



TechDirect, July 1, 2016

Welcome to TechDirect! Since the June 1 message, TechDirect gained 197 new subscribers for a total of 36,309. 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.

> Funding Opportunity

FY 2017 Brownfields Area-Wide Planning (BF AWP) Grant Guidelines. EPA is announcing the availability of funding to eligible entities who wish to develop an area-wide plan for brownfields assessment, cleanup, and subsequent reuse. This funding is for research and/or technical assistance activities directed to one or more brownfield site(s) located in a specific area (such as a neighborhood, downtown or business district, local commercial corridor, community waterfront or city blocks). Each project funded under this grant must result in an area-wide plan which includes specific plan implementation strategies for assessing, cleaning up, and reusing the brownfields site(s) as well as related brownfields and project area revitalization strategies. EPA anticipates awarding approximately 20 projects in total, funded at up to \$200,000 each. The proposal submission deadline is August 10, 2016. Submission details and an archive of the June 16 outreach webinar are available at <https://www.epa.gov/brownfields/brownfields-current-news-and-events>.

> Upcoming Live Internet Seminars

OSC Academy Presents...Some Things On-Scene Coordinators Should Know About EPA's Vapor Intrusion Guidance - July 13, 2016, 1:00PM-3:00PM EDT (17:00-19:00 GMT). The presentation will introduce and describe highlights of the *OSWER Technical Guide For Assessing And Mitigating The Vapor Intrusion Pathway From Subsurface Vapor Sources To Indoor Air* (OSWER Publication 9200.2-154; June 2015) and *Compilation of Information Relating to Early/Interim Actions at Superfund Sites and the TCE IRIS Assessment* (August 2014) with Q&A afterwards. For more

information and to register, see <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 - July 14, 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>.

ITRC Integrated DNAPL Site Strategy - July 19, 2016, 1:00PM-3:15PM EDT (17:00-19:15 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>.

SRP Water Innovation - An Integrated Approach to Sustainable Solutions: Session IV - Communicating Risk and Engaging Communities: Arsenic and Well Testing - July 21, 2016, 1:00PM-3:00PM EDT (17:00-19:00 GMT). The NIEHS Superfund Research Program (SRP) presents the fourth session in the Risk e-Learning series SRP Water Innovation - An Integrated Approach to Sustainable Solutions (http://www.niehs.nih.gov/research/supported/centers/srp/events/risklearning/water_innovation/index.cfm). Session IV, Communicating Risk and Engaging Communities: Arsenic and Well Testing, will feature efforts by several SRP Centers to engage communities on private water related to well testing and treatment alternatives. The 1974 Safe Drinking Water Act (SDWA) regulates more than 170,000 public water systems to protect health, but not more than 13 million private wells. State and local government requirements for private well water testing are rare and inconsistent; the responsibility to ensure water safety remains with individual households. Over the last two decades, geogenic arsenic has emerged as a significant public health concern due to high prevalence in many rural American communities. Speakers include Rebecca Fry, Director of the University of North Carolina at Chapel Hill SRP, Yan Zheng, Columbia University SRP Center, Kathleen Gray, UNC SRP Center, and Mark Borsuk, Dartmouth College SRP Center. For more information and to register, see <http://clu-in.org/live>.

Leveraging Resources for Brownfields Revitalization - July 26, 2016, 1:00PM-2:30PM EDT (17:00-18:30 GMT). This is the first in OBLR's webinar series exploring what communities need to know to successfully leverage their available resources to successfully meet their brownfields revitalization challenges. This webinar will discuss available tools and focus on Dubuque, Iowa's successful efforts to leverage its own resources to attract other federal, state, public and private sources of funding and technical assistance. For more information and to register, see <http://clu-in.org/live>.

