



U.S. ENVIRONMENTAL PROTECTION AGENCY

TechDirect, June 1, 2013

Welcome to TechDirect! Since the May 1 message, TechDirect gained 278 new subscribers for a total of 34,957. 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.

> Request for Proposals

2014 ITRC Projects in the Remediation Area. The Interstate Technology & Regulatory Council (ITRC) requests proposals for 2014 ITRC projects in the remediation area only. ITRC would like to focus proposals on the following topical areas: site characterization, sampling, and monitoring; soil and groundwater contamination, specifically groundwater or contaminant fate and transport modeling; and long term stewardship, land use controls, and institutional controls. Proposals on other topics will be considered, but preference will be given to those that address one of the areas above. Proposals are due by 5:00 pm Eastern time on Friday, June 14, 2013. For more information and instructions, see <http://www.itrcweb.org/About/ITRC-Requests-Proposals-Remediation-Area>.

> Upcoming Live Internet Seminars

NARPM Presents...RECs, Renewables and Remediation - June 6, 2013, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This introductory level session provides an overview of the spectrum of options available to reduce, or at least offset, the energy footprint of your sites. We explain what renewable energy credits (REC) really are, provide information about generating small-scale renewable energy on-site using mobile systems and cover the basics of how to evaluate the feasibility of using on-site renewable energy to power a remedy. The session includes a presentation on a Screening-Level Renewable Energy Assessment that was conducted for a site in the EPA Region 3, which systematically evaluated the existing energy infrastructure

available for the site and options for onsite electricity generation via wind, solar, biomass, geothermal and hydropower. Our goal is that participants leave the session with sufficient information to feel comfortable evaluating and selecting greener energy strategies for their sites. This course should be suitable for all RPMs. For more information and to register, see <http://clu-in.org/live>.

The Clean Up Information Network - June 10 and July 22, 2013, 2:00PM-3:00PM EDT (18:00-19:00 GMT). Technology Innovation and Field Services Division (TIFSD) staff will cover new changes and additions to the Clean Up Information Network (CLU-IN) website. Participants will also learn about expanded features and new platforms that are being considered for CLU-IN and our internet seminar offerings. For more information and to register, see <http://clu-in.org/live>.

ITRC Development of Performance Specifications for Solidification/Stabilization - June 25, 2013, 2:00PM-4:15PM EDT (18:00-20:15 GMT). The ITRC technical and regulatory guidance document Development of Performance Specifications for Solidification/Stabilization (S/S-1, 2011) and associated Internet-based training provide an approach to assist practitioners and regulators with measuring and determining acceptable S/S performance. This approach developed by the ITRC Solidification/Stabilization Team provides information for developing, testing, and evaluating appropriate site-specific performance specifications and the considerations for designing appropriate long-term stewardship programs. In addition, the approach provides useful tools for establishing an appropriate degree of treatment and regulatory confidence in the performance data to support decision-making. This training and guidance is intended to be beneficial to anyone involved with CERCLA, RCRA, Brownfields, UST or any other regulatory program where S/S has been selected or implemented as a remedial technology. For more information and to register, see <http://www.itrcweb.org> OR <http://clu-in.org/live>.

ITRC Biofuels: Release Prevention, Environmental Behavior, and Remediation - June 27, 2013, 11:00AM-1:15PM EDT (15:00-17:15 GMT). This training, which is based on the ITRC's Biofuels: Release Prevention, Environmental Behavior, and Remediation (Biofuels-1, 2011), focuses on the differences between biofuels and conventional fuels specific to release scenarios, environmental impacts, characterization, and remediation. The trainers will define the scope of the potential environmental challenges by introducing biofuel fundamentals, regulatory status, and future usage projections. Participants will learn how and when to use the ITRC biofuels guidance document for their projects. They will understand the differences in biofuel and petroleum behavior; become familiar with the biofuel supply chain, potential release scenarios and release prevention; be able to develop an appropriate conceptual model for the investigation and remediation of biofuels; and select appropriate investigation and remediation strategies. For more information and to register, see <http://www.itrcweb.org> OR <http://clu-in.org/live>.

