

Remediation System Evaluations: Not Just for USACE Anymore

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The Remediation System Evaluation (RSE) process was developed by the Army Corps of Engineers' Hazardous, Toxic, and Radioactive Waste Center of Expertise (HTRW CX) in 1998 to assist USACE staff in evaluating the protectiveness and cost effectiveness of remedial actions. Several sites were evaluated by staff from the HTRW CX as a test of the process. These included RSEs at a Superfund site and two Army sites. Potential average annual savings for these three "pump and treat" (P&T) sites exceeded \$200,000. In 1999, the HTRW CX conducted an RSE training workshop (including the preparation of an RSE for an actual site) and in 2000 conducted an RSE for multiple remediation systems at an Air Force Base at the request of a USACE district. The latter resulted in potential annual savings of over \$300,000.

Many tools created by the HTRW CX for use in performing RSEs have been posted on the internet (<http://www.environmental.usace.army.mil/library/guide/rsechk/rsechk.html>). Tools include a brief overview of the RSE process, checklists to guide the evaluations, a sample RSE report, and a general briefing on the RSE process that can be modified by districts to brief their customers. In addition, a guide "data collection requirements" clause for P&T operations and maintenance (O&M) contracts was also posted and is meant to assure that O&M contractors collect data needed to perform RSEs.

In FY2000, the HTRW CX assisted EPA's Technology Innovation Office (TIO) with RSEs at four Superfund-financed P&T sites in Regions 4 and 5. TIO was interested in demonstrating the utility and cost-effectiveness of RSEs for EPA-lead sites. Part of the demonstration project was to develop an innovative tool to screen sites based on potential benefits versus the costs of performing RSEs. The four sites at which RSEs were performed were chosen based on the potential benefits identified by the screening. Potential annual cost savings ranged from \$35,000 to over \$200,000 and averaged over \$100,000.

In FY2001, HQEPA has directed that up to a total of 16 additional RSEs be performed in the other eight regions at suitable EPA-lead sites. For this effort, the USACE (Kansas City District) is providing a full-time RSE team member to work with EPA contractor staff. The HTRW CX is providing assistance and oversight. In the future, the EPA regions will be encouraged to take the lead in performing the RSEs using in-house technical staff, the USACE, and/or contractor support.

Based on the RSEs performed to date, the HTRW CX sees benefits from close evaluation of the long-term monitoring programs, metals precipitation units, and the degree of system automation. Most importantly, CX noted the need to approach these evaluations with a high degree of sensitivity and a desire to truly build a team with the site operators and project staff.