

# The Savannah River Site Environmental Bulletin

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## **DOE Requests Temporary Authorization for In-Situ Remediation of Volatile Organic Compound Contamination in the Western Sector of A/M Area at the Savannah River Site**

The U. S. Department of Energy at the Savannah River Site (SRS) has requested from the South Carolina Department of Health and Environmental Control (SCDHEC) a temporary authorization to implement an in-situ remedial technology in the Western Sector of the M-Area Hazardous Waste Management Facility (HWMF).

The M-Area HWMF corrective action program addresses four sectors of the contaminant plume based on geography, subsurface conditions, and ongoing activities. SRS is proposing this temporary authorization, consistent with SCDHEC regulations, for the destruction of volatile organic compounds (VOCs) in the Western Sector using emulsified zero-valent iron (EZVI) to remove residual dense non-aqueous phase liquid in the subsurface. The EZVI mix will consist of edible oil, micro-scale ZVI, surfactant and other amendments. The EZVI mixture will be diluted with water and injected in six injection points using hydraulic fracturing through drilling casings. The injections will be followed by chase water to achieve the desired radius of influence. The injection activities will be monitored through four new proposed monitoring wells.

The Western Sector has elevated trichloroethylene and tetrachloroethylene concentrations in the Lost Lake Aquifer Zone. To determine if the EZVI might be a viable option as a recommended corrective action, a field scale study will be implemented to test the performance of the technology and to learn and refine potential deployment options.

At the end of a year of monitoring, an effectiveness evaluation report will be submitted to SCDHEC. The results will be used to support the final corrective action recommendations for Western Sector and could also have applicability to other portions of the overall A/M Area VOC plume.

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