



Welcome to TechDirect! Since the February 1 message, TechDirect gained 52 new subscribers for a total of 40,158. 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.

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## > Upcoming Live Internet Seminars

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**ITRC Connecting the Science to Managing LNAPL Sites, a 3 Part Series - Part 3: Mar 1, 2022, 1:00PM-3:15PM EST (18:00-20:15 GMT).** The newly updated LNAPLs (Light Non-Aqueous Phase Liquids) 3-part training course series is based on the ITRC guidance: LNAPL Site Management: LCSM Evolution, Decision Process, and Remedial Technologies (LNAPL-3, 2018) and focuses on connecting the science to managing LNAPL sites and helping you: build upon your understanding of LNAPL behavior in the subsurface (Part 1), develop your LNAPL conceptual site model and LNAPL remedial goals (Part 2), and select/implement LNAPL technologies (Part 3). After this training series, the expectation is that you will have the skills and understanding to use ITRC science-based resources to improve decision making at your LNAPL sites. For regulators and other government agency staff, this improved understanding can hopefully be incorporated into your own LNAPL programs. It is expected that participants will attend this 3-part training series in sequence. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>. An archive of parts 1 and 2 is available at [https://clu-in.org/conf/itrc/LNAPL-3\\_010920/](https://clu-in.org/conf/itrc/LNAPL-3_010920/).

**ITRC Optimizing Injection Strategies and In situ Remediation Performance - Mar 3, 2022, 1:00PM-3:15PM EST(18:00-20:15 GMT).** ITRC developed the guidance: Optimizing Injection Strategies and In Situ Remediation Performance (OIS-ISRP-1) and this associated training course to identify challenges that may impede or limit remedy effectiveness and discuss the potential optimization strategies, and specific actions that can be pursued, to improve the performance of in situ remediation by: refining and evaluating remedial design site characterization data; selecting the correct amendment; choosing delivery methods for site-specific conditions; creating design specifications; conducting performance evaluations, and optimizing underperforming in situ remedies. The target audience for this guidance and training course is: environmental consultants, responsible parties, federal and state regulators, as well as community and tribal stakeholders. This training will support users in efficiently and

confidently applying the guidance at their remediation sites. An optimization case study is shared to illustrate the use of the associated guidance document. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

**Federal Facilities Online Academy: Record of Decision (RODs) and More at Federal Facilities - Mar 9, 2022, 1:00PM-3:00PM EST (18:00-20:00 GMT).** RODs (Records of Decision) and More at Federal Facilities is a two-hour webinar course that will provide an overview of how early and interim actions, adaptive management, RODs, Explanations of Significant Differences (ESDs), and ROD Amendments are used at Federal Facilities. By taking this course, participants will achieve the following objectives: Understand how removal actions, sampling and analysis plans, and decision documents are used at Federal Facilities; Learn about the Environmental Protection Agency (EPA) and Department of Energy (DoE) Joint Policy Memo; Identify how Interim Actions can be used as part of an overall cleanup strategy; and, Learn the process for changing remedies after a ROD is issued. The instructional methodology for this course includes lecture, group discussions, case studies, and quizzes. The target audience for this course is federal, state, and tribal representatives who work on Federal Facility cleanups. Ideally, students should have a basic understanding of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process. This course is part of the Federal Facilities Academy training program. Please consider registering for other Federal Facility Academy courses and obtain a certificate upon completion of the entire Federal Facility Academy series (12 courses total). For more information and to register, please visit <https://clu-in.org/live>.

