

## Message #111: May 2006

Welcome to TechDirect! Since the April 1 message, TechDirect gained 256 new subscribers for a total of 25,032. If you feel the service is valuable, please share TechDirect with your colleagues. Anyone interested in subscribing may do so on CLU-IN at <http://clu-in.org/techdirect> . All previous issues of TechDirect are archived there. The TechDirect messages of the past can be searched by keyword or can be viewed as individual issues.

The purpose of TechDirect is to identify new technical, policy and guidance resources related to the assessment and remediation of contaminated soil, sediments and ground water.

Mention of non-EPA documents or presentations does not constitute a U.S. EPA endorsement of their contents, only an acknowledgment that they exist and may be relevant to the TechDirect audience.

### ***Webcast Seminars***

**Real Estate Finance Basics - May 9.** This seminar is a concentrated introduction to the core concepts of real estate finance and development. Topics include market analysis and feasibility, the financing of environmentally challenged properties, the impact of leverage, and property valuation techniques. For more information and to register, see <http://clu-in.org/studio> .

**ITRC What's New with In Situ Chemical Oxidation? - May 11.** This seminar presents updated guidance and technology advancement information for In Situ Chemical Oxidation. Topics include a regulatory discussion related to ISCO implementation; details on the chemistry behind ISCO technology; considerations for system design and application, including health and safety; and performance evaluation information. The course is based on the ITRC's In Situ Chemical Oxidation of Contaminated Soil and Groundwater, Second Edition (ISCO-2, 2005), with sections on technology overview and applicability, remedial investigations, safety concerns, regulatory concerns, injection design, monitoring, stakeholder concerns, and case studies. For more information and to register, see <http://www.itrcweb.org> Or <http://clu-in.org/studio> .

**ITRC Site Investigation and Remediation for Munitions Response Projects - May 18.** This training provides an introduction and overview of the processes, tools, and techniques used in

investigation and remediation. These concepts are illustrated using an example munitions response site. Major steps in each process are identified and key regulatory considerations discussed. This training also identifies additional sources for more detailed information on key aspects of investigation and remediation. State regulators and others who need to understand the general processes involved in these critical aspects of the munitions response process will benefit from this training. For more information and to register, see <http://www.itrcweb.org> Or <http://clu-in.org/studio> .

## ***New Documents and Web Resources***

**Off-Gas Treatment Technologies for Soil Vapor Extraction Systems: State of the Practice (EPA 542-R-05-028)** . This document, produced by the EPA Office of Superfund Remediation and Technology Innovation, provides state-of-the-practice information on off-gas treatment technologies for soil vapor extraction systems currently being used to clean up hazardous waste sites. It provides information on common practices such as carbon adsorption and thermal oxidation, less frequently used technologies such as biofiltration, and emerging alternatives including photocatalytic and non-thermal plasma treatment. The report presents the state of the practice for these technologies based on applicability, limitations, performance, engineering considerations, residuals management, cost and economics, and developmental status (March 2006, 129 pages). View or download at

<http://clu-in.org/techpubs.htm> .

**ITRC Life Cycle Cost Analysis (RPO-2)**. This document was produced by the Interstate Technology and Regulatory Council. This overview introduces the reader to the basic concepts of Life-Cycle Cost Analysis. The ITRC Remediation Process Optimization (RPO) Team identified the need for detailed information on Life-Cycle Cost Analysis. This overview will further develop the concepts of life-cycle cost and its potential application to site remediation projects (March 2006, 18 pages). View or download at <http://www.itrcweb.org/Documents/RPO-2.pdf> .

**ITRC Exit Strategy ♦ Seeing the Forest Beyond the Trees (RPO-3)**. This document was produced by the Interstate Technology and Regulatory Council. This overview reviews the concept and advantages of Performance-Based Exit Strategies as one element of performance-based management (PBM) of environmental remediation projects. The RPO team identified the need for information on several additional PBM topics. This overview focuses on the role of the exit strategy in PBM of site remediation; reviews key elements of an exit strategy, discusses the benefits of preparing

a transparent, flexible performance-based exit strategy, summarizes potential obstacles to developing, refining, and implementing a performance-based exit strategy, and considers the role of regulatory agencies in optimizing exit strategies (March 2006, 18 pages). View or download at <http://www.itrcweb.org/Documents/RPO-3.pdf> .

**ITRC Above Ground Treatment Technologies (RPO-4).** This document was produced by the Interstate Technology and Regulatory Council. This overview introduces the reader to the basic concepts of optimization of above ground technologies. It provides a general overview of some common optimization opportunities found for above ground treatment systems for (1) extracted ground water, (2) air sparging/soil vapor extraction (AS/SVE), and (3) multi-phase extraction (MPE). Although there are many areas in which optimization can be applied, this overview will focus only on these three. It should also be noted that the discussion of extracted ground water is not intended to advocate pump and treat systems, but rather is an acknowledgment that these systems are in existence and are likely candidates for optimization (March 2006, 26 pages). View or download at <http://www.itrcweb.org/Documents/RPO-4.pdf> .