How Enforcement Actions can Support Reuse at Superfund Sites - June 27, 2013, 2:00PM-4:00PM EDT (18:00-20:00 GMT). EPA's enforcement program strives to balance our primary mission of ensuring that polluters pay for cleanups through an enforcement first strategy with strong support for EPA's contaminated site reuse goals. As such, the enforcement program helps facilitate site cleanup by pursuing responsible parties, but also recognizes that supporting reuse efforts can be a powerful incentive to encourage expeditious cleanups, save limited federal and state cleanup resources and help us all achieved our cleanup and enforcement goals to protect human health and the environment. This webinar will discuss the role of EPA's cleanup enforcement program in supporting the appropriate reuse of Superfund sites and will share case study examples of how enforcement tools, such as institutional controls, bona fide prospective purchaser (BFPP) criteria and continuing obligations, and negotiations to help address liability concerns, can help facilitate beneficial reuse at

Superfund sites. For more information and to register, see <http://clu-in.org/live> .

> New Documents and Web Resources

Optimization Review: Hastings Ground Water Contamination Site Second Street Subsite Operable Units #12 and #20 (EPA 540-R-013-017). The Hastings Ground Water Contamination Site Second Street Subsite is located in Hastings, Adams County, Nebraska. The Second Street Subsite has been divided into two OUs: (1) OU 12 addresses the contaminated soils and source materials at the subsite, and (2) OU 20 addresses the contaminated groundwater that extends from the source area and has migrated beyond the Second Street Subsite boundaries. The Second Street Subsite is a former manufactured gas plant (FMGP); benzene, toluene, ethyl benzene, xylenes (collectively referred to as BTEX) and other VOCs (for example, styrene) and polynuclear aromatic hydrocarbons (PAHs) have been detected in the Second Street Subsite soil and groundwater, indicating that wastes remaining from the FMGP have contaminated the soil and groundwater (May 2013, 70 pages). View or download at <http://clu-in.org/techpubs.htm> .

Technology News and Trends (EPA 542-N-13-002). This issue highlights vapor intrusion (VI), which generally refers to migration of hazardous vapors from any subsurface contaminant source such as contaminated soil or groundwater through the vadose zone and into indoor air. Vapor intrusion can occur in a broad range of land use settings, including residential, commercial, and industrial properties, and can affect buildings with virtually any type of foundation such as basement, crawl space, or slab on grade. The VI pathway has become a standard consideration during investigations at hazardous waste sites, especially those subject to the Superfund, underground storage tank (UST), and Resource Conservation and Recovery Act programs operated by federal or state agencies. The U.S. EPA currently is finalizing its guidance on subsurface VI. In addition, 24 states issued draft or final VI guidance as of April 2013, and other state guidance continues to evolve (May 2013). View at <http://clu-in.org/tandt/0513> .

Use of Amendments for In Situ Remediation at Superfund Sediment Sites (OSWER Directive 9200.2-128FS). This document introduces the most promising amendments for in situ remediation of sediments and summarizes some of the information on contaminated sediment sites that have already employed these amendments. This document is not a guidance or design document and provides information on the state of the practice of the use of amendments for in situ remediation of contaminated sediments, as well as three case studies where these amendments have been used. This document also focuses on the use of amendments either by themselves or in conjunction with a conventional isolation cap or a thin layer cap and enhanced Monitored Natural Recovery (EMNR). The amendments discussed are designed to treat hydrophobic organic contaminants, metals, or both. Some of these amendments may also be effective in reducing risks from NAPL (April 2013, 61 pages). View or download at <http://clu-in.org/techpubs.htm> .

In Situ 'Deliverability' Trials Using Calcium Polysulfide to Treat Chromium Contamination at Shawfield, Glasgow. Following earlier field trials that indicated the effectiveness of calcium polysulfide (CaSx) application in reducing Cr(VI) associated with chromite ore processing residue, another field trial was conducted in 2009 to identify the most effective CaSx delivery mechanism into the subsurface. The methods investigated for CaSx delivery were (1) a groundwater recirculation system (which also achieved situ flushing of contaminated soil); (2) direct-push injection using close grid spacing; and (3) soil mixing. All three trials provided evidence of total Cr mobilization

as a combination of chemical-physical action (February 2013, 8 pages). View or download at http://www.slideshare.net/slideshow/embed_code/20401310 .

