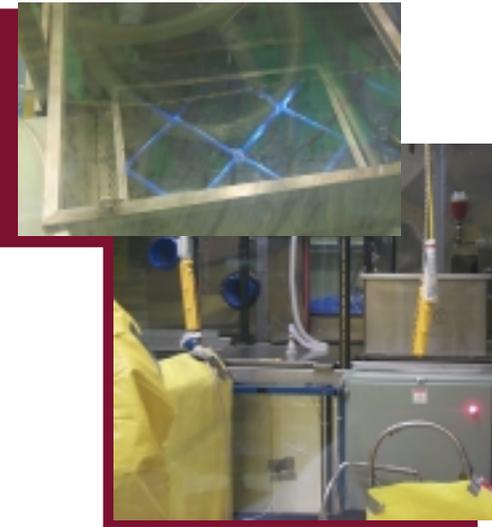


Sonatul Decontamination System

Savings = \$4.5 million

Problem/Need

Decommissioning the hot cells at Battelle's site near West Jefferson, Ohio, could result in large volumes of transuranic (TRU) waste in the form of contaminated equipment and research residues. Characterizing and packaging this heterogeneous mix of materials under current disposal site requirements will be tremendously expensive.



Technology Description

The Battelle Columbus Laboratories Decommissioning Project (BCLDP) is using a computer-controlled, remotely operated ultrasonic process developed by Bartlett Nuclear Services to clean TRU waste. The Sonatul decontamination system uses heated, recirculated fluid to remove radioactively contaminated particles and deposit them on a collection filter. The fluid itself is environmentally safe, is recycled in the closed-loop decontamination system, and meets the waste acceptance criteria of the U.S. Department of Energy's Waste Isolation Pilot Plant.

Benefits

Cleaning contaminated equipment from the hot cells would drastically reduce the volume of TRU waste that would require characterization, packaging, shipping, and processing. It would also significantly reduce the risk of exposure to people and the environment to TRU waste particles. Depending on the nature of the contamination, more than 99 percent of the radioactivity on contaminated equipment, metal tubes, and scrap from the hot cells can be removed using the Sonatul system, which will save the BCLDP an estimated \$4.5 million.

Sonatul Decontamination System

