U.S. ENVIRONMENTAL PROTECTION AGENCY

TechDirect, September 1, 2022

Welcome to TechDirect! Since the August 1 message, TechDirect gained 50 new subscribers for a total of 40,311. 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.

> Proposed Rulemaking Announcement

Proposed Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances. EPA is proposing to designate two per- and polyfluoroalkyl substances (PFAS) -- perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), including their salts and structural isomers -- as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund. This proposed rulemaking would increase transparency around releases of these harmful chemicals and help to hold polluters accountable for cleaning up their contamination. The rulemaking would require entities to immediately report releases of PFOA and PFOS that meet or exceed the reportable quantity to the National Response Center, state or Tribal emergency response commission, and the local or Tribal emergency planning committee (local emergency responders). To learn more, please visit
https://www.epa.gov/superfund/proposed-designation-perfluorooctanoic-acid-pfoa-and-perfluorooctanesulfonic-acid-pfos

> Upcoming Live Internet Seminars

ITRC Optimizing Injection Strategies and In situ Remediation Performance - September 13, 2022, 1:00PM-3:15PM EDT (17:00-19:15 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 under-performing 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: Community Involvement at Federal Facilities - September 14, 2022, 1:00PM-3:15PM EDT (17:00-19:15 GMT). Community Involvement at Federal Facilities is a two-hour webinar course that focuses on community involvement requirements, resources, and techniques available for Federal Facilities being cleaned up at National Priorities List (NPL) sites under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). By taking the course, participants will achieve the following objectives: Learn about community involvement requirements under CERCLA; Understand the roles of the lead federal agency and the Environmental Protection Agency (EPA) in public involvement at Federal Facilities; Discover resources and tools available for community involvement activities; Explore community involvement techniques and approaches that can be used at Superfund sites; and, Identify community involvement opportunities throughout the Superfund process at Federal Facilities. The instructional methodology for this course includes lecture, case studies, and group discussions. 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 CERCLA process. For more information and to register, please visit https://clu-in.org/live/.

ITRC Characterization and Remediation of Fractured Rock - September 20, 2022, 1:00PM-3:15PM EDT (17:00-19:15 GMT). The basis for this training course is the ITRC guidance: Characterization and Remediation of Fractured Rock. The purpose of this guidance is to dispel the belief that fractured rock sites are too complex to characterize and remediate. The physical, chemical and contaminant transport concepts in fractured rock have similarities to unconsolidated porous media, yet there are important differences. By participating in this training class, you should learn to use ITRC's Fractured Rock Document to guide your decision making so you can: develop quality Conceptual Site Models (CSMs) for fractured rock sites, set realistic remedial objectives, select the best remedial options, monitor remedial progress and assess results, and value an interdisciplinary site team approach to bring collective expertise to improve decision making and to have confidence when going beyond containment and monitoring -- to actually remediating fractured rock sites. For more information and to register, see https://www.itrcweb.org or https://clu-in.org/live.

ITRC Remediation Management of Complex Sites - September 22, 2022, 1:00PM-3:15PM EDT (17:00-19:15 GMT). This training course and associated ITRC guidance: Remediation Management of Complex Sites (RMCS-1, 2017), provide a recommended holistic process for management of challenging sites, termed "adaptive site management." By participating in this training course we expect you will learn to apply the ITRC guidance document to: identify and integrate technical and nontechnical challenges into a holistic approach to remediation; use the Remediation Potential Assessment to identify whether adaptive site management is warranted due to site complexity; understand and apply adaptive site management principles; develop a long-term performance-based action plan; apply well-demonstrated techniques for effective stakeholder engagement; access additional resources, tools, and case studies most relevant for complex sites; and communicate the value of the guidance to regulators, practitioners, community members, and others. For more information and

to register, see https://www.itrcweb.org or https://clu-in.org/live.