Military Munitions Support Services - Remedial Investigation / Feasibility Study - August 4, 2016, 1:00PM-4:00PM EDT (17:00-20:00 GMT). This will be a Military Munitions Support Services seminar with subject matter experts discussing Remedial Investigation / Feasibility Study development. 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 July 14 (Remote Methods for Water Conservation) will feature two presentations highlighting Department of Defense (DoD) water conservation efforts. First, Ms. Kathryn Ostapuk, who works on legislative and regulatory environmental policy issues for the Navy, will provide an overview of water policy and regulations as well as current challenges facing military installations especially in regions with scarce water resources. Second, Mr. Gary Anguiano, the water pollution team lead for the Environmental Security Technology Development Branch at the Naval Facilities Engineering and Expeditionary Warfare Center, will describe the findings of an ESTCP project on innovative acoustic sensor technologies for leak detection in challenging pipe types at DoD installations. For more information and to register, see <https://serdp-estcp.org/Tools-and-Training/Webinar-Series/07-14-2016>. Another webinar on July 28 (Geophysics 101 - Realistic Expectations for Geophysics When Used for Site Characterization and Remediation Monitoring) is the second of a two-part series providing practical information on the general capabilities and limitations of geophysics for remediation, and decision-based tools to support the cost-effective and appropriate use of geophysical technologies at contaminated sites. Ms. Carole Johnson and Dr. Fred Day-Lewis from the United States Geological Survey will present several modules on borehole geophysical logging, geophysical characterization of hydrogeological frameworks at remediation sites and geophysical monitoring of remedial treatments. For more information and to register, see <https://serdp-estcp.org/Tools-and-Training/Webinar-Series/07-28-2016>.

> New Documents and Web Resources

Technology News and Trends (EPA 542-N-16-001). Munitions and associated residues such as explosives and heavy metals remain on millions of acres formerly or currently used for artillery training, munitions disposal, weapons testing or other military activities. Presence of these materials may pose threats such as premature munitions detonation, chemical exposure and environmental contamination. The Spring 2016 issue of *Technology News and Trends* describes demonstrations of a munitions classification system aimed at maximizing recovery of subsurface munitions while minimizing excavation of non-hazardous metallic items. The newsletter features articles about demonstration of advanced geophysical sensors at the former Spencer Artillery Range in Tennessee; Camp Edwards on the Joint Base Cape Cod in Massachusetts; and Camp San Luis Obispo in California. The newsletter also highlights important resources such as quality assurance planning tools for advanced geophysical classification and upcoming web seminars about advanced geophysical classification in remedial investigations, feasibility studies, and removal or remedial actions (Spring 2016). View at <https://clu-in.org/products/newsletters/tandt/2016spring>.

Considerations for Developing Leaching Test Methods for Semi- and Non-Volatile Organic Compounds (EPA 600-R-16-057). This report documents a USEPA workshop in September 2015 in Arlington, VA, and included subject-matter experts from

academia. The workshop purpose was to exchange information concerning how to evaluate or predict the potential for leaching of semi- or non-volatile organic constituents at contaminated sites where in place treatment has been used to control migration, and from waste that is disposed or re-used. Workshop discussions focused on identifying technical issues for further consideration to support the development of tools that may be used in making determinations of protectiveness and regulatory compliance (April 2016, 90 pages). View or download at <https://clu-in.org/download/char/Organics-Workshop-Report.pdf>.

Strategic Considerations for the Sustainable Remediation of Nuclear Installations.

The OECD Nuclear Energy Agency (NEA) formed the Task Group on Nuclear Site Restoration, involving nuclear operators, experts and regulators, to review the strategic aspects of nuclear site remediation. This report summarizes work carried out between March 2014 and December 2015, providing observations and recommendations relating to the development of strategies and plans for sustainable site remediation at nuclear sites. "Sustainable remediation" represents remediation actions and goals that are informed by an understanding of the safety and environmental benefits, the impacts of remediation activities, and the social and economic benefits and impacts, including the impacts on natural resources and climate change, both in the short term and the long term. This report describes the concept of sustainable remediation of contaminated land and groundwater in the context of the decommissioning of nuclear sites. The main steps in the determination of end states are described and the importance of an adaptive approach is highlighted. The report was prepared by the Task Group on Nuclear Site Restoration. Members of the group were nominated by members of the Working Party on Decommissioning and Dismantling (WPDD), and many had participated in a preceding task group established under the NEA Co-operative Programme on Decommissioning (CPD) that examined worldwide practice for nuclear site remediation, which was the subject of a report, Nuclear Site Remediation and Restoration during Decommissioning of Nuclear Installations: A Report by the NEA Co-operative Programme on Decommissioning, published by the NEA in 2014. View or download the new 2016 report at <http://www.oecd-nea.org/rwm/pubs/2016/7290-strategic-considerations.pdf>. The 2014 report is available at <http://www.oecd-nea.org/rwm/pubs/2014/7192-cpd-report.pdf>.

NAVFAC Fact Sheet on Sustainable Long-Term Management of Landfills.