**ITRC Data Management, Analysis, and Visualization Techniques (RPO-5).** This document was produced by the Interstate Technology and Regulatory Council. It introduces the reader to the basic concepts of Data Management, Analysis and Visualization Techniques (DMAVT). Data Management, Analysis, and Visualization Techniques in some ways are important tools in successfully measuring the progress of a remediation or a monitoring program. This overview will further develop the basic concepts of DMAVT and their potential application to site rehabilitation projects (March 2006, 22 pages). View or download at <http://www.itrcweb.org/Documents/RPO-5.pdf> .

**ITRC Performance-Based Management (RPO-6).** This overview introduces the reader to the basic concepts of Performance-based Management (PBM). It further develops the basic concepts of PBM and its potential application to site remediation projects. In addition, because the ITRC RPO Team is currently developing a Technical Regulatory Guidance Document on PBM, this articulation represents only a beginning of information on this subject (March 2006, 22 pages). View or download at <http://www.itrcweb.org/Documents/RPO-6.pdf> .

**The Impact of EU Directives on the Management of Contaminated Land - Report of the NICOLE Workshop, Cagliari, Italy, December 2005.** This report provides an executive summary of the discussions held during this NICOLE Workshop. The workshop was initiated to: inform and explain to the participants of

the workshop what a range of existing and proposed EC Directives might mean to the management of contaminated land; and create an opportunity for dialogue between stakeholders and regulators. The workshop discussions focused on the EU Groundwater Directive, the Soil Framework Directive, and the Waste Framework Directive (March 2006, 57 pages). View or download at

<http://www.nicole.org/publications/library.asp?listing=1> .

**CLU-IN Issue Areas.** A new Issue Area feature has been added to CLU-IN. EPA understands that site owners and other parties involved in remedial activities need information on emerging issues. CLU-IN Issue Areas bundle available information associated with selected topics. They draw upon existing resources from the CLU-IN Web site, but also from other sources of information that were not previously cited or available on CLU-IN. These topics are still being researched, and these issue areas will be updated with information from federal cleanup programs, state sources, universities, nonprofit organizations, peer-reviewed publications, and public-private partnerships. We welcome any suggestions you may have for new topics or additional resources. Currently the Issue Areas include sections on DNAPLs, Mining sites, Nanotechnology, Sediments, Vapor Intrusion and Wood Treater sites. For more information, see

<http://clu-in.org/issues/> .

**New Triad Project Profiles.** Triad project profiles contain information about completed and ongoing applications of the Triad at contaminated sites. Triad project profiles describe sites that use the elements of the Triad: systematic planning, real-time monitoring and measurement technologies, and dynamic work strategies. While the focus of the profiles is on sites that demonstrated all three components of the Triad, some of these sites exhibited only one or two aspects but are still useful examples. The Triad project profiles provide a summary of relevant site information, contaminants and media, project goals and outcomes, cost and time-savings, detailed information on the Triad work performed at the site, as well as points of contact and electronic references. Five new profiles have been recently added. For more information, see

<http://www.triadcentral.org/user/profile/index.cfm> .

## ***Conferences and Symposia***

**Long-Term Monitoring Optimization (LTMO) Training (Spring 2006).** EPA is partnering with the U.S. Army Corps of Engineers and several state offices to offer training on LTMO for groundwater in Trenton, New Jersey on May 3-4, 2006 and Kansas City, Kansas on June 13-14, 2006. The training provides information about new

quantitative methods of LTMO for groundwater. Responsible parties have used LTMO techniques at more than 50 sites nationwide and are likely to use them at more sites in the future. It is important for regulators to be familiar with LTMO techniques. Regulators can use these methods to make appropriate decisions about the optimal location and frequency of groundwater monitoring and about approving changes to groundwater monitoring networks. The training includes information about some of these methods, such as the Monitoring and Remediation Optimization System (MAROS), the Geostatistical Temporal-Spatial algorithm or GTS, and the three-tiered monitoring network optimization (MNO) approach. While the training is designed primarily for state and federal regulators, federal facilities cleanup managers, potentially responsible parties (PRPs), and contractors are welcome to participate. State and federal regulators will receive registration priority. Hands-on training in the use of MAROS will also be provided. For dates and details about each training and to register, visit <http://www.trainex.org>.

**National Sustainable Design Expo and Competition, Washington DC, May 9-10.** More than 350 college and university students will be on the National Mall competing for EPA's Second Annual P3 (People, Prosperity, Planet) Award. This EPA showcase features novel designs for green buildings, innovative alternative fuel technologies, ideas on rainwater collection, and even options for "greening" the apparel industry. It is an opportunity to see cutting-edge technologies developed by university students and their faculty advisors; learn what nonprofit organizations and government agencies are doing to advance sustainability; and experience sustainable products that are currently available. The competition will culminate in an awards ceremony to recognize those projects selected to receive the EPA's P3 Award, which potentially features a \$75,000 grant. The Green Building Initiative, American Institute of Chemical Engineers, and the International Center for Appropriate and Sustainable Technology will announce separate awards at that time. Additionally, Duke University, in partnership with industry, will announce a new sustainability initiative at the Expo. Go to [www.epa.gov/P3](http://www.epa.gov/P3) to learn more about the event and competition.

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