



## 2010 ITRC Technical Project Teams

Register at [www.itrcweb.org](http://www.itrcweb.org)

### Attenuation Processes for Metals and Radionuclides

Leads: Dib Goswami, WA and Carl Spreng, CO

Project: Develop a framework to facilitate implementation of the new EPA guidance for monitored natural attenuation of metals and radionuclides. This framework will provide a consistent basis for states, stakeholders, federal agencies, and site owners to evaluate and implement attenuation-based remedies.

### Contaminated Sediments

Leads: John Cargill, DE and Kim McEvoy, NJ

Project: Develop a Web-based Technical Regulatory Guidance document on the concepts, process, and use of bioavailability in a risk-based decision framework at a contaminated sediment site. The document will provide a common resource for regulators and practitioners to determine the appropriate application of bioavailability tools and considerations within human health and ecological exposure pathways.

### Environmental Impacts of Ethanol and Bio-Based Fuels

Lead: Bill Gidley, NE

Project: Develop a technical and regulatory guidance document that provides guidance on the environmental impact associated with releases of biofuels to the environment during the transportation, distribution, and storage of these fuels. Topics to be covered in depth include: release scenarios and prevention, site characterization, fate and transport, and remediation strategies. To make the document relevant as new alternative fuels are introduced to the market, the document will describe a process for evaluating alternative fuels that can be applied to new alternative fuels as they are made commercially available.

### Environmental Molecular Diagnostics **New for 2010**

Lead: Bob Mueller, NJ and Bonnie Pierce, WY

Project: Over the last decade, advanced molecular biological and chemical diagnostic techniques (or tools) have been developed for use in environmental restoration of contaminated soil and groundwater. The most important of these “environmental molecular diagnostics” (EMDs) are various molecular biological tools (MBTs) that can identify and quantify key microorganisms (taxonomy) and their genes (function), and compound specific isotope analysis (CSIA), a chemical method that measures the relative abundance of different isotopes.

These techniques can be used to assess when natural attenuation as a stand-alone remedy is sufficient, or whether enhancements such as chemical amendments or bioaugmentation are necessary. Additionally, EMDs can help decide whether or not to terminate a pump and treat system, assess the effectiveness of in situ chemical oxidation treatment, optimize an in situ bioremediation system, determine when natural attenuation is sufficient as a stand-alone remedy, or even determine when site closure is appropriate.

The EMD team will summarize the fundamental background and current status of available EMDs and provide objective guidance on the best practices for using EMDs and evaluating, applying and interpreting the results of EMDs. Technical and regulatory guidance should lead to greater use and confidence in these diagnostics, and help site managers faced with major decisions about site design, management and resolution.



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### Green & Sustainable Remediation

Lead: Tom O'Neill, NJ

Project: Produce a Technology Overview document explaining what Green/Sustainable remediation is and how GSR is beginning to be implemented in new state and federal programs. Survey ITRC states, partners, and stakeholders (internal and external) on the interest in and focus of a potential Technical Regulatory guidance document.

### Incremental Sampling Methodology

Leads: Mark Malinowski, CA and Ligia Mora-Applegate, FL

Project: Develop a Technical and Regulatory Guidance document for the appropriate implementation of Incremental Sampling (IS) for surface soil. The document will provide a sound basis for adapting the IS approach to meet project goals and site-specific objectives. The document includes: overview of IS concepts and principles; IS methods and considerations - with an emphasis on clearly articulated and defined decision units - and sample collection and processing protocols; regulatory considerations and issues; and case studies.

### In Situ Stabilization and Solidification

Lead: Wilmer Reyes, DE

Project: Develop a recommended protocol for conducting treatability assessments, based on the latest research and experience, including leachability test methodologies and using leaching test results to determine impacts/improvements to groundwater. Develop and obtain multi-state consensus on a technical and regulatory guidance document, including technical performance measures and long term monitoring to assess ISS technology effectiveness for organic and inorganic contaminants, including free and residual product.

### Integrated DNAPL Source Strategy

Lead: Naji Akladiss, ME

Project: Develop an "Integrated DNAPL Site Strategy (IDSS)" to address the technical and regulatory issues involved in integrated technology DNAPL site remediation strategy. The IDSS will assist decision makers in identifying site conditions that are conducive to source zone clean-up and those where technologies (or combinations of technologies) will control and remediate DNAPL source and plume. The guidance will also help in establishing realistic expectations and goals for cleanups and a methodology for measuring progress towards achieving those goals.

### Permeable Reactive Barriers: Technology Update

Leads: John Doyon, NJ and Kimberly Wilson, SC

Project: Develop technical and regulatory guidance document discussing new developments and innovative approaches in the applications of PRBs to treat groundwater contaminants. Additional prove-outs and updates since the previous PRB lessons learned document in 2005 will also be included. The document will emphasize recent advances in biowalls, non-iron reactive media, and newer injection methods.