

Stabilization and Solidification of Oak Ridge MVST Tank Sludges and Supernates Using FWENC Process

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For Presentation at

American Concrete Institute 2001 Fall Convention
October 28 - November 2
Wyndham-Anatole, Dallas, Texas

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Representative sludge and supernate samples from two ORNL storage tank farms (W23, MVST) were treated using a process developed by the Foster Wheeler Environmental Corporation for stabilization of Oak Ridge tank sludges. The approach consolidates waste by removing free water and immobilizing RCRA contaminants using additives. Results were collected as an independent assurance for the Department of Energy of the viability of the FWENC process for compliance with WACs and storage needs prior to shipping of final waste forms. Successes and failures, as determined by TCLP performance tests, will be shown for radioactive supernates and sludges. In addition, results from freeze/thaw thermal cycling, long-term storage under conditions simulating East Tennessee's ambient weather, and radiation durability testing of surrogate tank wastes treated using the FWENC process will be shown. These latter tests were designed to determine sustainability of TCLP performance and free water accumulation, which are important considerations for transport and storage of tank final waste forms.