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PROJECTS FOR THE LANDFILL STABILIZATION FOCUS AREA

The key characterization problem areas needing innovative technologies for the Landfill Stabilization Focus Area (LSFA) include: verification of proper emplacement of barriers and their subsequent integrity over time; validation that measurements taken on soil, soil gas and groundwater samples are representative of actual conditions in the subsurface; and location of buried waste, objects and structures.

Four technologies are currently under development within the Characterization, Monitoring and Sensor Crosscutting Program (CMST-CP) and many other technologies have been demonstrated and are undergoing commercialization or implementation at U.S. Department of Energy (DOE) sites to address two of these problems. The third problem, monitoring of the emplacement and long-term integrity of barriers, will be a new focus of this program beginning in FY97.

Technologies under development for locating buried waste and objects include a miniaturized electromagnetic sensor integrated into a four foot remotely piloted airplane for more cost-effective deployment and a radiometric algorithm for improved performance from aerial surveys.

For improved field analysis of soil and groundwater samples for contaminants, technologies under development include: Secondary Ion Mass Spectroscopy (SIMS) for volatile and semi-volatile organic compounds; and an advanced Inductively Coupled Plasma Mass Spectrometer for improved analysis of hazardous metals and radionuclides.

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