

Restore the River Corridor



The River Corridor

The river corridor encompasses approximately 210 square miles adjacent to the Columbia River. It is divided into three areas: the 100 Area, comprising nine shut-down plutonium production reactors and support facilities; the 300 Area, comprising manufacturing and research facilities; and the 600 Area, comprising the mostly vacant land between the 100 and 300 Areas.

Nuclear Energy Legacies

Cleanup of legacy sodium systems in the 337 Building continued with the sectioning of small-diameter piping into removable lengths. Randy Brown is shown cutting some of this piping adjacent to a previously drained sodium storage tank (below). An internal inspection performed in the Composite Reactor Component Test Activity vessel revealed that it contains approximately 300 gallons of residual sodium, much less than the 1,500 to 2,000 gallons it was previously thought to contain. In the nuclear energy legacy facilities about 1,000 to 1,500 gallons of sodium remain to be disposed. This amount is considerably less than the 3,000 gallons previously estimated for disposal. Work at the 337 Building is advancing the cleanup of the 300 Area.



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The project mission is to safely deactivate contaminated buildings and ship radioactive and hazardous waste out of the 300 Area to compliant storage away from the city of Richland and the Columbia River.



River Corridor Project

At the 324 Building, project personnel prepared to remove the spent nuclear fuel stored in B Cell by initiating the Spent Nuclear Fuel Integrated System Testing and conducting the Spent Nuclear Fuel Inner Canister Shield Plug Welding Demonstration.

Project personnel completed the 327 Building I Cell cleanout and removed the criticality alarm system. Two views (right) through the thick leaded glass of I Cell show the cell before and after the cleanup. I Cell was the third of 10 cells to be cleaned out at the 327 Building.

Project staff shipped three flat railcars to the low-level waste burial grounds for disposal.

Twelve lead-lined drums containing lead recycled from one of Hanford's tall well railcars will be used to remove Pacific Northwest National Laboratory (PNNL) legacy waste buckets from the 327 Building.

Project staff members submitted the final integrated Fluor Hanford and Bechtel Hanford Central Plateau Transition Plan to the Department of Energy (DOE). The Department of Energy initiated the transition plan, which defines the scope, schedule and budget estimates to implement the transition of certain work scope from Bechtel Hanford to Fluor Hanford by July 1.

The River Corridor Project became the sixth Hanford organization to receive DOE's highest safety recognition—the Voluntary Protection Program Star (left). The constellation of VPP Stars at Hanford includes Day and Zimmermann Protection Technology Hanford, Fluor Federal Services, Pacific Northwest National Laboratory, the former DynCorp Tri-Cities Services (now part of the Hanford Site Operations) and the Fast Flux Test Facility.



