

TechDirect, December 1, 2012

Welcome to TechDirect! Since the November 1 message, TechDirect gained 132 new subscribers for a total of 32,981. 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.

> Upcoming Live Internet Seminars

ITRC Project Risk Management for Site Remediation - December 11, 2012, 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>.

In Situ Treatment of Soil Metals: Science to Experience - December 12 and 19, 2012, 2:00PM-4:00PM EST (19:00-21:00 GMT). This is a two-part webinar series. The information presented in these webinars is based on a forum discussion led by EPA Headquarters and Region 9 on alternative approaches to reducing human and ecological exposures to soil contaminants. Technical experts will deliver presentations on topics including: using on-site treatment, candidate contaminants of concern (COCs), soil amendments, metals bioavailability, mining and other metals sites, exposure reduction, revegetation and erosion control. For more information and to register, see <http://clu-in.org/live>.

ITRC Biofuels: Release Prevention, Environmental Behavior, and Remediation - December 13, 2012, 11:00AM-1:15PM EST (16:00-18:15 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>.

> New Documents and Web Resources

Citizen's Guide Series to Cleanup Technologies. EPA's Technology Innovation and Field Services Division has updated the Citizens Guides to Innovative Cleanup Technologies. This series of 22 two-page fact sheets is designed to help Remedial Project Managers and Community Involvement Coordinators explain the basics of innovative and conventional treatment technologies to the public. The following guides are now available, in English, at <http://clu-in.org/products/citguide>. Spanish versions will be available in 2013.

- A Citizen's Guide to Activated Carbon Treatment
- A Citizen's Guide to Air Stripping
- A Citizen's Guide to Bioremediation
- A Citizen's Guide to Capping
- A Citizen's Guide to Ecological Revitalization
- A Citizen's Guide to Evapotranspiration Covers
- A Citizen's Guide to Excavation of Contaminated Soil
- A Citizen's Guide to Fracturing for Site Cleanup
- A Citizen's Guide to Greener Cleanups
- A Citizen's Guide to Incineration
- A Citizen's Guide to In Situ Chemical Oxidation
- A Citizen's Guide to In Situ Chemical Reduction
- A Citizen's Guide to In Situ Thermal Treatment
- A Citizen's Guide to Monitored Natural Attenuation
- A Citizen's Guide to Permeable Reactive Barriers
- A Citizen's Guide to Phytoremediation
- A Citizen's Guide to Pump and Treat
- A Citizen's Guide to Soil Vapor Extraction and Air Sparging
- A Citizen's Guide to Solidification and Stabilization
- A Citizen's Guide to Thermal Desorption
- A Citizen's Guide to Vapor Intrusion Mitigation
- A Citizen's Guide to Vertical Engineered Barriers

New CLU-IN Focus Area on Solidification. Solidification/Stabilization (S/S) refers to a general category of processes used to treat a wide variety of wastes, including solids and liquids. In general solidification encapsulates a waste to form a solid material to restrict contaminant migration by decreasing the surface area exposed to leaching, while stabilization involves chemical reactions that reduce the leachability of a waste through a chemical reaction. The application can be performed in situ or ex situ. S/S is commonly used on inorganic wastes; however, it has been successfully applied at manufactured gas plants to reduce leaching of polycyclic aromatic hydrocarbons found in coal tars. View and use at <http://clu-in.org/solidification>.

New CLU-IN Focus Area on In Situ Chemical Reduction. In situ chemical reduction involves the placement of a reductant or reductant generating material in the subsurface for the purpose of degrading toxic organic compounds to potentially nontoxic or less toxic compounds, immobilizing metals such as chromium VI by adsorption or precipitation, and degrading non-metallic oxyanions such as nitrate. Commonly used reductants are zero valent iron (ZVI), ferrous iron, sodium dithionite, sulfide salts (calcium polysulfide), and hydrogen sulfide. The introduction of substrates to microbially produce reducing conditions favorable to microbial reduction of iron and sulfates also has been used to treat dissolved metal contamination. View

and use at <http://clu-in.org/fiscr> .

