SNF) is stored underwater at the L-basin storage area. The SRS inventory includes about 13,000 aluminum fuel assemblies (~ 9 MTHM) and about 8,000 pieces (~20 MTHM) of non-aluminum spent fuel. The majority of these aluminum spent fuels are Material Test Reactor (MTR) assemblies from domestic and foreign research reactors.

The L-basin is an unlined concrete pool built in the 1960's. It has no active leak detection system, but monitoring and trending of the basin makeup water is considered sufficient to detect any unplanned losses. The basin was drained, inspected, and repainted in the 1980's. A new sand filter and deionizer have since been installed and no other upgrades are necessary to support the planned mission life.

The authorization basis for the L-basin does not include a specified design life. The mission life presumes operation through 2019. Current fuel receipts include aluminum fuels from both domestic and foreign research reactors (FRR) and the NNSA.

The Environmental Impact Statement for SRS SNF Management (DOE/EIS-0279) identified some fuels are not suitable for long-term wet storage and the associated Record of Decision (ROD) specified that fuels will be removed from the SRS basins by 2019. Compliance with this ROD requires:

- expeditious operations of the H-Canyon
- transfer of ~20 MTHM non-aluminum fuels that are not compatible with H-Canyon operations to the Idaho National Laboratory
- designating, isolating, and preparing a portion of the L basin to resize fuels to allow load-out from the L-basins, and make the fuels compatible at the designated INL facility
- successful development of a repackaging process for repackaging fuels stored in cans that are incompatible with the dissolution process
- identification of a new location to receive and store aluminum fuels after 2019



Processing in H-Canyon and transfer of fuels from the basin must begin by 2011 in order to avoid impacts. For example, available capacity for the High Flux Isotope Reactor fuel will be filled in 2011 and for MTR-type fuels in 2012.



Current efforts are focused on meeting the commitment to have all SNF out of the basin by 2019. Storage in the L-basin beyond 2019 is not currently being pursued by DOE-EM.

The L Area Complex.

Staff from the National Spent Nuclear Fuel Program (NSNFP) are active participants in storage initiatives by the Office of Nuclear Energy's Used Fuel Campaign and the EPRI/NRCs' efforts to develop a technical justification for very long term storage of used fuel. Because some of the work in these two initiatives involves transportation of fuel after long periods of storage, the NSNFP intends to share that information with SRS for their use in future planning to send fuel to Idaho. Though SRS is not planning for very long term extended storage of fuel, the information gleaned from these initiatives may also be applicable for SRS planning beyond 2019.