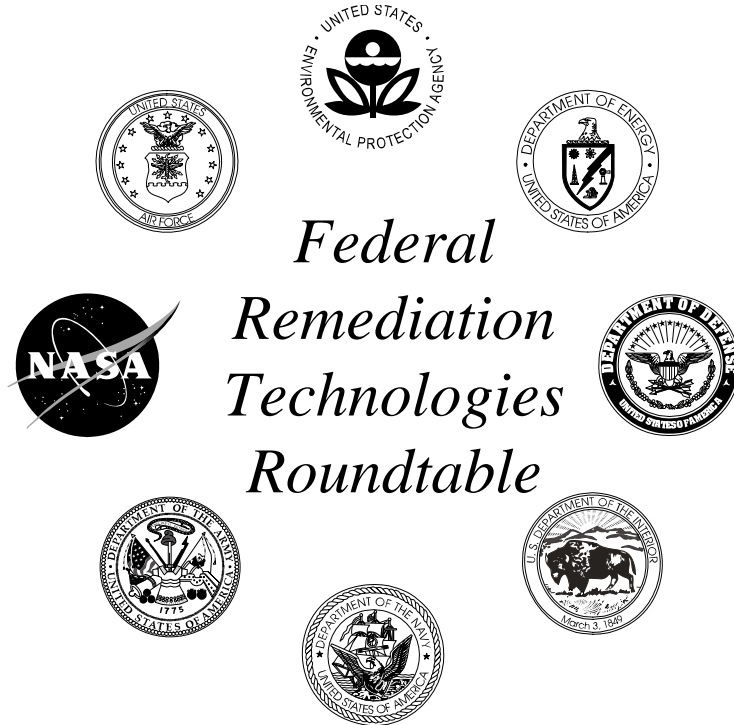


John Kingscott  
June 5, 2008

# Federal Remediation Technologies Roundtable Meeting June 2008





# Federal Remediation Technologies Roundtable

What's Hot? What's New?

[About FRTR](#)

[Site Map](#)

[Home](#)

[Comments](#)

[Search](#)

[FRTR Meetings](#)

[Screening Tools](#)

[Technology Cost and Performance](#)

[Remediation Optimization](#)

[Environmental Cost Engineering](#)

[Publications](#)

[Information Links](#)

LEADING THE FEDERAL  
GOVERNMENT'S EFFORTS TO  
PROMOTE INTERAGENCY  
*Federal*  
COOPERATION TO ADVANCE THE USE  
*Remediation*  
OF INNOVATIVE TECHNOLOGIES TO  
*Roundtable*  
CLEAN UP HAZARDOUS WASTE  
CONTAMINATION

# Website Redesign Objectives

- Update and Expand this Federal Technology Resource
- Improve Functionality/ Relevance
- Simplify/Make More User Friendly
- Update Agency Program Links

# Proposed New Tabs

- What's New?
- Technology Screening Matrix
- Cost and Performance Case Studies
- Decision Support Matrix
- Current Publications
- Agency Program Links
- Archives

# Federal Remediation Technologies Roundtable



<a href="#">Home</a>
<a href="#">What's New?</a>
<a href="#">Technology Screening Matrix</a>
<a href="#">Cost and Performance Case Studies</a>
<a href="#">Decision Support Matrix</a>
<a href="#">Environmental Cost Engineering</a>
<a href="#">Remediation Optimization</a>
<a href="#">FRTR Meetings</a>
<a href="#">Current Publications</a>
<a href="#">Agency Program Links</a>
<a href="#">Archives</a>
<a href="#">Site Map</a>
<a href="#">Search</a>
<a href="#">Comments</a>

## The **Federal Remediation Technologies Roundtable**

(FRTR) works to build a collaborative atmosphere among federal agencies involved in hazardous waste site cleanup. FRTR was established in 1990 to bring together top federal cleanup program managers and other remediation community representatives to:

- Share information and learn about technology-related efforts of mutual interest,
- Discuss future directions of the national site remediation programs and their impact on the technology market,
- Interact with similar state and private industry technology development programs, and
- Form partnerships to pursue subjects of mutual interest.

FRTR members-agencies include:

- [U.S. Department of Defense](#)
  - [U.S. Air Force](#)
  - [U.S. Army](#)
  - [U.S. Navy](#)
- [U.S. Department of Energy](#)
- [U.S. Department of the Interior](#)
- [U.S. Environmental Protection Agency](#)
- [National Aeronautics and Space Administration](#)

Since its inception, collaborative efforts among the FRTR member-agencies have led to technology development and demonstration partnerships with private developers, a more consistent and unified federal approach to technology evaluation and regulatory acceptance, and a variety of technology transfer tools and other information resources.