Sustainable long-term management (SLM) helps to minimize the lifecycle depletion of energy, material resources, and financial resources. This fact sheet describes SLM strategies that may be suitable for landfills managed under the Environmental Restoration (ER) and Base Realignment and Closure (BRAC) programs. In this context, the ultimate goal of SLM of closed landfills is termination of active post-closure care (PCC) based on the demonstration of functional stability and a transition to passive controls for off-gas and leachate management. Functional stability is defined as a landfill site that demonstrates no unacceptable risk to human health or the environment (HHE) at the relevant point of exposure (POE) in the absence of active care. Issues addressed include passive controls, optimized landfill cap design and maintenance, long-term monitoring, beneficial site reuse, clean closure considerations, and shoreline erosion protection issues (April 2016, 8 pages). View or download at <https://clu-in.org/NAVFACSLM>.

Superfund Research Program (SRP) Research Briefs. To get monthly updates on research advances from the SRP you can subscribe to their Research Brief mailing list at <https://list.nih.gov/cgi-bin/wa.exe?SUBED1=SRP-BRIEF&A=1>.

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:

- Evaluating the Efficacy of a Low-Impact Delivery System for In Situ Treatment of Sediments Contaminated with Methylmercury and Other Hydrophobic Chemicals
- Documenting Spatial and Temporal Variations of Subsurface Contaminants Using Tree Cores: Implications for the Design of Effective Waste Management Strategies
- Advice on Mercury Remediation Options for the Wabigoon-English River System
- Risks and Effects of the Dispersion of PFAS on Aquatic, Terrestrial and Human Populations in the Vicinity of International Airports
- Development of an Expanded, High-Reliability Cost and Performance Database for In-Situ Remediation Technologies
- Independent Review of Elemental Phosphorus Remediation at the Eastern Michaud Flats FMC Operable Unit near Pocatello, Idaho
- Microbiological-Enhanced Mixing Across Scales During In-Situ Bioreduction of Metals and Radionuclides at Department of Energy Sites
- Arsenic, Antimony and Selenium Removal from Mine Water by Anaerobic Bioreactors at Laboratory Scale
- Screening of the Bacterial Reductive Dechlorination Potential of Chlorinated Ethenes in Contaminated Aquifers: A Technical Assistance Manual for Assessment of Natural Attenuation of Chloroethenes-Contaminated Sites

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 17 resources, events, projects and news items were added to EUGRIS in June 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. The following resource was posted on EUGRIS:

Dealing with Contaminated Land in England. This Environment Agency report gives an overview of the findings of a survey commissioned by Defra in 2014 about contaminated land activity in England. The report documents progress made in particular on identifying and remediating contaminated land sites. It uses information submitted by 197 of 326 local councils (60%) in England. (April 2016, 24 pages). View or download at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/513158/State_of_contaminated_land_report.pdf.

> Conferences and Symposia

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, MA LSPs, 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>.

Incremental-Composite Soil Sampling, Chicago, IL, July 28, 2016. This full-day course focuses on the theory and application of ITRC's Incremental Sampling Methodology (ISM), composite sampling designs, and hybrids of the two (Incremental-Composite Sampling, ICS). ICS hybrid designs are useful to address multiple project goals simultaneously. Since "representativeness" is a key aspect of data quality and ISM/ICS data are demonstrably more representative than most discrete data, it will be argued that ICS data are indeed "better" than non-ICS data. The course will answer questions such as: What is the difference between ITRC's ISM and EPA's Incremental-Composite Sampling (ICS) strategies? Is there written EPA guidance? What features should an ISM or ICS design have? Can ICS give project risk assessors the data they want, while simultaneously meeting the RPM's own data needs for characterization or remedial design? How are background concentrations determined and comparisons to background handled using ICS? How do we know whether ICS "worked" for the project? For more information and to register, see <https://trainex.org/icss>.

2016 National Training Conference on the Toxics Release Inventory (TRI) and Environmental Conditions in Communities, Washington, DC, October 19-20, 2016.

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 presentations, panels, discussions, exhibits, and networking opportunities as we celebrate TRI's 30th birthday and look ahead to the next 30 years of community right-to-know. The TRI Program provides information on industrial releases and other waste management of toxic chemicals and what industrial facilities are doing to prevent pollution in communities. 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 theme of this year's conference is TRI at 30: Working Together To Reduce Toxic Releases. For more information and to register, 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 your subscription address at <https://clu-in.org/techdirect> at any time night or day.

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