Brownfields Grant Recipients' Road Map to Understanding Quality Assurance Project Plans (EPA 542-R-12-005). The U.S. EPA prepared this publication to help recipients of an EPA Brownfields Assessment Grant design and complete site assessment projects more efficiently and effectively by increasing their awareness and understanding of the importance of quality assurance (QA) in Brownfields site projects. The Road Map describes a general process for developing and using a Quality Assurance Project Plan (QAPP), while highlighting the benefits of a well-prepared QAPP and helping those responsible for the process to better understand and communicate with all parties involved (November 2012, 20 pages). View or download at <http://clu-in.org/techpubs.htm> .

Green Remediation Best Management Practices: Implementing In Situ Thermal Technologies (EPA 542-F-12-029). Over recent years, the use of in situ thermal technologies such as electrical resistance heating, thermal conductive heating, and steam enhanced extraction to remediate contaminated sites has notably increased. The U.S. EPA's latest (13th) green remediation "BMP fact sheet" describes processes, equipment, and analytical tools that can be used to reduce the environmental footprint of applying these technologies, which typically involves significant energy consumption. The best management practices (BMPs) address other core elements of a greener cleanup: reducing air pollutants and greenhouse gas emissions, reducing water use and negative impacts on water resources, improving materials management and waste reduction efforts, and protecting ecosystem services. The BMPs may be used during design, construction, operation and maintenance, and/or monitoring of an in situ thermal project (October 2012, 6 pages). View or download at <http://clu-in.org/techpubs.htm> .

Technology News and Trends (EPA 542-N-12-005). This issue highlights in situ thermal (IST) technologies such as electrical resistance heating (ERH), steam enhanced extraction, and thermal conduction heating. These technologies have been used more often over recent years, primarily to remove non-aqueous phase liquid in contaminant source areas. Since fiscal year (FY) 2005, IST technology has been selected for use at 18 Superfund sites in addition to numerous RCRA corrective actions, brownfield sites, or military installations needing accelerated cleanup of highly defined source areas (October 2012). View at <http://clu-in.org/tandt/1012> .

SERDP and ESTCP Announce 2012 Projects of the Year. Congratulations to the six Strategic Environmental Research and Development Program (SERDP) and Environmental Security Technology Certification Program (ESTCP) Projects of the Year, recognized for research and technology developments with significant benefits to the Department of Defense (DoD). These outstanding efforts are helping DoD achieve its mission while improving its environmental performance. Recipients of this prestigious honor follow with links provided to highlights of their award-winning projects. View

<http://serdp-estcp.org/News-and-Events/News-Announcements/Program-News/SERDP-and-ESTCP-announce-2012-Projects-of-the-Year>

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:

- The Uranium Mining Remediation Exchange Group (UMREG): Selected Papers, 1995-2007
- Report of the NICOLE Workshop: Operating Windows for Site Characterization
- Characterization of Coal Combustion Byproducts Fifteen Years after Emplacement in an Abandoned Mine Land Site

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 15 resources, events, projects and news items were added to

EUGRIS in November. 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:

Options for a Strategy for the Economic Appraisal of Benefits of Contaminated Land Remediation - SP1006 (2012). This research project will develop a methodology for assessing benefits of remediation and allowing different sites to be compared. The design of the methodology needs to address economic impacts such as the impact on neighbouring house prices as well as practical issues such as incomplete knowledge of particular sites. View or download at http://randd.defra.gov.uk/Document.aspx?Document=10259_FinalReport12134i2.pdf .

> Conferences and Symposia

EPA Grant Award Process Webinar, December 4, 2012, 2:00-3:00PM EST (19:00-20:00 GMT). EPA's Office of Grants and Debarment periodically hosts webinars for the EPA grants community. If you are interested in applying for EPA grants or are currently managing an EPA grant, please consider attending this webinar. The webinar will cover grants management topics, including: how to find and apply for grant opportunities; new FFATA reporting requirements; and preparing a proper budget detail. In addition, there will be a Q&A session during the second half of the webinar. For more information and to register, please email GAD_OGDWEB@epa.gov with "Webinar" in the subject line.

Call for Presenters!! 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. Presenters should submit titles and abstracts by December 14, 2012. For more information and the call for presenters, see <http://selu.edu/nano-4-rem-anssers> .

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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