---

*Leading the Federal Government's Efforts to Promote Interagency Cooperation to Advance the Use of Innovative Technologies to Cleanup Hazardous Waste Contamination*

---





## What's New?

- Opportunity for members to contribute
- Updated monthly
- Includes notices about meetings, conferences, publications, etc. of interest to FRTR

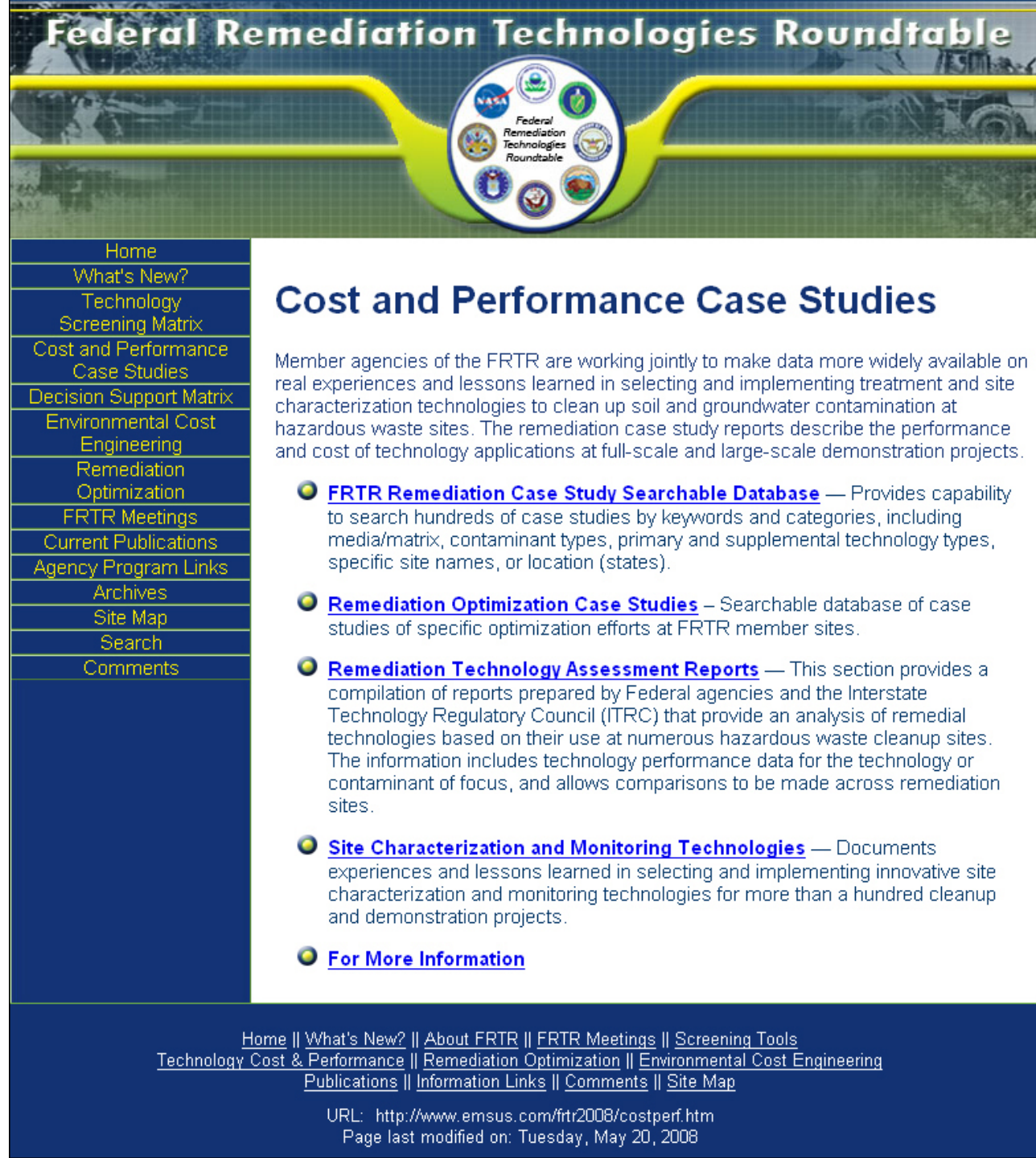
- Home
- What's New?
- Technology Screening Matrix
- Cost and Performance Case Studies
- Decision Support Matrix
- Environmental Cost Engineering
- Remediation Optimization
- FRTR Meetings
- Current Publications
- Agency Program Links
- Archives
- Site Map
- Search
- Comments