**ITRC Sustainable Resilient Remediation (SRR) - Mar 15, 2022, 1:00PM-3:15PM EDT (17:00-19:15 GMT).** Extreme weather events and wildfires are increasing and impacting hazardous waste sites. The primary goal of cleanups, which is protecting human health and the environment, is undermined. Confronted with these risks, environmental professionals should assess, and design remedies that are sustainable and resilient. Sustainable resilient remediation (SRR) is an optimized solution to cleaning up and reusing a hazardous waste site that limits negative environmental impacts, maximizes social and economic benefits, and creates resilience against increasing threats. The objective of the ITRC Sustainable Resilient Remediation (SRR-1) is to provide resources and tools for regulators, stakeholders, consultants, and responsible parties to help integrate sustainable and resilient practices into remediation projects. This guidance updates the Interstate Technology and Regulatory Council's (ITRC) Technical and Regulatory Guidance: Green and Sustainable Remediation: A Practical Framework (ITRC 2011a) and includes a strong resilience component to address the increasing threat of extreme weather events and wildfires. Recommendations for careful and continuous consideration of the social and economic costs and benefits of a cleanup project are included. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

**ITRC TPH Risk Evaluation at Petroleum-Contaminated Sites - Mar 17, 2022, 1:00PM-3:15PM EDT (17:00-19:15 GMT).** The basis for this training course is the ITRC guidance: TPH Risk Evaluation at Petroleum-Contaminated Sites (TPHRisk-1, 2018). The guidance builds on long-standing and current research and experience, and presents the current science for evaluating TPH risk at petroleum-contaminated sites. As a participant in this training you should learn to: recognize the ITRC document as a go-to resource for evaluating TPH risk at petroleum-contaminated sites, recognize how TPH-impacted media interacts with the environment and changes over time, select appropriate analytic method(s) to match site objectives, and apply the decision framework to determine when a site-specific target level may be more appropriate than a generic screening level for TPH. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

**Military Munitions Support Services - Life of a CSM: Concept to Response Complete - Mar 23, 2022, 1:00PM-3:00PM EDT (17:00-19:00 GMT).** This series will explore the development and use of a CSM throughout the remedial response process. Special emphasis will be placed on using the CSM as a mechanism for systematic project planning and acquisition from Remedial Investigation through Remedial Action. Presentations will address

lessons learned, best practices, and data needs for characterization, risk assessment, alternatives development, cost estimating, and contracting. For more information and to register, please visit <https://clu-in.org/live>.

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## > New Documents and Web Resources

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**Green Remediation Best Management Practices: Pump and Treat Systems (EPA 542-F-21-029).** In line with the renewed Agency emphasis on sustainability and climate change resilience and mitigation, the Superfund Program is proceeding to update the very popular green remediation best management practice (BMP) fact sheets for the most common remedies in the Superfund program. The goal of these fact sheets is to share technical information on best practices that build sustainability into contaminated site cleanup operations across the portfolio of remediation approaches. The green remediation (GR) fact sheet on pump and treat systems has been one of the most popular "GR factsheets," with over 10,000 downloads since it was first released. The updated fact sheet includes new BMPs gathered from projects across the country and describes how climate resilience is being built into our sites to ensure continued remedy protectiveness. The fact sheet also highlights synergies between green remediation and climate adaptation practices, where one action provides both greenhouse gas (GHG) mitigation and climate resilience. Examples are BMPs involving use of renewable energy, green infrastructure or carbon sequestering vegetation that mitigate GHG emissions and add resilience to ongoing climate change. The fact sheet also highlights how advanced practices gleaned from Superfund's optimization and technical support work, such as reclaiming and reusing treated water for beneficial purposes, help reduce the environmental footprint of remedies. To view or download, please visit

[https://clu-in.org/greenremediation/docs/GR\\_fact\\_sheet\\_pump\\_treat.pdf](https://clu-in.org/greenremediation/docs/GR_fact_sheet_pump_treat.pdf).

**Research Brief 326: New Technique Yields Promising Results for Uranium Removal in the Field.** A technology developed by NIEHS-funded Superfund Research Program (SRP) researchers may remove uranium and other heavy metals from groundwater near abandoned mines. Small business GlycoSurf, LLC worked with partners at the University of Arizona SRP Center to determine the best environmental conditions for effectively removing uranium from contaminated water. To view the Brief, please visit

[https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief\\_ID=326](https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=326).

