



TechDirect, September 1, 2016

Welcome to TechDirect! Since the August 1 message, TechDirect gained 150 new subscribers for a total of 36,414. If you feel the service is valuable, please share TechDirect with your colleagues. Anyone interested in subscribing may do so on CLU-IN at <https://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

Protecting Pollinators through Sustainable Superfund Reuse - September 8, 2016, 2:00PM-3:30PM EDT (18:00-19:30 GMT). In recent years, declines in pollinator populations and honey bees in particular, have raised concerns about the impacts to agricultural supply and ecosystem sustainability. EPA has engaged in a federal partnership with the United States Department of Agriculture to minimize impacts of pesticides on pollinator populations. But EPA has also engaged with organizations such as the Pollinator Partnership to support the development and maintenance of pollinator habitat. This webinar will highlight the opportunities presented to support pollinators through sustainable and conscientious reuse of Superfund sites and other blighted properties. Speakers will share case study examples of pollinator habitat on contaminated sites, as well as some available resources to aid in supporting pollinators at a site near you. For more information and to register, see <http://clu-in.org/live>.

Introduction to the New Recommended Template for Five Year Reviews (FYRs) - September 14, 2016, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This webinar is designed to introduce writers and reviewers of EPA FYR reports to the new recommended FYR report template. It will cover how to use the new template, what some of the main differences are from the previous version of the report template, and some tips for using this new recommended template. This template is to be used only for FYRs at non-federal facility sites at this time. [This is meant for individuals with some previous experience either writing or reading FYRs and is not an introductory class on FYR policy, guidance or the process of conducting FYRs.] For more information and to register, see <http://clu-in.org/live>.

ITRC Integrated DNAPL Site Characterization - September 15, 2016, 1:00PM-3:15PM EDT (17:00-19:15 GMT). The Integrated DNAPL Site Characterization Team has synthesized the knowledge about dense nonaqueous

phase liquid (DNAPL) site characterization and remediation acquired over the past several decades, and has integrated that information into a new document, Integrated DNAPL Site Characterization and Tools Selection (ISC-1, 2015). This guidance is a resource to inform regulators, responsible parties, other problem holders, consultants, community stakeholders, and other interested parties of the critical concepts related to characterization approaches and tools for collecting subsurface data at DNAPL sites. After this associated training, participants will be able to use the guidance to develop and support an integrated approach to DNAPL site characterization, including: identify what site conditions must be considered when developing an informative DNAPL conceptual site model (CSM); define an objectives-based DNAPL characterization strategy; understand what tools and resources are available to improve the identification, collection, and evaluation of appropriate site characterization data; and navigate the DNAPL characterization tools table and select appropriate technologies to fill site-specific data gaps. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

ITRC Soil Sampling and Decision Making Using Incremental Sampling

Methodology Parts 1 and 2 - September 20 and 21, 2016. This 2-part training course along with ITRC's Web-based Incremental Sampling Methodology Technical and Regulatory Guidance Document (ISM-1, 2012) is intended to assist regulators and practitioners with understanding the fundamental concepts of soil/contaminant heterogeneity, representative sampling, sampling/laboratory error and how ISM addresses these concepts. Through this training course the participant should learn: basic principles to improve soil sampling results, systematic planning steps important to ISM, how to determine ISM Decision Units (DU), the answers to common questions about ISM sampling design and data analysis, methods to collect and analyze ISM soil samples, the impact of laboratory processing on soil samples, and how to evaluate ISM data and make decisions. In addition this ISM training and guidance provides insight on when and how to apply ISM at a contaminated site, and will aid in developing or reviewing project documents incorporating ISM (e.g., work plans, sampling plans, reports). For more information and to register, see <http://www.itrcweb.org> or <https://clu-in.org/live>.