## What's New?


- The **NEXT MEETING** of the Federal Remediation Technologies Roundtable will be Thursday, June 5, 2008. Please mark your calendar. The meeting will be in the EPA Conference Center at One Potomac Yard, 2777 South Crystal Drive, Arlington, VA 22202. The focus technical topic for the meeting will be Sediments Remediation. Click [here](#) to view/download the preliminary agenda.
- A new report, [Improving Remedial Effectiveness at U.S. Department of Energy through Optimization Review and Performance Basis — 8209](#), is available.
- A new report, [Sediment Dredging at Superfund Megasites: Assessing the Effectiveness \(2007\)](#), is available.
- The new [Dense Nonaqueous Phase Liquids \(DNAPLs\)](#) website is available.
- **International Environmental Nanotechnology Conference: Applications and Implications, October 7-9, 2008.** The U.S. Environmental Protection Agency (EPA) Region 5 Office, Office of Superfund Remediation and Technology Innovation, and Office of Research and Development are partnering with a variety of agencies and organizations to host the conference. The conference will bring together researchers and practitioners from around the world to discuss the nanotechnology applications for remediation of environmental contaminants; the implications of releasing manufactured nanoparticles into the environment, and pollution control and nano-enabled sensing. For more information, visit <http://emsus.com/nanotechconf/index.htm>.
- 10 new Technology Cost and Performance reports, bringing the total number of searchable reports available to nearly 400
- 9 new, searchable Remediation Process Optimization case studies, bringing the total available to more than 100
- 1 new site characterization and monitoring cases studies, bringing the total available to nearly 200

# Cost and Performance Case Studies

- All case study databases accessible with one button
- Entries within each section arranged by date with the most recent first



**Federal Remediation Technologies Roundtable**



[Home](#)  
[What's New?](#)  
[Technology Screening Matrix](#)  
[Cost and Performance Case Studies](#)  
[Decision Support Matrix](#)  
[Environmental Cost Engineering](#)  
[Remediation Optimization](#)  
[FRTR Meetings](#)  
[Current Publications](#)  
[Agency Program Links](#)  
[Archives](#)  
[Site Map](#)  
[Search](#)  
[Comments](#)

## Cost and Performance Case Studies

Member agencies of the FRTR are working jointly to make data more widely available on real experiences and lessons learned in selecting and implementing treatment and site characterization technologies to clean up soil and groundwater contamination at hazardous waste sites. The remediation case study reports describe the performance and cost of technology applications at full-scale and large-scale demonstration projects.

- **[FRTR Remediation Case Study Searchable Database](#)** — Provides capability to search hundreds of case studies by keywords and categories, including media/matrix, contaminant types, primary and supplemental technology types, specific site names, or location (states).
- **[Remediation Optimization Case Studies](#)** — Searchable database of case studies of specific optimization efforts at FRTR member sites.
- **[Remediation Technology Assessment Reports](#)** — This section provides a compilation of reports prepared by Federal agencies and the Interstate Technology Regulatory Council (ITRC) that provide an analysis of remedial technologies based on their use at numerous hazardous waste cleanup sites. The information includes technology performance data for the technology or contaminant of focus, and allows comparisons to be made across remediation sites.
- **[Site Characterization and Monitoring Technologies](#)** — Documents experiences and lessons learned in selecting and implementing innovative site characterization and monitoring technologies for more than a hundred cleanup and demonstration projects.
- **[For More Information](#)**

[Home](#) || [What's New?](#) || [About FRTR](#) || [FRTR Meetings](#) || [Screening Tools](#)  
[Technology Cost & Performance](#) || [Remediation Optimization](#) || [Environmental Cost Engineering](#)  
[Publications](#) || [Information Links](#) || [Comments](#) || [Site Map](#)

URL: <http://www.emsus.com/frtr2008/costperf.htm>  
Page last modified on: Tuesday, May 20, 2008



# Current Publications

- Includes FRTR member agency publications
- Showcases landmark agency reports; retained for one year
- Listed by date; most recent first
- EPA to discontinue publishing “Abstracts of Remediation Case Studies”



## Federal Remediation Technologies Roundtable

Home
What's New?
Technology Screening Matrix
Cost and Performance Case Studies
Decision Support Matrix
Environmental Cost Engineering
Remediation Optimization
FRTR Meetings
Current Publications
Agency Program Links
Archives
Site Map
Search
Comments

### Current Publications

Following publications have been issued under the auspices of the FRTR or FRTR member agencies. Other publications related to topics of interest to FRTR are cited, as appropriate in other sections of this web site, and many background research and technology documents (more than five years old) are available in the [Archives](#) section.

