

TechDirect, April 1, 2012

Welcome to TechDirect! Since the March 1 message, TechDirect gained 261 new subscribers for a total of 31,681. 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.

TechDirect's purpose 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.

> Follow Us!

Connect with CLU-IN on Facebook and Twitter.

The Clean Up Information Network (CLU-IN) is now available through social networking sites such as Facebook and Twitter. Starting April 1, 2012, you will find CLU-IN's hazardous waste clean up technology information, training, and web resources are just a tweet (or post) away! More information at <http://clu-in.org/followus> .

> Upcoming Live Internet Seminars

Early-life Exposures - Long-term Health Consequences Part 3: PCE and Phthalates - April 2, 2012, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This series "Early-life Exposures - Long-term Health Consequences" features SRP research in revealing the vulnerability of a developing child by identifying how biological systems are disturbed in this early period of life. The series will showcase cutting edge research findings that illuminate the consequences of early life exposures to metals and organic contaminants of emerging concern. The third session of this series "Early-life Exposures - Long-term Health Consequences Part 3: PCE and Phthalates" features SRP grantees Dr. Ann Aschengrau (Boston University), Dr. John Meeker (University of Michigan) and Dr. Rita Loch-Caruso (University of Michigan) and their work with early exposures and their resulting developmental effects. For more information and to register, see <http://clu-in.org/live> .

NARPM Presents...Institutional Controls - April 4, 2012, 1:00PM-3:00PM EDT(17:00-19:00 GMT). Come hear the latest on Institutional Controls (IC) during this webinar. Assuming you know the basics about ICs: (1) they are non-engineered components of a remedy, including legal and communication mechanisms to protect the remedy, and (2) most Superfund sites require effective ICs to ensure that remedies remain protective. However, as always, the "devil is in the details." The planning and implementation of ICs has come a long way since the early days of Superfund, as we have had to create and innovate to make ICs work for unique situations. Also, new developments help us with our endeavor for effective ICs. The session will start with a discussion of the latest guidance: the "Planning, Implementing, Monitoring, and Enforcing of Institutional Controls" (PIME) Guidance. We will also briefly touch on the 2011 "Recommended Evaluation of Institutional Controls, Supplement to the Five-year Review Guidance" and other pending IC guidance. This is followed by case study examples involving

local ordinances in Region 7, and complex IC issues in Region 5. Finally, a special topic of implementing ICs on Tribal Lands will be examined. All questions and issues related to ICs are welcome! For more information and to register, see <http://clu-in.org/live> .

ITRC Integrated DNAPL Site Strategy - April 5, 2012, 11:00AM-1:15PM EDT (15:00-17:15 GMT). The ITRC Integrated Dense Nonaqueous Phase Liquid Site Strategy (IDSS-1, 2011) technical and regulatory guidance document will assist site managers in development of an integrated site remedial strategy. This course highlights five important features of an IDSS including: a conceptual site model (CSM) that is based on reliable characterization and an understanding of the subsurface conditions that control contaminant transport, reactivity, and distribution; remedial objectives and performance metrics that are clear, concise, and measurable; treatment technologies applied to optimize performance and take advantage of potential synergistic effects; monitoring based on interim and final cleanup objectives, the selected treatment technology and approach, and remedial performance goals; and reevaluating the strategy repeatedly and even modifying the approach when objectives are not being met or when alternative methods offer similar or better outcomes at lower cost. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live> .

ITRC Permeable Reactive Barrier: Technology Update - April 10, 2012, 2:00PM-4:15PM EDT (18:00-20:15 GMT). The ITRC Technical/Regulatory Guidance Permeable Reactive Barrier: Technology Update (PRB-5, 2011) and associated Internet-based training is intended to help guide state and federal regulators, consultants, project managers and other stakeholders and technology implementers through the decision process when a Permeable Reactive Barrier (PRB) is being considered as a remedy, or part of a remedy, to address contaminated groundwater; and to provide updated information regarding several technical aspects of the PRB using information attained from the more than 15 years that the PRB has been a viable and accepted in situ remediation technology for contaminated groundwater. The guidance and training provides an update on PRBs to include discussions of additional types of reactive media and contaminants that can be treated, design considerations, construction/installation approaches and technologies, performance assessment and longevity. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live> .

