

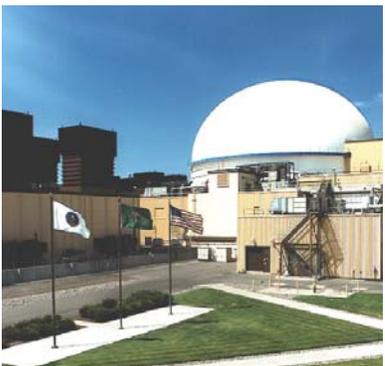
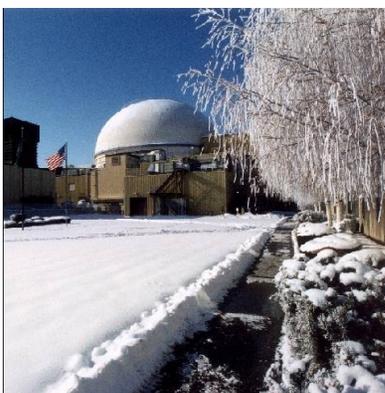


Fast Flux Test Facility (FFTF)

Restore the River Corridor - Transition the Central Plateau - Prepare for the Future



Fast Flux Test Facility



Scope

The Fast Flux Test Facility (FFTF) is a government-owned, 400 megawatt-thermal, sodium-cooled reactor located on the Hanford Site. The reactor was used for advanced nuclear testing in fuels, materials, components and reactor safety, as well as for the production of a large number of different isotopes needed for medical and industrial research.

FFTF consists of the reactor and several support buildings and equipment arranged around the central reactor containment building. The reactor is located in a shielded cell at the center of the containment building. Heat was removed from the reactor by circulating liquid sodium through three primary heat transport system (HTS) loops, connected to secondary HTS loops. The secondary HTS loops transferred the heat to the atmosphere through air cooled dump heat exchangers.

After 10 years of operation, FFTF was shut down in 1992. The reactor was returned to a standby status in 1995, permitting it to remain available to support potential future missions. After completing an exhaustive review, the Department of Energy determined that FFTF was not necessary for any foreseeable future missions. On December 19, 2001, the Secretary of Energy issued a final decision to permanently deactivate FFTF. On November 8, 2002, a legal action was

filed in federal court to halt the sodium drain activity. After a five-month work stoppage due to a court injunction, deactivation activities were resumed in early April 2003.

Significance

Completion of the deactivation phase of the FFTF Closure Project will reduce the risks associated with maintaining the radioactive fuel and liquid sodium coolant and reduce the annual facility operations costs of approximately \$30 million per year to about \$5 million per year.

Strategy

The Fast Flux Test Facility Closure Project will deactivate FFTF and associated facilities, and place them in long term shutdown and maintenance mode. The work scope includes:

- Remove and store 376 fuel assemblies. As of March 31, 2005, 305 fuel assemblies have been completed.
- Drain 260,000 gallons of sodium from the reactor plant and fuel storage vessels to the Sodium Storage Facility. As of March 31, 2006, the secondary and primary HTS loops, intermediate heat exchangers, fuel storage facility vessel, and the reactor vessel have been drained.



Interim Storage Casks



Fast Flux Test Facility

Restore the River Corridor

Fast Flux Test Facility

- Disposition 600 gallons of sodium-potassium (NAK). As of March 31, 2006, the NAK has been drained. The fuel storage facility NAK cooling loop is in process of being cleaned of NAK residuals.
- Deactivate auxiliary systems. Drain operating fluids, de-energize electrical loads, etc.
- After final reactor fuel off load and the completion of sodium drain, the facility will be placed in a long term shutdown and maintenance mode.

- FFTF decommissioning is dependent upon the on-going Tank Closure/Waste Management Decommissioning environmental impact statement.
 - The 400 Area Property Protected Area is to be restored for reuse consistent with the industrial use designation of the site.
- A National Environmental Policy Act environmental impact statement is being developed to evaluate reactor end state alternatives.

The following activities will remain:

- Disposition bulk and residual sodium. Bulk sodium is to be converted to sodium-hydroxide and used by the DOE Office of River Protection Waste Treatment Plant.

For more
information



Write:

U.S. Department of Energy
P.O. Box 550, A7-75
Richland, WA 99352

Or Call: (509) 376-7501



Or contact us on our INTERNET home page at <http://www.hanford.gov>