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First Vacuum-Dried Spent Nuclear Fuel Departs Cold Vacuum Drying Facility for Long-Term Safe Storage

Hanford's first Multi-Canister Overpack (MCO) containing spent nuclear fuel has been successfully vacuum-dried and placed in a new, specially-designed facility for long-term safe storage.

"We are extremely pleased with the steady progress we are making," said Phil Loscoe, U.S. Department of Energy (DOE) Spent Nuclear Fuels (SNF) Project Director. "Getting this first shipment of fuel safely out of the basins and through the drying process is a major milestone in this critical project."

On December 7, the MCO, containing six baskets of spent nuclear fuel, was safely lifted out of the water-filled K-West Basin and moved about one-quarter mile to the Cold Vacuum Drying Facility (CVDF).

Once inside the CVDF, the MCO was surveyed, heated, drained, and vacuum-dried. After drying, a pressure rise test confirmed that the MCO was ready to be back-filled with helium and sent to the Canister Storage Building (CSB). From beginning to end, the process at the CVDF took roughly six days. According to Jim Klos, manager of the CVDF for Fluor Hanford, Inc., which oversees the project for DOE, "The process went exceptionally well -- the plant equipment and personnel did an excellent job."

SNF project officials expect that MCO handling activities in the CVDF will occur more rapidly as operator experience increases. By 2003, the CVDF could be processing up to two MCOs per week.

This morning, the cask containing the vacuum-dried MCO was transported about 9 miles to the CSB, to a receiving pit for venting. Tomorrow, the MCO will be transferred from the transport cask into one of 220 below-grade tubes inside a concrete vault, located below the 42,000-square-foot, steel building. While the fuel rests in the tube, it will remain inside the specially engineered MCO.

The placement of the MCO in its storage tube (vault) is the third and final step of the SNF project's path forward. The storage of fuel at the CSB is extremely economical -- it does not require surface

maintenance and is passively cooled by natural circulation of cool air. The CSB was designed to provide safe storage and surveillance of the fuel for up to 40 years or until a national geologic repository is available. The 2300 tons of spent fuel stored in the K Basins, about 80% of DOE's nationwide inventory, is scheduled for removal by 2004.

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Historical Note: The U.S. Department of Energy's Richland Operations Office manages the Hanford Site in southeastern Washington State. Hanford was established during World War II as part of the top secret Manhattan Project to produce plutonium for nuclear weapons. Weapons material production was halted in the late 1980s. The Hanford Site is now engaged in the world's largest cleanup effort to deal with the legacy of radioactive and hazardous wastes that resulted from the plutonium production era. The U.S. Environmental Protection Agency and the Washington Department of Ecology regulate Hanford's cleanup program under a long-term compliance contract called the Tri-Party Agreement. This agreement sets the framework and timelines on the cleanup work so that Hanford meets environmental standards. Hanford cleanup is focused on three outcomes: restoring the Columbia River Corridor for other uses, transitioning the Central Plateau to long term waste treatment and storage, and preparing for the future.

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