NARPM Presents...Redux of NARPM 2011 Greener Cleanups Sessions - April 17 and 23, 2012, 1:00PM-3:00PM EDT (17:00-19:00 GMT). In May 2011, EPA held its annual National Association of Remedial Project Managers (NARPM) training program in Kansas City, MO, and for the fourth year in a row, one of our most attended sessions was on Greener Cleanups (GC). And like last year, we are offering those talks again to an online audience! EPA's definition of GC includes the practice of considering the environmental effects of a remediation strategy (i.e., the remedy selected and the implementation approach) early in the process, and incorporating options to maximize the net environmental benefit of the cleanup action. Back in August, we offered the first of three webinar sessions on the Footprint Methodology, and this April we will showcase the remaining two webinars. We've got more case studies and maturing policy and guidance that we'd like to share with an online audience. EPA's Technical Support Project, led by the Engineering Forum, will present these sessions. Each 2 hour session will include policy and/or case studies, with time for Q&A along the way. For more information and to register, see <http://clu-in.org/live> .

Greener Cleanups - EPA's Methodology for Understanding and Reducing a Project's Environmental Footprint (Final) - April 18, 2012, 1:00PM-3:00PM EDT (17:00-19:00 GMT). The process of cleaning up a hazardous waste site uses energy, water, and other natural or materials resources and consequently creates an environmental footprint of its own. The US EPA recently released a methodology for quantifying the environmental footprints. The information obtained helps prioritize efforts to reduce the footprint and improve the outcome of cleanups under any regulatory program. The two-hour seminar will: (1) discuss the genesis of the effort; (2) summarize the methodology for estimating or quantifying the footprint and the associated metrics; and (3) provide an interactive case study to allow participants to get a feel for the process of calculating an environmental footprint and evaluating options to reduce it. An

open forum will be held after the presentations, during which participants will be able to submit questions and feedback to the speakers. For more information and to register, see <http://clu-in.org/live>

NARPM Presents...Using Science to Find Solutions at Superfund Sites - The Benefit of EPA and USGS Collaboration - April 19, 2012, 1:00PM-3:00PM EDT (17:00-19:00 GMT).

This 2-hour webinar, led by two EPA Region IV Remedial Project Managers with the Superfund Division, Superfund Remedial Branch, and a Research Hydrologist with the U.S. Geological Survey, will provide an overview of the various science-based approaches used from 2008-2012 at the Capital City Plume (CCP) Superfund Site characterized by chlorinated-solvent and metals-contaminated groundwater. The webinar will cover the investigation of: (1) potential contaminant source areas, (2) contamination pathways, and (3) probable contaminant release histories. The same science-based approaches successfully used at the CCP Site also can be used at other similar Superfund sites where potentially responsible party assessment is not straightforward. For more information and to register, see <http://clu-in.org/live>.

Close Out Procedures for NPL Sites Training - April 24, 2012, 1:00PM-4:00PM EDT (17:00-20:00 GMT).

The Close Out Procedures for NPL Sites Guidance was updated and reissued in May 2011. The guidance addresses policy related to Remedial Action Completions, Construction Completions, Site Completion, Deletion and Partial Deletion. This 3 hour training will have separate modules addressing each of these policy areas. For more information and to register, see <http://clu-in.org/live>.

ITRC Green & Sustainable Remediation - April 26, 2012, 11:00AM-1:15PM EDT (15:00-17:15 GMT).

