

ERC team tackles highly radioactive liquid-waste site

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Last week, the Environmental Restoration Contractor team began cleaning up the most extensive radioactively contaminated liquid-waste site in Hanford's Columbia River corridor.

Each day for 18 years, N Reactor discharged nearly 2.5 million gallons of highly contaminated water from its cooling system into the nearby N-1 crib and trench. During Hanford's production years, cribs and trenches were used to dissipate liquids released from reactor cooling systems into the soil. The liquids spread through layers of silt, gravel and rock.

As a result, the Bechtel Hanford-led ERC team and its subcontractor Foster Wheeler Environmental Corporation are remediating the N-1 crib and trench. An estimated 125,000 tons of soil, rock, concrete and steel will be removed from the contaminated structures and subsurface plumes. The contaminated material and debris are being placed in the Environmental Restoration Disposal Facility on Hanford's central plateau.

Safety, efficiency

After surveys were conducted to preserve cultural and historic lands throughout the cleanup project, crews began creating pathways around the crib and trench in late October to aid demolition and cleanup activities.

"The construction of dirt roads around the worksite is making cleanup operations efficient and safe," said Bechtel project engineer Dale Obenauer. "It works like a one-way street. Equipment, vehicles and heavy-duty transport trucks come in one end and out the other. An empty truck arrives, we fill it up, conduct a radiological survey and send it on its way.

"We have focused on safety since this N Area cleanup operation began," Obenauer added. "Our workers and Foster Wheeler should be applauded for their attention to safety while completing nearly 600 days of work without a lost-time accident."

In late November, the ERC team began demolishing the trench cover panels, and started removing the contaminated concrete rubble and underlying contaminated soil last week.

Currently, cleanup operations are under way at the far end of the 1,608-foot-long trench, opposite N Reactor. The cleanup progress will eventually lead to the demolition and removal of the highly contaminated 36,125-square-foot crib next to the reactor. The demolition and remediation work is scheduled for completion in July 2002.

The river first

"It's a natural progression that we work our way toward N Reactor," said Bechtel project lead Rick Donahoe. "First, we want to clean up the contamination that is closest to the river. And, second, the extent of contamination where our work will take us is greater in comparison to the trench's end. As progress continues, so will improvements in our efficiencies and techniques in tackling this job."

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With the potential for increased radiological exposure, improved cleanup techniques were implemented at the site to ensure worker safety. The ERC team is placing slightly contaminated soil over collapsed and demolished concrete panels where exposure to highly contaminated soil may increase workers' radiological doses. This ALARA (as low as reasonably achievable) practice is substantially reducing risk to workers and the environment.

Furthermore, the ERC team has also minimized workers' radiological exposure by lining trucks, excavators and other heavy-equipment cabs with lead blankets to shield radiation.

Lessons from N-3

"We have a greater understanding of what it takes to get this job done safely from innovative on-site techniques developed and improved during the demolition and removal of the N-3 crib and trench," said ERC project field engineer Rex Miller.

During the 2001 fiscal year, the ERC team demolished and removed nearly 102,000 tons of contaminated material from the N-3 crib and trench. The N-3 facility, which never reached its holding capacity, was the alternate disposal method for N Reactor after the N-1 crib and trench exceeded its holding limit for reactor water discharge.

Experience is a key component of the ERC team's efforts in the 100N Area, and Foster Wheeler's Ron Koleber brings plenty of it to the N-1 cleanup project. Koleber, a Hanford Site worker for 23 years, used to work in the N Area and at other reactor locations during Hanford's defense production years.

"Working out here brings back a lot of memories." Koleber said. "I remember when we built some of the same things that we are tearing down today. But I don't mind it. Back then, we were helping protect our country, and now we're cleaning it up." ♦