- ◆ **Improving Remedial Effectiveness at U.S. Department of Energy through Optimization Review and Performance Basis — 8209 (2008) Newly Posted!**  
This paper, presented at the Waste Management 2008 Conference, briefly summarizes (1) the overall benefits of the U.S. Department of Energy's (DOE) Remediation Optimization Review process toward improving remedial effectiveness and efficiency at DOE, (2) the types and objectives of completed reviews, and (3) how remedial process optimization (RPO) facilitates technology transfer and is complementary to performance-based environmental management (PBEM).  
[Download \(59.5KB/5pp/PDF\)](#)
- ◆ **Abstracts of Remediation Case Studies, Volume 11 (2007) Newly Posted!**  
This report is a collection of abstracts summarizing 10 new FRTR cost and performance case studies documenting the results and lessons learned from site remediation technology applications. The abstracts are organized by technology, and include several different technologies for treating soil or groundwater contamination or acid rock drainage, with 3 reports addressing soil cleanup, 4 reports focusing on groundwater and 3 reports focusing on treating acid rock drainage. This document also includes a table (Appendix A) identifying the specific sites, technologies, contaminants, media, and year published for the 393 case studies in the FRTR database.  
[Download \(1.1MB/92pp/PDF\)](#)
- ◆ **Remediation Case Studies and Technology Assessment Reports Fact Sheet (2007)**  
This fact sheet provides information on the remediation case studies and general technology assessment reports produced by the Federal Remediation Technology Roundtable.  
[Download \(1.2MB/6pp/PDF\)](#)
- ◆ **Treatment Technologies for Mercury in Soil, Waste, and Water (2007)**  
This report contains information on the availability, performance, and cost of eight technologies for the treatment of mercury in soil, waste, and water. It describes the theory, design, and operation of the technologies; provides information on commercial availability and use; and includes site-specific data on performance and cost, where



# New Case Studies and Reports\*

## Spring 2008

Focus Area	Total Number
Treatment	8
Technology Assessments	5
Site Characterization	4
Optimization/Long-Term Monitoring	17
Total	34

\* See attached spreadsheet for details

# Table 1: Remediation Case Studies

Agency	Case study title	Technology	Media	In Situ/Ex Situ
EPA	Soil Vapor Extraction, Pump and Treat, and In Situ Chemical Oxidation at Dry Clean USA No. 11502, Orlando, Florida	Soil Vapor Extraction, Pump and Treat, and In Situ Chemical Oxidation	Soil, GW	In Situ/Ex Situ
	Electrical Resistive Heating and Biosparging at the ICN Pharmaceutical Site Portland, Oregon	Electrical Resistive Heating and Biosparging	GW	In Situ
	In Situ Chemical Oxidation and Soil Vapor Extraction at Hanner's Dry Cleaners, Pompano Beach, Florida	Soil Vapor Extraction, In Situ Chemical Oxidation, and In situ bio-stimulation	Soil, GW	In Situ
AFCEE	Enhanced In-Situ Anaerobic Bioremediation of Chlorinated Solvents at the Hangar K Site, Cape Canaveral Air Force Station, Florida	Enhanced In-Situ Anaerobic Bioremediation	GW	In Situ
	Enhanced In-Situ Anaerobic Bioremediation of Chlorinated Solvents at FF-87, Former Newark Air Force Base, Ohio	Enhanced In-Situ Anaerobic Bioremediation	GW	In Situ
	Enhanced In-Situ Anaerobic Bioremediation of Chlorinated Solvents at LF-08, Whiteman Air Force Base, Missouri	Enhanced In-Situ Anaerobic Bioremediation	GW	In Situ
ESTCP/AF	In-Situ Substrate Addition to Create Reactive Zones for Treatment of Chlorinated Aliphatic Hydrocarbons	Enhanced reductive dechlorination	Soil, GW	In Situ
ESTCP/NFESC/AF	In Situ Catalytic Groundwater Treatment Using Palladium Catalysts and Horizontal Flow Treatment Wells	Palladium catalyzed dehalogenation	Soil, GW	In Situ