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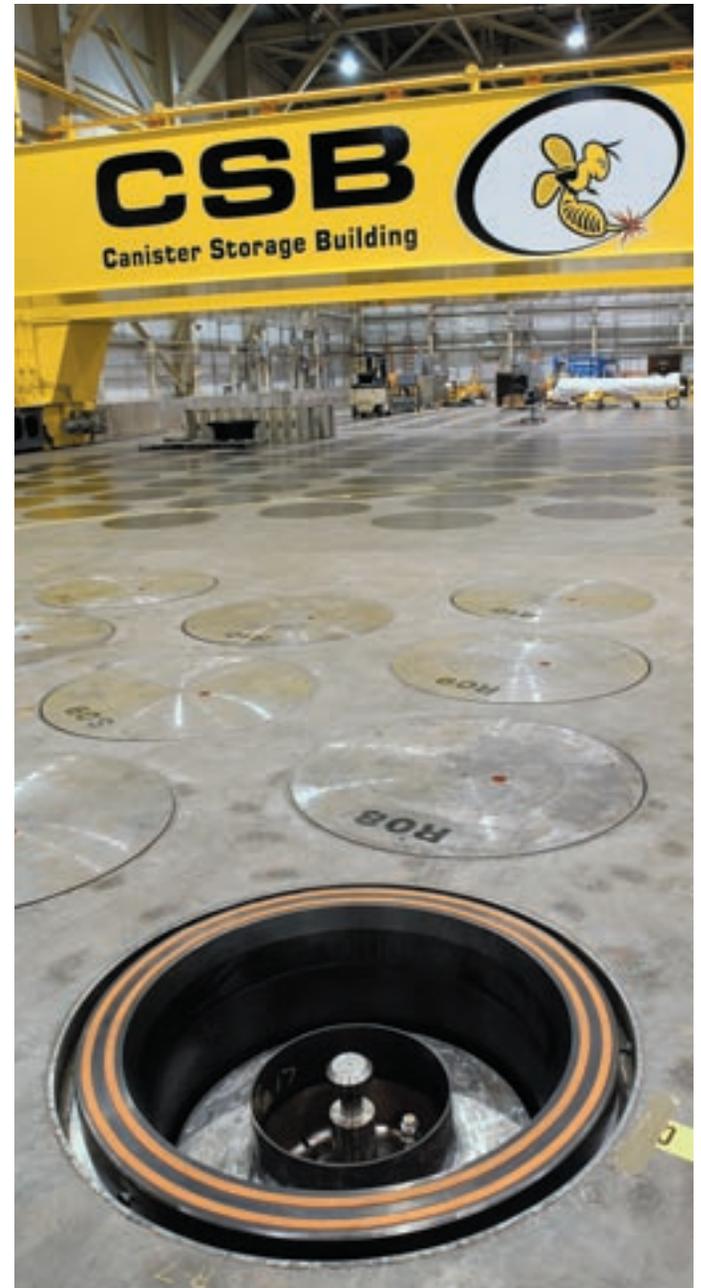
The Spent Nuclear Fuel Project reduces the risk to the Columbia River by safely relocating fuel, sludge, debris and water residing in the K Basins to interim storage in the center of the Hanford Site. It will also deactivate the 100K facilities.

Most of the spent nuclear fuel stored in the K Basins, located in the 100 Area, was irradiated in the now shut-down N Reactor. Before the Spent Nuclear Fuel Project began moving fuel out of the K Basins in December 2000, 105,000 N Reactor fuel assemblies resided there. Before December 2000, the amount of radioactivity, measured in curies, was approximately 55 million curies.

Spent fuel is loaded into baskets and then into multi-canister overpacks, also known as MCOs. The fuel is dried in the Cold Vacuum Drying Facility and placed in dry interim storage in steel tubes beneath the Canister Storage Building in Hanford's central plateau.

Fourteen MCOs were shipped out of K-West Basin. Since December 2000, 53 MCOs and approximately 8 million curies of radioactivity have been removed from the Columbia River shoreline. Round-the-clock, seven-day-a-week operation began at K-West Basin.

Spent Nuclear Fuel Project personnel worked 4.2 million hours without a day lost to injury, a Hanford Site record.