Many state and federal agencies are just beginning to assess and apply green and sustainable remediation (GSR) into their regulatory programs. This training provides background on GSR concepts, a scalable and flexible framework and metrics, tools and resources to conduct GSR evaluations on remedial projects. The training is based on the ITRC's Technical & Regulatory Guidance Document: Green and Sustainable Remediation: A Practical Framework (GSR-2, 2011) as well as ITRC's Overview Document, Green and Sustainable Remediation: State of the Science and Practice (GSR-1, 2011). Beyond basic GSR principles and definitions, participants will learn the potential benefits of incorporating GSR into their projects; when and how to incorporate GSR within a project's life cycle; and how to perform a GSR evaluation using appropriate tools. In addition, a variety of case studies will demonstrate the application of GSR and the results. The training course provides an important primer for both organizations initiating GSR programs as well as those organizations seeking to incorporate GSR considerations into existing regulatory guidance. For more information and to register, see <http://www.itrcweb.org> Or <http://clu-in.org/live>.

ITRC Use and Measurement of Mass Flux and Mass Discharge - May 3, 2012, 11:00AM-1:15PM EDT (15:00-17:15 GMT).

The ITRC technology overview, Use and Measurement of Mass Flux and Mass Discharge (MASSFLUX-1, 2010), and associated Internet-based training provide a description of the underlying concepts, potential applications, description of methods for measuring and calculating, and case studies of the uses of mass flux and mass discharge. This Technology Overview, and associated Internet-based training are intended to foster the appropriate understanding and application of mass flux and mass discharge estimates, and provide examples of use and analysis. The document and training assumes the participant has a general understanding of hydrogeology, the movement of chemicals in porous media, remediation technologies, and the overall remedial process. For more information and to register, see <http://www.itrcweb.org> Or <http://clu-in.org/live>.

Staying Connected with CLU-IN - May 9, 2012, 1:00PM-2:00PM EDT (17:00-18:00 GMT).

This seminar will discuss information delivery services offered by the Clean Up Information Network (CLU-IN). Presenters will highlight new Facebook and Twitter feeds to keep interested parties connected to CLU-IN. Other services such as free e-newsletters, RSS feeds, Podcasts, and online training will also be showcased. For more information and to register, see <http://clu-in.org/live>.

> New Documents and Web Resources

EPA Small Business Innovation Research (SBIR) Phase I Solicitation. EPA's SBIR Program supports the development of commercializable technologies that help the EPA meet its mission of protecting human health and the environment. The SBIR Phase I solicitation is now open and includes topics on water, innovation in manufacturing, green building, waste, air quality, sustainable utilization of biomass and homeland security. The innovation in manufacturing topic includes subtopics on green manufacturing, designing greener chemicals, rare earth elements and computational toxicology. The solicitation closes on May 3rd. More information and proposal instructions at http://www.epa.gov/ncer/rfa/2013/2013_sbir_phase1.html .

Green Remediation Best Management Practices: Overview of EPA's Methodology to Address the Environmental Footprint of Site Cleanup (EPA 542-F-12-023). Contaminated site cleanups involving complex activities may benefit from a detailed environmental footprint analysis to inform decision-making about application of suitable best management practices for greener cleanups. The U.S. EPA's two-page fact sheet explains how EPA's methodology provides a roadmap for conducting such an analysis and summarizes the Agency's preferred metrics and processes when an analysis is conducted (March 2012, 2 pages). View or download at <http://clu-in.org/techpubs.htm> .

New CLU-IN Focus Area on Global Efforts to Advance Remediation at Contaminated Sites. The EPA Superfund programs' technology innovation efforts focus on advancing the state of the practice in the remediation of contaminated sites. Better site cleanup practices allow us to meet our core mission, protecting human health and the environment, in a more efficient and cost-effective way. In today's global economy innovations can arise in almost any country, and improved communication between professionals allows us to exchange knowledge and leverage lessons learned. Sharing our experiences and learning increases productivity and the value of the time and energy we all invest in site cleanups, and building awareness of resources and knowledge at our disposal provides a healthy pay off for the global community. At Superfund we continue to expand our ability to learn from each other online through websites, webinars, and virtual meetings, while maximizing the value of the occasional in-person meeting. This website describes some of the venues through which we share our experiences and learn from others. View and use at <http://clu-in.org/global> .

