InstaCote

ENGINEERING SERVICES & ENVIRONMENTAL COATINGS

PROJECT PROFILE

Project: Humboldt Bay Nuclear Power Plant Date: February, 2010 - Present

Project Contractor: Pacific Gas &Electric, Humboldt Bay Reactor Plant Decommissioning Project

Engineers: Richard (Dick) Hogue; Rock Neveau

Scope of Work:

Provide engineering planning and field support for stabilization methods, application equipment, and training of on-site personnel to stabilize ventilation ducts and BWR reactor components. Participate in strategy meetings with project management to determine best means approach for stabilizing reactor systems. Perform walkdowns and review of drawings with a deliverable of recommendations for engineered contamination controls. Train PG&E workers in the use of necessary equipment and methods to apply and deliver selected contamination control products. Provide field engineering guidance and technical support during application of stabilization coatings and structural foam.

Engineered Controls:

The turbine system, steam condensate, condenser elbow, reactor cooling systems and ventilation ducts were stabilized with *CC WET* ™ and permanent fixative *CC FIX* ™.

Based on information gathered from engineering walk downs and internal video inspections, the thick residues within primary coolant and steam condensate piping systems required application of a low-viscosity wetting agents and fixatives. Lower viscosities allowed the wetting agents and fixatives to penetrate thick residues and prevent loose radiological contamination from becoming airborne during size reduction and demolition with heavy equipment.

Structural foam *Autofroth* ® was delivered into reactor ventilation ducts to control internal loose contamination during size reduction using heavy equipment.

Application technique:

InstaCote *CC WET* ™ was applied using both garden sprayers and *Dynafoggers*®. Remote delivery was performed on the steam, condensate and primary coolant piping systems until the thick residues became saturated and stabilized. InstaCote *CC WET* ™ was misted into primary coolant and steam piping using garden sprayers. InstaCote *CC FIX* ™ was applied using airless sprayers and garden sprayers. InstaCote *CC FIX* ™ was misted internally and spray applied both external and internal reactor piping systems to permanently fix loose contamination. A*utofroth*® structural foam was delivered into ventilation ducts using a BASF SL- 330 foam system.

Results:

Recommendations for engineered controls were implemented by PG&E. The use of the fogging technology allowed for the reactor turbine and heat exchangers to be stabilized remotely. Both InstaCote *CC WET* and InstaCote *CC FIX* ™ were delivered in the ducts and pipes. Injection of *Autofroth* ® foam in to the ducts has been performed. To date decommissioning work on stabilized equipment and systems has generated no suspension of airborne radioactivity and no spread of radiological contamination.