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HANFORD SPENT NUCLEAR FUEL PROJECT COMPLETES READINESS ASSESSMENT

Project a Step Closer to "Hot Testing" of Fuel Removal Equipment

Hanford's Spent Nuclear Fuel (SNF) Project has successfully completed a readiness assessment in preparation for "hot testing" of spent fuel removal equipment in the K-West Basin using radioactive spent fuel assemblies. The hot testing is expected to begin later this month.

The readiness assessment and hot testing follow several months of "cold testing" - using pieces of pipe to simulate the highly radioactive spent N Reactor fuel assemblies currently stored underwater in the K-West Basin.

The K-West Basin is one of two indoor water pools near the Columbia River storing 2,100 metric tons of spent nuclear fuel, in addition to sludge and debris. Hanford will begin moving the spent fuel away from the Columbia River to a state-of-the-art storage facility in November 2000.

The rigorous readiness assessment evaluated operator proficiency and knowledge about the underwater systems, equipment operability, completeness of procedures, the state of emergency preparedness in K-West, and quality assurance documentation. The assessment included 110 interviews with operators, review of 430 pieces of documentation, and observation of 40 different operations.

The cold and hot testing are part of a Phased Start-Up Initiative, which allows SNF workers to find and fix any "bugs" in the complex equipment systems early, to further ensure Hanford meets its November 30 Tri-Party Agreement milestone for beginning spent fuel removal from K-West Basin.

"The processes we're using to move, dry, and store spent fuel at the K-Basins are unique," said Joe Escamillo, Acting Director of the SNF Project for the U.S. Department of Energy (DOE). "We have to understand these systems perfectly. Cold testing has given us some good data, but now it's time to test the system with actual spent fuel."

In the hot testing phase, up to 35 canisters containing spent fuel assemblies in the K-West Basin will be opened. The fuel inside will be washed, sorted, and placed into large metal baskets on an underwater

table.

The 35 canisters contain nearly 500 spent fuel assemblies. Ten fuel baskets, holding between 48 and 54 assemblies each, can be filled during hot testing. The loaded fuel baskets will not be placed inside Multi-Canister Overpacks - large stainless steel containers - for drying and storage until spent fuel removal operations begin.

According to Dave Van Leuven, Executive Vice President of Fluor Hanford, Inc. (FHI), handling the actual spent fuel will yield important knowledge about optimal equipment speeds and rates, sludge collection, and many other aspects crucial to operations in November. "The fact that we passed the Readiness Assessment with just a handful of open issues is a major success for the project," said Van Leuven. "We feel that we've taken a significant step forward and proved that we can do this work."

FHI is scheduled to begin an Operational Readiness Review (a more complicated and formal critique of preparations to move spent fuel) September 25, and will be followed by a similar Operational Readiness Review by DOE in October.

DOE and its contractors are restoring the Columbia River corridor by moving spent nuclear fuel, "cocooning" reactors, addressing waste sites and groundwater contamination, and disposing of aging and unneeded buildings.

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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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