

Cavity Decontamination and Transfer (D-CAT™) System

Background

Decontamination of cavities and pits at PWRs and BWRs requires collection and transfer of air/liquid mixtures containing contaminated particles. Due to significant elevation changes, these activities can be challenging and require significant time, manual effort and radiation exposure. Additionally, these activities can create large amounts of radwaste and result in contaminated tools and equipment.

Description

The D-CAT™ system incorporates all of the tools needed to efficiently vacuum air/liquid mixtures from the bottom of deep cavities, and transfer contaminated liquid to the floor level above the cavities. As a result, manual efforts typically required to make such transfers are eliminated, saving time and dose typically required for cavity decontamination. The D-CAT™ system uses all sanitary construction to avoid any crud traps that could result in equipment contamination.



D-CAT™ air/liquid transfer tank



D-CAT™ Operation in BWR Dryer Separator Pit

Plant Experience and Benefits

- Suitable for use in PWR and BWR cavities
- 6 hour reduction in duration of dryer separator pit decontamination at US BWR
- Reduces burden on plant Operations by eliminating the need to align for draining cavity heels
- Reduction in cumulative radiation exposure, manual efforts and radwaste generated during cavity decontamination

Features and Specifications

- Weight: 280 lbs
- Completely pneumatic operation for wet use
- Sanitary, crud-trap free construction using electropolished SS components
- Automated air/liquid separation to facilitate hands-free transfer of contaminated liquid between elevations
- Air transferred to topside HEPA vacuum
- Water transferred to sumps/drains or separate filtration systems such as an AMFM-B500