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:

- Summary of Technical Impracticability Waivers at National Priorities List Sites
- Air Pathway Analysis for the Design of Remedial Action Projects
- Combining Low-Energy Electrical Resistance Heating with Biotic and Abiotic Reactions for Treatment of Chlorinated Solvent DNAPL Source Areas
- Comparative Demonstration of Active and Semi-Passive In Situ Bioremediation Approaches for Perchlorate Impacted Groundwater: Active In Situ Bioremediation Demonstration (Aerojet Facility)
- Integrated Forensics Approach to Fingerprint PCB Sources in Sediments Using Rapid Sediment Characterization (RSC) and Advanced Chemical Fingerprinting (ACF)
- Behavior and Fate of PFOA and PFOS in Sandy Aquifer Sediment
- Vapor Intrusion Public Participation Advisory
- Micro Ion Mobility Sensor for In Situ Monitoring of Contaminated Groundwater
- Application of Microarrays and QPCR to Identify Phylogenetic and Functional Biomarkers Diagnostic of Microbial Communities that Biodegrade Chlorinated Solvents to Ethene
- Environmental Decisions in the Face of Uncertainty
- Science for Environmental Protection: The Road Ahead

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 May. 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 resources were posted on EUGRIS:

Guidance for the Recovery and Disposal of Hazardous and Non Hazardous Waste (Updated May 2013). The UK's Environment Agency updated this guidance document in May 2013 to incorporate changes for the Industrial Emissions Directive (IED). View or download at

http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/LIT_8199_dd704c.pdf .

National Environment Protection (Assessment of Site Contamination)

Amendment Measure 2013 (No. 1) (2013). Australia has produced this document to help establish a nationally consistent approach to the assessment of site contamination to ensure sound environmental management practices by the community which includes regulators, site assessors, environmental auditors, landowners, developers and industry. View or download at <http://www.scew.gov.au/nepms/assessment-of-site-contamination.html> .

> Conferences and Symposia

LNAPLs: Science, Management, and Technology ITRC 2-day Classroom Training offered two more times in 2013: Springfield, IL (June 4-5, 2013) and Garden Grove, CA (October 1-2, 2013). 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>.

Applications of Nanotechnology for Safe and Sustainable Environmental Remediations, Hammond, LA, June 5-7, 2013. This is the first national workshop that provides an opportunity for representatives from the environmental remediation community, industry, academia, and government to: share their perspectives, pose questions, and develop ideas for design of good guidelines, selection criteria, and work practices to support safe and sustainable nano-enabled environmental remediation; become acquainted with other U.S. nanotechnology stakeholders, including vendors, transporters, and contractors of the remediation sites and communities; and share case studies of nano-enhanced clean up technologies, including selection criteria for alternative remediation strategies and methods, job planning, job tasks, and nanomaterial handling practices. For more information and to register, see http://www.selu.edu/acad_research/programs/nano_4_rem_anssers/.

Registration Now Open!! 2013 U.S. EPA Community Involvement Training Conference, Boston, MA, July 30 - August 1, 2013. This dynamic training conference seeks to both inform and train EPA staff as well as Agency stakeholders and partners in best practices to enhance community involvement. This three-day training conference features plenary sessions with guest speakers, topical discussions, multiple 90-minute information sessions, engaging three, four, and seven hour training sessions with continuing education unit (CEU) credits, and field trips demonstrating effective community involvement and cooperative conservation efforts in the Boston area. Additionally, there will be a Tuesday evening reception that will highlight a poster and technology demonstration session to showcase excellent community involvement projects as well as new tools, technology, and software. Registration will be open until July 17, 2013. We encourage you to register early as sessions may fill up quickly. For more information and to register, see <http://www.epa.gov/ciconference>.

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. To unsubscribe, send a blank email to [\\$subst\('Email.UnSub'\)](mailto:$subst('Email.UnSub')). 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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