# Table 2: Site Characterization and Monitoring Case Studies

Agency	Case study title	Category
ITRC	Triad Implementation Guide	Triad
ESTCP	Field Demonstration and Validation of a New Device for Measuring Water and Solute Fluxes (Summary of Cost and Performance Data)	Passive Flux Meters
	Field Demonstration and Validation of a New Device for Measuring Water and Solute Fluxes at CFB Borden (Detailed Cost and Performance Data, QAPP, and Raw data)	Passive Flux Meters
DOE	New Soil VOC Sampler:Accu Core® Sampling/Storage Device for VOC Analysis	Organic Chemical Characterization

# Table 3: Technology Assessment Reports

Agency	Report Title	Category
ITRC	In Situ Bioremediation of Chlorinated Ethene DNAPL Source Zones: Case Studies	In Situ Bioremediation
	Remediation Technologies for Perchlorate Contamination in Water and Soil	Perchlorate
AFCEE	Protocol for In Situ Bioremediation of Chlorinated Solvents Using Edible Oil	In Situ Bioremediation
EPA	A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems	Pump and Treat
	The Use of Soil Amendments for Remediation, Revitalization and Reuse	Soil Amendments



# Table 4: Long-Term Monitoring and Optimization Case Studies

Agency	Report Title	Technology Category
EPA	A Cost Comparison Framework for Use in Optimizing Ground Water Pump and Treat Systems	Pump and Treat
	Long-Term Groundwater Monitoring Optimization, Newark, Muscoy, and Source Operable Units, Newmark Superfund Sites, San Bernardino, California	Pump and Treat
	Long-Term Groundwater Monitoring Optimization, Taylor Road Landfill Superfund Site, Seffner, Hillsborough County, Florida	Pump and Treat
	Remediation System Evaluation (RSE) Ace Services Superfund Site, Colby, Kansas	Pump and Treat, Free Product Recovery
	Remediation System Evaluation (RSE) Northwest Pipe and Casting Site, Clackamas, Oregon	In-situ air stripping
	Remediation System Evaluation (RSE) Central City/Clear Creek Superfund Site, Argo Tunnel Water Treatment Plant, Idaho Springs, Colorado	Chemical Precipitation (pH adjustment and metal removal)
	Streamlined Remediation System Evaluation (RSE-Lite), Benfield Industries Superfund Site Waynesville, North Carolina	Water extraction wells with direct discharge to the POTW sewer
	Final Report: Pilot Region-Based Optimization Program for Fund-Lead Sites EPA Region III	Pump and Treat
	Optimization Strategies for Long-Term Ground Water Remedies (with Particular Emphasis on Pump and Treat Systems)	Pump and Treat
	Groundwater Monitoring Network Optimization Frontier Hard Chrome Superfund Site, Vancouver, Washington	In-situ Redox Manipulation

# Table 4: Long-Term Monitoring and Optimization Case Studies, cont.

Agency	Report Title	Technology Category
<b>DOE</b>	Review Report: Feasibility Study Strategies and Remedial System Performance Improvement for the 200-ZP-1/PW-1 Operable Unit at Hanford	Pump and Treat, and SVE
	Optimization of Ground Water Pump and Treat Systems at Hanford	Pump and Treat
	Evaluation of Amendments for Mending The ISRM Barrier	In Situ Redox Manipulation (ISRM) Barrier
	Paducah 2006 Site Wide Remedy Review	Electrical Resistance Heating and Steam Heating, Pump and Treat,
	Review Report: Groundwater Remedial System Performance Optimization at PGDP, Paducah, Kentucky	Pump and Treat
	Improving Remedial Effectiveness at U.S. Department of Energy through Optimization Review and Performance Basis - 8209	General
	Optimization of Groundwater Monitoring at the Hanford Site	Groundwater Monitoring

# Next Steps

- Site will be “live” at [www.frtr.gov](http://www.frtr.gov) by the end of June. Tell us what you think.
  - Click on “Comment” button in left-hand navigation bar to provide input
- Participate in keeping website up-to-date
  - Contribute items for What’s New? and Current Publications
  - Inform Corps/EPA of changes to the web links; old publications that have been replaced
- Identify opportunities for new C&P case studies
- Comment on draft Fact Sheet by July 5, 2008
- EPA will distribute final fact sheet to member agencies

# Federal Agency Cost and Performance Points of Contact

Organization	Point of Contact *
Army AEC	Scott Hill
USACE	Carol Lee Dona
Navy	Amy Walker/Chuck Reeter
Air Force	Erica Becvar/James Gonzales
ESTCP	Andrea Leeson
DOE	Beth Moore
EPA	John Kingscott/Marti Otto
NASA	Mark Schoppet
USGS	David Morganwalp

\* If any of the above points of contact have changed, please provide new information to [otto.martha@epa.gov](mailto:otto.martha@epa.gov)