

ERC team answered challenge of accelerated cleanup

The Environmental Restoration Contractor team continued to deliver on its promise of cleanup progress by completing several high-profile projects in fiscal year 2002.

Notable achievements included “cocooning” DR Reactor, removing 665,000 tons of contaminated soil and debris from along the river, remediating a high-profile burial ground, cleaning out the 233-S Plutonium Concentration Facility and processing more than 1.2 million gallons of contaminated groundwater using the site’s pump-and-treat systems (see “Groundwater Protection Program,” page 7).

“All of our accomplishments last fiscal year were completed on or significantly ahead of schedule,” said Bechtel Hanford President Mike Hughes. “But what pleases me most is that we were able to make substantial progress while increasing our safety performance. Total injuries were down nearly 20 percent, moving us closer to our goal of zero accidents.”

The ERC team, led by Bechtel Hanford, includes preselected subcontractors CH2M HILL Hanford and Eberline Services Hanford.



The Bechtel-led ERC team completed cocooning the second of Hanford's nine plutonium production reactors.

Another reactor cocooned

In September, DR Reactor became the second of Hanford's nine surplus plutonium production reactors to be successfully cocooned, and cocooning is under way at three others. In addition to current demolition activities at H Reactor, significant progress was made at F and D Reactors.

Interim safe storage, or “cocooning,” means placing Hanford’s surplus reactors into a safe state for up to 75 years — demolishing the reactor building down to the five-foot-thick concrete shield walls surrounding the core, sealing all openings and constructing an extended-life roof over the remaining structure. When finished, remote-monitoring equipment limits the need for human entry to once every five years.

Work was especially challenging at F Reactor as the team spent most of the year excavating and removing the fuel storage basin. The challenge was to locate, remove, package and transport highly radioactive spent-fuel elements and fragments that were at the bottom of the sand-filled fuel storage basin. Workers located and disposed of 17 fuel elements using remote equipment and specialty instruments. A similar challenge at H Reactor will be addressed in FY 2003.

Rivershore cleanup

During the past fiscal year, the ERC team cleaned up 12 waste sites in the 100 Area. The team also removed 125,000 tons of contaminated material, including concrete, steel, soil and piping in the N Area, as well as 151,000 tons of contaminated soil and 6,500 feet of effluent piping in B Area. Backfill operations also were completed for three Columbia River outfall structures in the B/C Area.

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Waste-minimization efforts helped accelerate cleanup in F Area so the job could be completed more than seven months ahead of the Tri-Party Agreement date. Mobilization activities in K Area were accelerated so that soil remediation work could begin in early FY 2003.

The team completed excavation work at the high-profile 618-4 Burial Ground in the 300 Area. Workers excavated 786 drums containing depleted uranium waste and transported them to the Environmental Restoration Disposal Facility for disposal or temporary staging. Two months ahead of schedule, the team moved to the adjacent 618-5 Burial Ground, where they expect to encounter similar challenges.

Workers at the ERDF disposed of nearly 665,000 tons of contaminated material in FY 2002 — 9,000 tons more than planned. By the end of the fiscal year, nearly 3.8 million tons of waste had been disposed of in the ERDF since operations began in 1996 — nearly 40 percent of the estimated total of contaminated soil and debris in the river corridor.



Late in fiscal 2002, the Environmental Restoration Project team finished cleaning up a high-profile waste site near the Columbia River and the city of Richland. Remediation of the 618-4 Burial Ground included excavating 786 drums containing depleted uranium waste and transporting them for disposal or temporary staging at the Environmental Restoration Disposal Facility.

Maintaining surplus facilities

Surveillance, maintenance and transition are critical elements of environmental restoration at Hanford. The efforts ensure that Hanford's surplus contaminated facilities remain safe for workers and the public until DOE and its regulators make disposal decisions about them.

In FY 2002, surveillance and maintenance workers finished removing contaminated pre-filters at B Plant, removing more than 14,000 cubic feet of asbestos from 202-S and 182-N facilities, repairing the K West Reactor roof and stabilizing hexone tanks used to store solvent at REDOX.

The ERC team also maintained the historic B Reactor to make it safe for workers and visitors, upgrading electrical systems and making repairs. The B Reactor team hosted more than 500 visitors and 43 tours during the year, including tours by regulators, lawmakers and the news media.

High-risk decommissioning

In March, the ERC team completed the five-year 233-S Plutonium Concentration Facility Decommissioning Project nearly a year ahead of the original schedule, avoiding nearly \$5 million in costs. When the team began cleanup efforts in 1997, it was the first full-scale decommissioning project of a plutonium production facility at Hanford.

The work was high-risk, not just because of the radioactive components being handled, but because contamination was spread throughout the building by a major fire in 1963.

In all, the team removed 15 highly radioactive process vessels and more than a mile of piping and electrical conduit. They disposed of 172 boxes of low-level waste, 48 drums of transuranic waste, 283 feet of roof

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ventilation ductwork and 13 cement blocks used to cover a radioactive pipe trench.

During the five-year project, the team made more than 12,400 entries into areas of high contamination with only 10 minor personnel contamination events.

Improved safety performance

The 233-S facility wasn't the only area where the ERC team demonstrated superior safety awareness and performance. In FY 2002, CH2M HILL Hanford employees logged eight-and-a-half work years with no lost-time injuries. For Eberline Services Hanford employees, it was four-and-a-half work years, and Reactor Interim Safe Storage employees worked the equivalent of six years with zero lost-time injuries.

The ERDF operations team reached five safe years worked, and the ERDF drivers completed 6.3 million miles without an at-fault accident. Remedial Action and Waste Disposal workers excavated, transported and disposed of nearly 4 million tons of radiologically contaminated material without a personnel contamination event. And, for the fifth time, the entire ERC team reached a million hours worked without a lost-workday injury. ■