Hanford Spent Nuclear Fuel Status

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Hanford Spent Nuclear Fuel Status

- K Basins Fuel Removal
- Found Spent Nuclear Fuel
- Fuel Preparation Facility
- Sodium Bonded Fast Flux Test Facility Spent Nuclear Fuel

K Basins Spent Nuclear Fuel

- 386 Multi-Canister Overpacks (MCOs) containing K Basins fuel interim stored at the Canister Storage Building (CSB).
- Up to 3 additional MCOs may be required for removal of remaining fuel from K-Basins.
- Loading, drying, and shipment of final MCOs from K Basins planned in FY 2008.

Found Fuel

- Small quantities of spent fuel discovered during remediation of B, C, D, F, and H Reactor burial grounds. Discovery of additional fuel possible during remediation activities at burial grounds
- Currently, found fuel is transferred to K Basins for consolidation with other single-pass reactor fuel in MCOs. Path to K Basins will be eliminated after the last MCO is shipped to CSB
- New path being implemented to enable receipt and storage at CSB/200 Area Interim Storage Area.

Found Fuel

- Found fuel would be loaded into Found Fuel Containers (maximum 75 pound payload), shipped to CSB, evacuated and inerted, and closure welded.
- Found Fuel Containers would then be transferred to 200 Area Interim Storage Area and emplaced in RadVault.

Left: PAS-1 Cask used for found fuel shipments.

Right: Typical RadVault used for Found fuel interim storage.

Fuel Preparation Facility

- Most fuel types at Hanford are stored in casks that were remotely loaded in hot cells at facilities in 300 and 400 Areas and sent to the 200 Area. These facilities are in the process of being decommissioned as their programs are terminated.
- 200 Area facilities do not have the capability to transload fuel from the storage casks into DOE Standardized Canisters
- A planned Fuel Preparation Facility (FPF) will be located within CSB Complex and will enable transloading of fuel from the storage casks into DOE Standardized Canisters.

Fuel Preparation Facility

- The FPF will include a Receiving Area, Operating Area, and Hot Cell. The FPF will utilize existing CSB support facilities. Current concept utilizes 200 Area ISA crane for cask lifts.
- The FPF will include capability to remotely weld and inspect DOE Standardized Canisters based on National SNF Program welding concept.
- The FPF will include capability to transload Cesium and Strontium capsules, if direct disposal of capsules is authorized.
- Current planning basis assumes start of operations in late Fiscal Year 2022.

Fast Flux Test Facility Fuel

- Off-load of non-sodium bonded fuel at FFTF into Interim Storage Casks (ISCs) completed. Final ISC containing non-sodium bonded fuel transferred to 200 Area in April 2006.

- Transfer of sodium bonded spent nuclear fuel to INL completed in February 2008.

Above: Typical T-3 Cask used for sodium bonded fuel transfers to Idaho National Laboratory