U.S. ENVIRONMENTAL PROTECTION AGENCY

TechDirect, January 1, 2014

Happy Holidays and may you have a prosperous new year! Welcome to TechDirect! Since the December 1 message, TechDirect gained 235 new subscribers for a total of 36,111. 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 groundwater.

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.

> Upcoming Live Internet Seminars

ITRC Environmental Molecular Diagnostics: New Tools for Better Decisions - January 7, 2014, 2:00PM-4:15PM EST (19:00-21:15 GMT). Environmental molecular diagnostics (EMDs) are a group of advanced and emerging analytical techniques used to analyze biological and chemical characteristics of environmental samples. Although EMDs have been used over the past 25 years in various scientific fields, particularly medical research and diagnostic fields, their application to environmental remediation management is relatively new and rapidly developing. The ITRC Environmental Molecular Diagnostics Fact Sheets (EMD-1, 2011), ITRC Environmental Molecular Diagnostics Technical and Regulatory Guidance (EMD-2, 2013) and this companion Internet-based training will foster the appropriate uses of EMDs and help regulators, consultants, site owners, and other stakeholders to better understand a site and to make decisions based on the results of EMD analyses. At the conclusion of the training, learners will be able to determine when and how to use the ITRC Environmental Molecular Diagnostics Technical and Regulatory Guidance (EMD-2, 2013); define when EMDs can cost-effectively augment traditional remediation data sets; and describe the utility of various types of EMDs during remediation activities. 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 - January 9, 2014, 11:00AM-1:15PM EST (16:00-18:15 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 .

ITRC Project Risk Management for Site Remediation - January 14, 2014, 2:00PM-4:15PM EST (19:00-21:15 GMT). Remediation Risk Management (RRM) is a course of action through which all risks related to the remediation processes (site investigations, remedy selection, execution, and completion) are holistically addressed in order to maximize the certainty in the cleanup process to protect human health and the environment. Remediation decisions to achieve such a goal should be made based on threshold criteria on human health and ecological risks, while considering all the other potential project risks. Through this training course and associated ITRC Technical and Regulatory Guidance Document: Project Risk Management for Site Remediation (RRM-1, 2011), the ITRC RRM team presents tools and processes that can help the site remediation practitioner anticipate, plan for, and mitigate many of the most common obstacles to a successful site remediation project. Examples of project risks include remediation technology feasibility risks; remedy selection risks; remedy construction, operation and monitoring risks; remedy performance and operations risks; environmental impacts of systems during their operation; worker safety risk, human health and ecological impacts due to remedy operation; as well as costs and schedules risks including funding and contracting issues. For more information and to register, see http://www.itrcweb.org or http://clu-in.org/live .

SRP Funding Opportunities Web Seminar - January 16, 2014, 1:00PM-2:30PM EST (18:00-19:30 GMT). The SRP will be holding a web seminar to provide information about current "Superfund Hazardous Substance Research and Training Program (P42)" funding opportunities. Primary focus will be on the new multi-project center grant announcement (P42), including an emphasis on changes compared to previous solicitations. Participants will have an opportunity to ask questions. For more information and to register, see http://clu-in.org/live .

Military Munitions Support Services - MMRP Objectives - DQOs & RAOs - February 4, 2014, 1:00PM-4:45PM EST (18:00-21:45 GMT). This is one of the monthly webinar sessions for the Military Munitions Support Services (M2S2) community. During this session, speakers will make presentations on a variety of topics relative to development of high quality Data Quality Objectives and Remedial Action Objectives for munitions projects. For more information and to register, see http://clu-in.org/live .

> New Documents and Web Resources

Green Remediation Best Management Practices: Materials and Waste Management (EPA 542-F-13-003). The process of cleaning up a contaminated site often involves purchasing and consuming large volumes of manufactured items as well as raw or processed resources. Site cleanup can also generate significant volumes of waste that could be recycled or salvaged for reuse rather than disposed of at landfills. To help cleanup decision-makers reduce environmental footprints associated with materials and waste, the U.S. Environmental Protection Agency recently issued a new "green remediation BMP" fact sheet on materials and waste management. The best management practices (BMPs) involve various approaches to purchasing greener products and expanding capability for material reuse or recycling rather than disposal (December 2013, 4 pages). View or download at http://clu-in.org/techpubs.htm .

Climate Change Adaptation Technical Fact Sheet: Groundwater Remediation Systems (EPA 542-F-13-004). In February 2013, the U.S. EPA released the draft *U.S. Environmental Protection Agency Climate Change Adaptation Plan*. The plan examines how EPA programs may be vulnerable to a changing climate and how the Agency can accordingly adapt in order to continue meeting its mission of protecting human health and the environment. EPA's Superfund Program has undertaken associated efforts to identify potential impacts of climate change on site remediation projects and to identify adaptation strategies. A key component of the Superfund climate change adaptation action plan involves developing tools that can help project managers and other cleanup stakeholders to identify, prioritize and implement site-specific measures for increasing remedy resilience to climate change impacts. EPA's new *Climate Change Adaptation Technical Fact Sheet: Groundwater Remediation Systems* is the first in a series intended to serve as an adaptation planning tool by providing an overview of potential climate change vulnerabilities and presenting possible adaptation measures that may be considered to increase a remedy's resilience to climate change impacts. Concepts addressed in this tool can also apply to site cleanups conducted under other regulatory programs or through voluntary efforts (December 2013, 8 pages). To learn more about climate change adaptation in the Superfund Program, visit www.epa.gov/superfund/climatechange . View or download the fact sheet at http://clu-in.org/techpubs.htm .