Technology News and Trends: Let Us Know If You Would Like to Go Paperless! In the interest of minimizing the resources required to print and distribute the Technology News and Trends newsletter (<http://www.clu-in.org/products/newsletters/tandt/>), EPA is going paperless and will be distributing the newsletter electronically. If you are a subscriber, please let us know if you would like to continue your subscription via semi-monthly email notifications. Please send an email message with your mailing address and email address to TNTeditor@emsus.com. Put "Paperless" in the subject line so we can make the switch.

Technology Innovation News Survey Corner. The Technology Innovation News Survey contains market/commercialization information; reports on demonstrations, feasibility studies and research; and other news relevant to the hazardous waste community interested in technology development. Recent issues, complete archives, and subscription information is available at <http://clu-in.org/products/tins/> . The following resources were included in recent issues:

- Everything Nanosilver and More: State-of-the-Science Review
- Nano Titanium Dioxide Environmental Matters: State of the Science Literature Review
- Guidance to Facilitate Decisions for Sustainable Nanotechnology
- Screening Methods for Metal-Containing Nanoparticles in Water
- Temporal Variation of VOCs in Soils from Groundwater to the Surface/Subslab

- A New Screening Method for Methane in Soil Gas Using Existing Groundwater Monitoring Wells
- Overview of Cost Estimating for Abandoned Mine Lands and Hazardous Materials Cleanup Projects
- Quantifying Methane Abatement Efficiency at Three Municipal Solid Waste Landfills
- Costs of Arsenic Removal Technologies for Small Water Systems
- Management of Munitions Constituents in Soil Using Alkaline Hydrolysis: A Guide for Practitioners
- MMRP Guidance Document for Soil Sampling of Energetics and Metals
- Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF) Regulations: A User-Friendly Reference Document for RCRA Subtitle C Permit Writers and Permittees, Version 1
- Field Portable GC-MS Unit for Semi-Volatile Compound Analysis in Groundwater
- Large Volume Ethanol Spills: Environmental Impacts and Response Options
- The Scenarios Approach to Attenuation-Based Remedies for Inorganic and Radionuclide Contaminants
- Remediation of PAH-Contaminated Soils and Sediments: A Literature Review
- Vapor Intrusion Public Participation Advisory [California]

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 16 resources, events, projects and news items were added to EUGRIS in March 1-24, 2012. These can be viewed at <http://www.eugris.info/whatsnew.asp> . Then select the appropriate month and year for the updates in which you are interested. The following resource was posted on EUGRIS:

Megasite Management Toolsuite (2012). The Megasite Management Toolsuite MMT is a software tool for consultants, authorities, and investors involved in the planning and assessment of revitalization options for brownfields. More information at <http://www.safira-mmt.de/>

The Development of Risk Based Generic Assessment Criteria (GAC) for Assessment of Chronic Human Health Risks from Exposure to Soil Contaminants (CLAIR:e 2012). This technical bulletin describes the on-going technical programme of human health risk assessment and toxicological research since 2003 and has led to the generation of the most recent set of Atkins Generic Assessment Criteria (GAC), termed ATRISKsoil Soil Screening Values (SSVs) and Water Screening Values (WSVs), for the initial assessment of chronic human health risks from exposure to contaminants within soils and groundwater. View or download at http://www.claire.co.uk/index.php?option=com_phocadownload&view=file&id=267:case-study-bulletins&Itemid=61 .

> Conferences and Symposia

LNAPLs: Science, Management, and Technology ITRC 2-day Classroom Training, Boston, MA, April 5-6, 2012. Led by internationally recognized experts, this 2-day ITRC classroom training will enable you to develop and apply an LNAPL Conceptual Site Model (LCSM), understand and assess LNAPL subsurface behavior, develop and justify LNAPL remedial objectives including maximum extent practicable considerations, select appropriate LNAPL remedial technologies and measure progress, and use ITRC's science-based LNAPL guidance to efficiently move sites to closure. Interactive learning with classroom exercises and Q&A sessions will reinforce these course learning objectives. For more information and to register, see <http://www.itrcweb.org/crt.asp> .

