

Dual-Camera Video Documentation System

Savings = \$9.2 million

Problem/Need

During packaging of remote-handled transuranic (TRU) waste inside hot cells at a Battelle site near West Jefferson, Ohio, visual confirmation of everything that is packaged into each waste container is necessary to meet the waste acceptance criteria of the disposal site. The alternative is to perform actual waste sampling and analysis, which is extremely costly for highly radioactive material.



Technology Description

The Battelle Columbus Laboratories Decommissioning Project uses a dual-camera video security and documentation system to record packaging activities in the hot cells. A fixed-lens camera provides a wide-angle view of the entire area, and a camera with zoom capabilities provides close-up views when required. Motion- and light-sensing capabilities assure that any activity is recorded, and time-lapse recording allows coverage for 120 hours. In case of a power outage, the system has an uninterruptible power supply that powers the system until emergency generators start. Several days of packaging operations can be reduced to less than an hour of videotape using digital editing equipment that allows video to be edited without destroying the integrity of the original videotapes. A video inventory of an entire TRU waste drum will fit on one videotape or compact disc.

Benefits

This dual-camera video documentation system effectively satisfies the U.S. Department of Energy's Waste Isolation Pilot Plant waste acceptance criteria. The system avoids the need to sample and analyze each item of waste.

