

InstaCote



ENGINEERING SERVICES & ENVIRONMENTAL COATINGS PROJECT PROFILE

Project: Oak Ridge National Labs (ORNL) Bldg. 3026-C/D **Date:** Summer, 2009

Project Contractor: University of Tennessee - Battelle, Oak Ridge, Tennessee
Bldg. 3026-C/D Hot Cell Stabilization and Airborne Mitigation Project

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Building 3026 is a former radioisotope and reactor fuels processing facility at ORNL. InstaCote engineers are providing technical support for the stabilization and removal of the active ventilation systems and associated Hot Cells. The primary method of stabilizing internal contamination is by aerosolizing (or “fogging”) CC Wet into the Hot Cells and ventilation ducts. The stabilization wetting agent was aerosolized into a fine mist by the Tornado Dynafogger to remotely coat interior surfaces and reduced airborne radioactivity within the cells.

The following photos were taken during July-August, 2009 during the delivery of CC Wet into the 3026 Hot Cells and ventilation ducts.



3026 Hot Cells – Bank 1

InstaCote engineers supported the planning for manipulator removal and fogging of CC Wet for internal stabilization of cells.



3026 Hot Cells – Bank 2

Ventilation duct work on top of Hot Cell. Fog will be delivered downward into each cell via the 4 ventilation ducts & upwards into the ventilation system.

Delivering CC Wet into Hot Cell Bank 2 via Ventilation Ducts



Attaching the Dynafogger nozzle to a directional wand prior to insertion into the duct.

The directional wand allows the worker to articulate the nozzle head up and down in the duct without having to remove the tape/plastic-sealed nozzle from its delivery hole.



Inserting the fogger nozzle and articulating wand into the ventilation duct.



Delivering CC Wet into the Cell Bank 2 via the cell ventilation duct.

After downward delivery into hot cells, nozzles were re-directed up to stabilize remaining ventilation ducts.



Fogging Bank 1 Hot Cells via Manipulator Ports



The Dynafogger nozzle is inserted into Cell Bank 1 manipulator ports and tape-sealed. Manageable, 2-gallon cans were used to refill each 3-gallon tank from a step-ladder.



Results

Recommendations for delivery methods and internal and external surface stabilization coatings were implemented by UT-Battelle management. The use of this fogging technology allowed for the project to shut off the negative ventilation systems for all hot cells and isolate the hot cells in preparation for future demolition.

To date, no suspension of airborne radioactivity and no spread of radiological contamination has resulted from demolition of the surrounding wooden structure, breaching of the hot cells and interior characterization surveys.