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PROJECTS FOR THE DECONTAMINATION AND DECOMMISSIONING FOCUS AREA

Four major Decontamination and Decommissioning Focus Area (D&D) characterization problems require advanced technologies: contaminants inside pipes and enclosed process equipment need to be assayed prior to dismantlement to minimize worker exposure; contaminants on material in rubble piles need to be assayed to facilitate cost-effective, final disposition of the material; flaws in building supports and overall facility structural integrity need to be assessed to ensure worker safety; and airborne and surface contaminants must be detected and monitored in real time with field deployable sensors to demonstrate effectiveness of decontamination and to guarantee worker safety during D&D operations.

Characterization, Monitoring and Sensor Technology Crosscutting Program (CMST-CP) has technologies under development to help address two of these problems. Real-time, field deployable sensors to monitor D&D operations include laser-induced fluorescence imaging of surfaces for uranium and a radiation sensor that can monitor alpha, beta, and gamma radiation simultaneously. The need for assaying hazardous contaminants enclosed inside pipes and process equipment could be addressed by the portable, x-ray imaging system. A project to address rubble piles contaminated with uranium or other radionuclides emitting alpha particles is scheduled to begin in FY97. Only if more money were to become available to CMST-CP would new projects to address the last problem area of facility structural integrity be initiated.

Finally, a new methodology is under development to expedite the characterization process for facilities requiring D&D. If successful, it is anticipated that the time savings and the improved integration of all characterization data would greatly decrease characterization costs similar to the very successful "Expedited Site Characterization" methodology.

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