ITRC Groundwater Statistics for Environmental Project Managers - September 22, 2016, 1:00PM-3:15PM EDT (17:00-19:15 GMT). Statistical techniques may be used throughout the process of cleaning up contaminated groundwater. It is challenging for practitioners, who are not experts in statistics, to interpret, and use statistical techniques. ITRC developed the Technical and Regulatory Web-based Guidance on Groundwater Statistics and Monitoring Compliance (GSMC-1, 2013) and this associated training specifically for environmental project managers who review or use statistical calculations for reports, who make recommendations or decisions based on statistics, or who need to demonstrate compliance for groundwater projects. The training class will encourage and support project managers and others who are not statisticians to: use the ITRC Technical and Regulatory Web-based Guidance on Groundwater Statistics and Monitoring Compliance (GSMC-1, 2013) to make better decisions for projects; apply key aspects of the statistical approach to groundwater data; and answer common questions on background, compliance, trend analysis, and monitoring optimization. ITRC's Technical and Regulatory Web-based Guidance on Groundwater Statistics and Monitoring Compliance (GSMC-1, 2013) and this associated training bring clarity to the planning, implementation, and communication of groundwater statistical methods and should lead to greater confidence and transparency in the use of groundwater statistics for site management. For more information and to register, see <http://www.itrcweb.org> or <https://clu-in.org/live>.

Green Up Your Cleanups - September 28, 2016, 1:00PM-2:30PM EDT (17:00-18:30 GMT). Since its release in late 2013, use of the ASTM Standard Guide for Greener Cleanups (E2893) has expanded across cleanup programs and across the country. Recent developments suggest its use at projects will accelerate, helping all involved

parties to achieve protective cleanups with lower environmental footprints. Join us on this webinar to learn of recent developments related to the Guide and how to access it at no cost for a two-month trial period. For more information and to register, see <http://clu-in.org/live>.

ITRC Remedy Selection for Contaminated Sediments - September 29, 2016, 1:00PM-3:15PM EDT (17:00-19:15 GMT). ITRC developed the technical and regulatory guidance, Remedy Selection for Contaminated Sediments (CS-2, 2014), to assist decision-makers in identifying which contaminated sediment management technology is most favorable based on an evaluation of site specific physical, sediment, contaminant, and land and waterway use characteristics. The document provides a remedial selection framework to help identify favorable technologies, and identifies additional factors (feasibility, cost, stakeholder concerns, and others) that need to be considered as part of the remedy selection process. This ITRC training course supports participants with applying the technical and regulatory guidance as a tool to overcome the remedial challenges posed by contaminated sediment sites. Participants learn how to: identify site-specific characteristics and data needed for site decision making, evaluate potential technologies based on site information, and select the most favorable contaminant management technology for their site. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

ITRC Issues and Options in Human Health Risk Assessment - A Resource When Alternatives to Default Parameters and Scenarios are Proposed - October 4, 2016, 1:00PM-3:15PM EDT (17:00-19:15 GMT). After participating in this ITRC training course, the learner will be able to apply ITRC's Decision Making at Contaminated Sites: Issues and Options in Human Health Risk (RISK-3, 2015) document when developing or reviewing site-specific risk assessments by: identifying common issues encountered when alternatives to default parameters and scenarios are proposed during the planning, data evaluation, toxicity, exposure assessment, and risk characterization and providing possible options for addressing these issues; recognizing the value of proper planning and the role of stakeholders in the development and review of risk assessments; and providing information (that includes links to additional resources and tools) to support decision making when alternatives to default approaches, scenarios and parameters are proposed. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

NIEHS SRP United States Small Business Funding Opportunities (SBIR/STTR) for Environmental Technologies at NIEHS SRP, EPA, and NSF - October 3, 2016, 1:00PM-3:00PM EDT (17:00-19:00 GMT). The webinar is hosted jointly by the SBIR/STTR programs within the National Institute of Environmental Health Sciences Superfund Research Program (NIEHS SRP), the U.S. Environmental Protection Agency (EPA), and the National Science Foundation (NSF). Hear agency experts Heather Henry from NIEHS SRP; April Richards from EPA; and Prakash Balan from NSF highlight the unique characteristics of each of their environmental funding options, details of their SBIR/STTR programs, and tips on how to develop a successful SBIR/STTR application. A majority of the time will be dedicated to a Q&A session at the end of the webinar. For more information and to register, see <http://clu-in.org/live>.