**ITRC PFAS Technical and Regulatory Guidance Document.** This updated guidance document is designed specifically to support state and federal environmental staff, as well as others (including stakeholders, project managers, and decision makers), to gain a working knowledge of the current state of PFAS science and practice. Developed by a team of over 400 environmental practitioners drawn from state and federal government, academia, industry, environmental consulting, and public interest groups, it also provides a summary of the current understanding of all aspects of PFAS from a broad perspective. For more information and to view the updated guidance document, please visit [https://pfas-1.itrcweb.org/#1\\_7](https://pfas-1.itrcweb.org/#1_7).

**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:

- Pilot Test Results for Ion Exchange Resin and Granular Activated Carbon to Treat Groundwater Impacted with Per- and Polyfluoroalkyl Substances La Habra Heights County Water District Water Supply Well #10
- Single-Laboratory Validation Study of PFAS by Isotope Dilution LC-MS/MS

- Combining Mass Balance Modeling with Passive Sampling at Contaminated Sediment Sites to Evaluate Continuing Inputs and Food Web Responses to Remedial Actions
- Update on the Benefits of PCB Congener-Specific Analyses
- Beneficial Use of Dredged Material Decision Tool
- Pinellas County, Florida, Site Environmental Restoration Project Environmental Monitoring Annual Progress Report for the Building 100 Area at the Young - Rainey Star Center June 2020 Through May 2021
- Interim Corrective Measure Work Plan Deep Zone of Upper Surficial Aquifer ♦ Anaerobic Biobarrier Hercules LLC/Pinova Inc. Brunswick Facility Brunswick, Georgia
- Evaluation of a Potential Groundwater Tracer Test in the Ringold Upper Mud Aquifer at the 100-H Area of the Hanford Site
- Florida Statewide PFAS Pilot Study at Drycleaning Sites

**EUGRIS Corner.** New Documents on EUGRIS, the platform for European contaminated soil and water information. More than five resources, events, projects and news items were added to EUGRIS in February 2022. 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.

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## > Conferences and Symposia

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**Design and Construction of Hazard Waste Sites Spring 2022 Symposium - Philadelphia, PA, March 30-April 2, 2022.** The Society of Military Engineers (SAME) hosts the DCWHS Symposium with a goal to facilitate an interactive engagement between professionals from government and the private sector related to relevant and topical issues affecting the clean up of hazardous waste sites. The Spring Symposium features a collection of case studies and technical presentations on site remediation from a wide array of clean up professionals.

For more information, please visit

[https://sites.google.com/samephiladelphiapost.org/dchws/east-symposium/spring-2022-dchws?mc\\_cid=3cd8640730&mc\\_eid=ddbff1f333](https://sites.google.com/samephiladelphiapost.org/dchws/east-symposium/spring-2022-dchws?mc_cid=3cd8640730&mc_eid=ddbff1f333)

**2022 Environmental Measurement Symposium - Crystal City, VA, August 1-5, 2022.** The Environmental Measurement Symposium (EMS) is the combined meeting of the National Environmental Measurement Conference (NEMC) and the Forum on Environmental Accreditation. The theme of the 2022 conference is Where Do We Go From Here? The Conference will include: a Technical Program featuring oral and poster presentations, a special half-day general session with a keynote speaker focused on the conference theme and updates from EPA program offices, special keynote presentations on the conference theme, and luncheon presentations; an Exhibit Program showcasing the latest innovations in environmental monitoring; and an Innovative New Technology Showcase. For more information, please visit <https://www.envirosymposium.group/index.php>

**2022 National Brownfields Training Conference - Oklahoma City, OK, August 16-19, 2022.** The National Brownfields Training Conference is the largest event in the nation focused on environmental revitalization and economic redevelopment. Held every two years, the National Brownfields Conference attracts over 2,000 stakeholders in brownfields redevelopment and cleanup to share knowledge about sustainable reuse and celebrate the EPA brownfields program's success. Whether you're a newcomer or a seasoned professional, Brownfields 2021 offers something for you! For more information, please visit <https://brownfields2021.org/>

**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 Jean Balent at (703) 603-9924 or [balent.jean@epa.gov](mailto:balent.jean@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 <https://clu-in.org/techdirect> at any time night or day.

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