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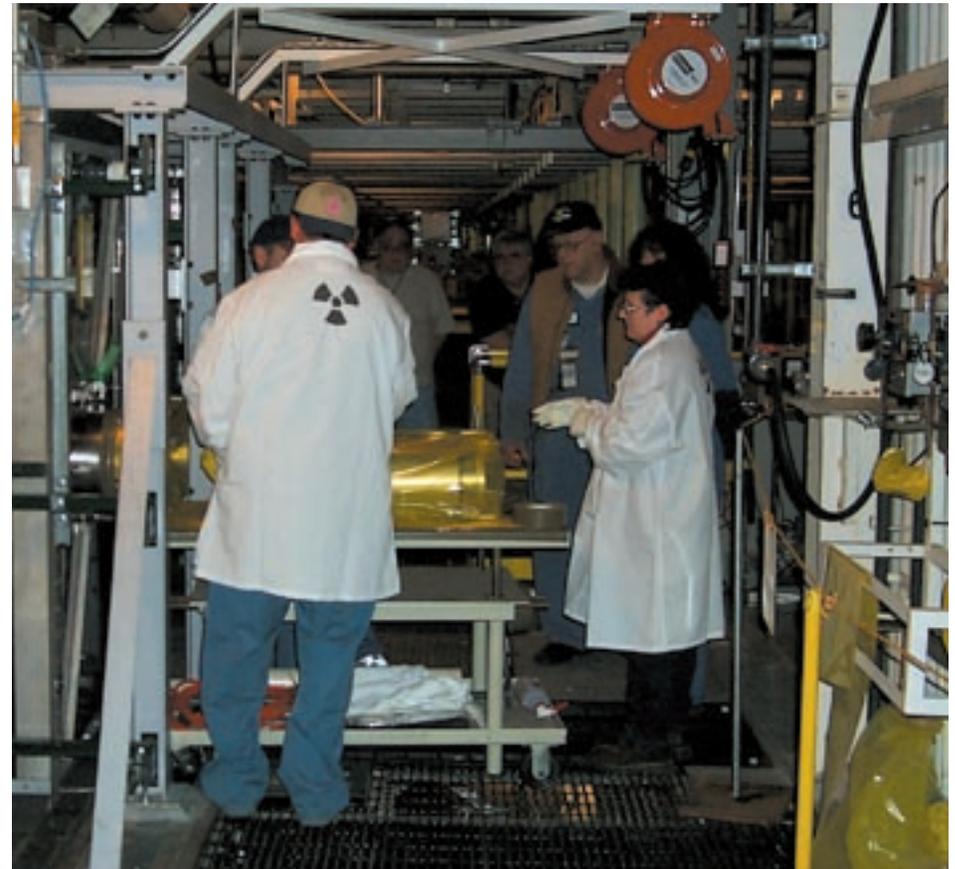
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Spent Nuclear Fuel Project

Cold Vacuum Drying Facility workers further reduced the average process time for an MCO to approximately 65 hours — 25 hours fewer than the original project goal of 90 hours.

Spent-fuel-basket fabrication is ahead of schedule. With the fabrication of 160 baskets this quarter, more than half of the baskets required for fuel removal are complete.

Project personnel began operating canister-cleaning equipment (right) at K-West Basin.



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Environmental Restoration Along the River

The Environmental Restoration Contractor team, led by Bechtel Hanford, Inc., let a contract to remediate the 618-4 and -5 Burial Grounds. The site is located about 1.5 miles north of the city of Richland and about 400 yards from the Columbia River. Work at the site will resume in April 2002 after being suspended four years ago. Work at the site was halted after barrels containing depleted uranium shavings and uranium oxide powder were unearthed unexpectedly. Nearly 350 drums were unearthed and more than 1,200 drums could still be buried. The above-ground drums are monitored bi-weekly as shown below. In February, workers began readying the site for excavation work to begin.



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Environmental Restoration Along the River

Demolition of D Reactor (below) continued as workers began constructing the 75-year roof on DR Reactor, part of the Interim Safe Storage project.

Workers using a remotely controlled excavator at F Reactor discovered the 11th spent fuel element in the fuel storage basin. Environmental Restoration Contractor team employees, led by Bechtel Hanford, Inc., have worked on the Interim Safe Storage project without recording a single lost-time injury in the project's nearly eight-year life. They have worked almost six years without a contamination event.



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What's Next in Restoring the River Corridor?

Continue to cut and package small-diameter sodium piping in the 337 Building for off-site disposal. Prepare requests for proposal to clean residuals from the Composite Reactor Component Test Activity vessel and the 3718M sodium storage tank.

Complete Readiness Assessment to move spent nuclear fuel out of the 324 Building.

Complete the remaining 26.5 percent of the 324 and 327 Buildings deactivation work.

Ship two more of four tall well railcars to Memphis, Tenn., for recycling.

Remove, dry and place in storage approximately 40 more MCOs of spent nuclear fuel, which will represent approximately 6 million curies of radioactivity removed from the Columbia River shoreline.

Complete construction and performance acceptance testing for K-East Fuel Transfer System.

Begin accepting and storing Shippingport spent nuclear fuel, now stored in T Plant, at the Canister Storage Building.

Begin cleanup of burial grounds 618-4 and -5 north of the 300 Area.