SERDP and ESTCP Webinar Series. SERDP and ESTCP are offering webinars to promote the transfer of innovative, cost-effective and sustainable solutions. The webinar series targets end users including practitioners, the regulatory community and researchers to provide cutting-edge and practical information from sponsored research and technology demonstrations. An upcoming webinar on September 8, 2016 will feature two environmental restoration experts from Oregon Health & Science University, Dr. Paul Tratnyek and Dr. Richard Johnson, who will discuss assessment and optimization approaches for redox-based groundwater remediation technologies. During this webinar, they will review proven and innovative approaches for evaluating

in situ redox conditions, and then compare the strengths and limitations of these approaches. In addition, they will provide information on promising developments for improving assessment and optimization approaches for redox-based groundwater remediation technologies based on the results of SERDP-funded research efforts. To view speaker biographies and to register for this free webinar, please visit

<https://serdp-estcp.org/Tools-and-Training/Webinar-Series/09-08-2016>.

> New Documents and Web Resources

Consideration of Greener Cleanup Activities in the Superfund Cleanup Process.

EPA recently issued a guidance memorandum recommending approaches for regional Superfund programs to consider when evaluating greener cleanup activities through the CERCLA process. The memorandum also encourages regions to consider conducting a best practices (BP) or environmental footprint analysis to help identify best practices that may help minimize the footprint on a site-specific basis. Relevant parts of the CERCLA process include site characterization; remedial investigation and feasibility study or engineering evaluation/cost analysis; development of decision documents; remedy implementation (e.g., remedial design, construction); operation and maintenance (O&M), and enforcement mechanisms. The memorandum supplements the Agency's fact sheets and policy statements addressing greener cleanup activities, tools and considerations and is intended as guidance for Fund-lead, federal facility-lead, and potentially responsible party-lead cleanups. View or download the August 2, 2016, guidance memorandum at <https://semspub.epa.gov/src/document/HQ/100000160.pdf>.

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 <https://clu-in.org/products/tins/>. The following resources were included in recent issues:

- Final Report for Surfactant Enhanced Aquifer Remediation (SEAR) Pilot Test
- Impact of Clay-DNAPL Interactions on Transport and Storage of Chlorinated Solvents in Low Permeability Zones
- Integrated Field-Scale, Lab-Scale, and Modeling Studies for Improving Our Ability to Assess the Groundwater to Indoor Air Pathway at Chlorinated Solvent-Impacted Groundwater Sites
- Laboratory-Scale Demonstration Using Dilute Ammonia Gas-Induced Alkaline Hydrolysis of Soil Contaminants (Chlorinated Propanes and Explosives)
- Integrating Passive Sampling Methods into Management of Contaminated Sediment Sites: A Guide for Department of Defense Remedial Project Managers
- Testing of the KRIA Ionizing Water Treatment System for Waters Contaminated with Diesel, PCBs, and Nutrients (Nitrogen Forms)
- Impact of Incremental Sampling Methodology (ISM) on Metals Bioavailability
- Guidance on the Identification, Management and Remediation of Mercury-Contaminated Sites
- Spills of Diluted Bitumen from Pipelines: A Comparative Study of Environmental Fate, Effects, and Response

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 9 resources, events, projects and news items were added to EUGRIS in August 2016. 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.

Control of Asbestos Regulations 2012: Interpretation for Managing and Working with Asbestos in Soil and Construction & Demolition materials: Industry Guidance (shortened name CAR-SOIL). CL:AIRE has published this Joint Industry Working Group Asbestos in Soil and Construction & Demolition (C&D) Materials guidance. This document presents an explanation of how the legal requirements of the Control of Asbestos Regulations 2012 (CAR 2012 or the Regulations) have been interpreted to apply to work with asbestos contaminated soil and construction & demolition materials. The guidance is underpinned by the fundamental requirements expressed in the Regulations, in relation to the protection of employees from risks related to exposure to asbestos, but is set within a carefully considered framework designed specifically for soil and C&D materials contaminated with asbestos (July 2016, 139 pages). View or download at [http:// www.claire.co.uk/asbestos](http://www.claire.co.uk/asbestos).

Decision Support Tool for the Categorisation of Work Activities Involving Asbestos in Soil and Construction & Demolition Materials in accordance with the Control of Asbestos Regulations 2012: v2 July 2016. This spreadsheet tool, recently published by CL:AIRE, provides the user with a decision support platform designed by the Joint Industry Working Group to assist in the categorisation of work with asbestos under CAR 2012, and supports the JIWG Industry Guidance on the Control of Asbestos Regulations 2012 - Interpretation for Managing and Working with Asbestos in Soil and Construction & Demolition Materials (2016) - CAR-SOIL. The spreadsheet should be used in conjunction with the guidance in this publication. Download at <http://www.claire.co.uk/projects-and-initiatives/asbestos-in-soil?showall=1>.