Registration Now Open!! 2012 National Training Conference on the Toxics Release Inventory and Environmental Conditions in Communities, Washington, DC, April 11-13, 2012. This year's theme is "Understanding the Past and Promoting a Sustainable Future." This conference will feature presentations on topics ranging from environmental conditions on Tribal

lands, to industry achievements in pollution prevention, to what the Toxics Release Inventory (TRI) might look like in 2020. To check out the draft agenda and register, see <http://www.chemicalright2know.org/tri-conference/2012-tri-national-conference/> . For questions or more information, please contact Caitlin Briere at briere.caitlin@epa.gov or 202-566-1646.

ITRC's 2012 Spring Membership Meeting, Des Moines, IA, April 16-20, 2012. The 2012 Spring Membership Meeting will offer environmental professionals who are ITRC members from across the country an opportunity to network and collaborate on innovative approaches to solving environmental challenges. As always, this meeting continues to focus on our members by providing the following: meetings for all 2012 ITRC Teams, discussions about ITRC's direction with ITRC's Board of Advisors and Director, opportunities to expand your network in the environmental community, and engagement with ITRC project teams during technical sessions enabling members to discover more about innovative strategies other teams are pursuing for 2012 and beyond. For more information and to register, see <http://www.itrcweb.org/2012SpringMeeting.asp> .

Registration Now Open!! 2012 Remediation Innovative Technology Seminar (RITS), Washington, DC, May 1-2, 2012. RITS is the premiere showcase for the latest Navy Environmental Restoration (ER) technology, methodology, and guidance news. The seminar is geared toward Navy Remedial Project Managers (RPMs), but will welcome other Department of Defense personnel, federal/state/local regulators, and contractors (with a current, active Navy ER contract) to attend. The RITS is offered only one time in 2012, so don't miss this opportunity to benefit from high-caliber, Navy-focused information. For more information and to register, see https://portal.navy.mil/portal/page/portal/NAVFAC/NAVFAC_WW_PP/NAVFAC_NFESC_PP/ENVIRONMENTAL/ERB/RITS_PAGE .

Training Opportunity for Small and Disadvantaged Businesses (SDB). The U.S. EPA Technology Innovation and Field Services Division (TIFSD) offers training that is designed to build the technical capacity of SDBs in the site characterization and remediation field. The training is part of an exciting new initiative designed to build the technical capacity of SDBs as they compete for environmental cleanup jobs in a greener workforce. An upcoming delivery is the Best Management Practices for Site Assessment, Site Remediation, and Greener Cleanups, 1-day course that is scheduled for May 18, 2012, in San Francisco, CA at the U.S. EPA Region 9 office. There are no tuition costs for this course and additional information can be found at <http://trainex.org/BMP-SARGC> . In addition to SDBs, EPA, federal, tribal, state, and local technical project managers and stakeholders involved in the cleanup and reuse of hazardous waste sites may find this course of interest. For additional information on the SDB initiative, visit <http://clu-in.org/smallbusiness> . For information on other upcoming training courses, visit <http://www.trainex.org/> .

NOTE: For TechDirect, we prefer to concentrate mainly on new documents and the Internet live events. However, we do support an area on CLU-IN where announcement of conferences and courses can be regularly posted. We invite sponsors to input information on their events at <http://clu-in.org/courses> . Likewise, readers may visit this area for news of upcoming events that might be of interest. It allows users to search events by location, topic, time period, etc.

If you have any questions regarding TechDirect, contact Jeff Heimerman at (703) 603-7191 or heimerman.jeff@epa.gov. Remember, you may subscribe, unsubscribe or change your subscription address at <http://clu-in.org/techdirect> at any time night or day.

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