EPA Releases Chemical Screening Data on 1,800 Chemicals/Agency Improves Access to Chemical Data and Announces ToxCast Data Challenges. EPA's use of cost effective advanced chemical screening techniques has transformed this country's knowledge of the safety of almost 2,000 chemicals currently in use, said Lek Kadeli, acting assistant administrator for EPA's Office of Research and Development. As part of this data release, EPA is announcing the ToxCast Data Challenges, a series of challenges inviting the science and technology community to work with the data and provide solutions for how the new chemical screening data can be used to predict potential health effects. Challenge winners will receive awards for their innovative research ideas. View the Interactive Chemical Safety for Sustainability (iCSS) Dashboard at http://actor.epa.gov/dashboard/ and participate in the ToxCast Data Challenges at http://epa.gov/ncct/challenges.html .

2014 ITRC Team Membership Registration is Open. Registration is open for the following 2014 ITRC Teams: Contaminated Sediments - Remediation, DNAPL Site Characterization, Geophysical Classification for Munitions Response, Geostatistics for Remediation Optimization, Long Term Contaminant Management Using Institutional Controls, Petroleum Vapor Intrusion, Remediation Management of Complex Sites, Risk Assessment. For more information and to register for ITRC Team Membership, see http://www.itrcweb.org/Membership/Welcome .

Updated Guidance for RCRA Subtitle C Permit Writers and Permittees (EPA 530-R-11-006). EPA has released an update (Version 3, October 29, 2013) to the Resource Conservation and Recovery Act (RCRA) program guidance document entitled *Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF) Regulations: A User-Friendly Reference Document for RCRA Subtitle C Permit Writers and Permittees*. The document consolidates and streamlines the TSDF regulatory requirements into a helpful reference tool with a user-friendly format that includes hyperlinked references to the regulations. There are also links to *Federal Register* notices, flow charts, checklists, and other guidance documents (October 2013, 64 pages). View or download at http://www.epa.gov/osw/hazard/tsd/permit/tsd-regs/tsdf-ref-doc.pdf .

2013 Fall Update of the Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. The 2013 Fall update to the Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites is complete. The RSLs are a merger of the EPA Region 3 Risk-Based Concentration (RBC) Table, Region 6

Human Health Medium-Specific Screening Levels (HHMSSL) Table and the Region 9 Preliminary Remediation Goals (PRG) Table. Screening levels for every EPA region are available on the RSL website. The RSL tables provide comparison values for residential and commercial/industrial exposures to soil, air, and tapwater (drinking water). The unified use of the RSLs to screen chemicals at Superfund sites promotes national consistency. The update includes risk-based screening levels that were calculated using the latest toxicity values, default exposure assumptions and physical and chemical properties, and a calculator where default parameters can be changed to reflect site-specific risks. View and use at http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/ .

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:

- Quantifying Life Cycle Environmental Footprints of Soil and Groundwater Remedies
- SERDP and ESTCP Workshop on Long Term Management of Contaminated Groundwater Sites
- Oil Spills in Marshes: Planning and Response Considerations
- Mitigation of Pollution from Abandoned Metal Mines
- The Impact of DNAPL Source-Zone Architecture on Contaminant Mass Flux and Plume Evolution in Heterogeneous Porous Media
- Molecular Biomarkers for Detecting, Monitoring and Quantifying Reductive Microbial Processes
- Combining Adsorption with Anodic Oxidation as an Innovative Technique for Removal and Destruction of Organics
- Toxicological Review of 1,4-Dioxane (with Inhalation Update)
- Toxicological Profile for 1,4-Dioxane
- Matrix Diffusion Toolkit User's Manual
- EPA-EXPO-BOX (A Toolbox for Exposure Assessors)
- Residual LNAPL Impacted Sites: Conceptual Site Models and Effective Remedial Strategies

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 7 resources, events, projects and news items were added to EUGRIS in December. 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:

Japan to Spend $970M on Nuclear Contaminated Soil Storage. The Japanese government is planning to set aside 100 billion yen (around US$970 million) for a storage facility for tens of thousands of tons of contaminated soil from the radiation caused by the Fukushima disaster.View at http://www.tokyotimes.com/2013/japan-to-spend-almost-1-billion-on-contaminated-soil-storage/.

> Conferences and Symposia

LNAPLs: Science, Management, and Technology - ITRC 2-day Classroom Training offered three times in 2014: Kansas City, MO (April 1-2); Lexington, KY (June 3-4); and Richmond, VA (October 29-30). 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 local, state, and federal government; students; community stakeholders; and tribal representatives, ITRC has a limited number of scholarships (waiver of registration fee only) available. For more information and to register, see http://www.itrcweb.org/training .

Call for Abstracts!! 3rd International Conference on Sustainable Remediation 2014, Ferrara, Italy, September 17-19, 2014. This conference will focus on five topics concerning sustainable remediation: conceptual framing; tools, metrics and indicators; greening remediation, eco-efficient technologies and opportunities from synergy; case studies; and stakeholder involvement and participative approaches. Abstracts for presentations and posters may be submitted electronically at http://www.sustrem2014.com/mail.php through April 25, 2014. For more information, visit http://www.sustrem2014.com/ .

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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