> Conferences and Symposia

Natural Attenuation of Groundwater Contaminants, New Paradigms, Technologies, and Applications, September 6, 2016-November 22, 2016. During this free online course funded by ESTCP, you will build upon basic environmental science and environmental engineering principles to discover how to best implement MNA as a viable treatment for groundwater contamination plumes. Participants will have access to 55 informational lectures over the 9 week course duration, as well as assessment materials to gauge their learning. For more information and to register, see <https://www.coursera.org/learn/natural-attenuation-of-groundwater-contaminants>.

Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management - ITRC 2-day Classroom Training, Somerset, NJ, September 26-27, 2016 AND Framingham, MA, November 9-10, 2016. Preapproved for continuing education for CT LEPs, DE PGs, MA LSPs, NE Water Well Standards, NJ LSRPs, and SC PGs. This 2-day ITRC classroom training is based on the ITRC Technical and Regulatory Guidance Web-Based Document, Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management (PVI-1, 2014) and led by internationally recognized experts. Within the training class - hear about EPA's Technical Guide For Addressing Petroleum Vapor Intrusion At Leaking Underground Storage Tank Sites (June 2015). The ITRC guidance document and EPA guide are complementary documents with the ITRC training course providing the "how-to" knowledge and skills for screening, investigating, and managing the petroleum vapor intrusion pathway. The class will enable you to develop the skills to screen-out petroleum sites based on the scientifically-supported ITRC strategy and checklist; focus the limited resources investigating those PVI sites that truly represent an unacceptable risk; and communicate ITRC PVI strategy and justify science-based decisions to management, clients, and the public. 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>.

Design and Construction Issues at Hazardous Waste Sites - West, Denver, CO, October 25-26, 2016. Based on the resounding success of the Design and Construction Conference (DCHWS) that has been held over the past 10 years in Philadelphia, the Society of American Military Engineers Denver Post have agreed to "pilot" a DCHWS West delivery in Denver in October of 2016. Potential topics include: design and construction issues and challenges associated with addressing hardrock mining sites; cleanup approaches and challenges associated with remediating large watersheds with contaminated sediments and/or surface water; remediation experiences and challenges associated with addressing hazardous waste contamination in residential/high traffic environments; and experiences and challenges executing adaptive site management strategies at hazardous waste sites in the western United States. For more information, see <http://us6.campaign-archive1.com/?u=f6c1b0fa80799692def2f3f6d&id=3bb7e8e49a&e=75b872e455>.

Facility Decommissioning Training Course, Virginia Beach, VA, October 4-6 and Las Vegas, NV, November 14-17, 2016. The purpose of this course is to provide information on the basic steps in the decommissioning process and impart lessons learned from past experiences in decommissioning. In this manner, elements learned at this training course will assist in decision-making, planning, and implementation associated with the decommissioning of various types of nuclear facilities. Moreover, a major objective of this training course is to demonstrate the need for early and complete project planning to achieve safe and cost-effective decommissioning of research reactors and other small nuclear installations. For more information and to register, see <http://www.dd.anl.gov/ddtraining/>.

2016 National Training Conference on the Toxics Release Inventory (TRI) and Environmental Conditions in Communities, Washington, DC, October 19-21, 2016. The theme of this year's conference is TRI at 30: Working Together To Reduce Toxic Releases. This year marks the 30th anniversary of the Emergency Planning and Community Right-to-Know Act (EPCRA), which supports and promotes emergency planning and provides the public with information about releases of toxic chemicals in their community through the Toxics Release Inventory (TRI). Join us for dynamic discussions, valuable networking opportunities, and the chance to help shape the next 30 years of community right-to-know. This conference is the TRI Program's main public outreach and training event, bringing together EPA, localities, states, tribes, federal agencies, companies, community groups, researchers, and non-governmental organizations. The registration fee is \$200. You must reserve your hotel room on or before September 12 to get the government rate. After September 12, reservations will be accepted on a space- and rate-available basis only. For the updated conference agenda and registration, see <https://www.epa.gov/toxics-release-inventory-tri-program/2016-tri-national-training-conference>.

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 <https://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

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