SERDP ESTCP Management of AFFF Impacts in Subsurface Environments and Assessment of Novel and Commercially Available PFAS-Free Foams (Part 2) - September 22, 2022, 12:00PM EDT (18:00 GMT). Join SERDP and ESTCP on Thursday, September 22 for a webinar featuring DoD-funded research efforts to remediate sites impacted by per- and polyfluoroalkyl substances (PFAS) and to identify aqueous film forming foam (AFFF) alternatives. First, Dr. Detlef Knappe (North Carolina State University) will discuss his research to enhance PFAS mineralization during thermal reactivation of granular activated carbon (GAC). Then, Dr. Braden Giordano (U.S. Naval Research Laboratory) will talk about the development of AFFF alternatives using polyethylene oxide-based polymers synthesized with reversible addition-fragmentation chain transfer (RAFT). For more information and to register, see https://www.serdp-estcp.org/webinars.

ITRC Incremental Sampling Methodology (ISM-2) Update Training Modules - October 4, 2022, 1:00PM-2:00PM EDT (17:00-18:00 GMT). Are you puzzled about ISM? ITRC trainers fielded lots of questions about ISM during the two sessions on Incremental Sampling Methodology (ISM-2) Update. Join our trainers a year later to walk through some of those common questions and take questions from you! We will also make sure you are aware of all the tools and resources ITRC provides on ISM. At registration, you can also review the archived training modules. For more information and to register, see https://www.itrcweb.org or https://clu-in.org/live.

Climate Change and Health: Session I - Reducing Exposures and Promoting Resilience - October 7, 2022, 1:00PM-3:00PM EDT (17:00-19:00 GMT). The NIEHS Superfund Research Program (SRP) is hosting a Risk e-Learning webinar series focused on scientific research and tools that can be used to promote health and resilience to climate change. The series will feature SRP-funded researchers, collaborators, and other subject-matter experts who aim to better understand and address how climate change affects human exposures to hazardous substances and the public health consequences of a changing climate and identify ways to build health resilience. For more information and to register, please visit https://clu-in.org/live/.

> New Documents and Web Resources

FY 2021 Superfund Accomplishments Report. EPA's Superfund program is responsible for cleaning up some of the nation's most contaminated land and responding to environmental emergencies. The Superfund program tracks several measures on an annual basis to keep the public and internal and external stakeholders informed of the program's progress in cleaning up sites and supporting their return to beneficial use. EPA recently published its annual Superfund Accomplishments Report which covers major accomplishments and environmental progress during fiscal year 2021. View or download the report at https://semspub.epa.gov/src/document/HQ/100003048.

Climate Adaptation Profile: Iron Mountain Mine. EPA recently released a climate adaptation profile describing measures taken at the 4,400-acre Iron Mountain Mine near Redding, California. Response actions at this National Priorities List site have been conducted under five interim remedies to address waste rock and acid mine drainage (AMD) resulting from past mining activity. Current work focuses on operating an extensive, onsite AMD collection and treatment system. The site is vulnerable to intense storms, stormwater-related soil erosion or landslides, and wildfires such as the 2018 Carr Fire. Climate adaptation measures to protect the AMD collection and

conveyance system have involved a redundant network of buried pipes in areas prone to landslides and replacement of flammable aboveground pipes with stainless steel pipes. Measures to protect the site infrastructure have included maintaining capacity to store excess AMD in the event electricity is temporarily unavailable for AMD treatment, adding protective materials such as gabions in stormwater let-down channels, and annually reassessing the need for additional fire-hardening measures. To view or download, please visit https://www.epa.gov/superfund/climate-adaptation-profile-iron-mountain-mine.

Climate Adaptation Profile: Continental Steel Corp. EPA recently released a climate adaptation profile describing measures taken at the 183-acre Continental Steel Corp. Superfund site in Kokomo, Indiana. Remedial actions currently focus on extracting contaminated groundwater to be treated by the municipal wastewater treatment plant. The site is vulnerable to flooding and associated soil and sediment erosion; approximately half of the site is located within a 100-year floodplain associated with either of two onsite creeks. Measures to assure the remedy's resilience to flooding involved weatherproofing the buildings and equipment used for groundwater extraction, using nature-based techniques to minimize stormwater runoff and associated erosion, and converting the site's former quarry pond to a four-acre stormwater basin capable of storing 58,000 cubic yards of stormwater. Onsite measures also were taken to contribute to climate change mitigation. Operation of three grid-tied wind turbines in the former quarry area offset up to 60 percent of the grid electricity required for groundwater extraction. Additionally, a 20-year power purchase agreement now enables operation of a 7.2 megawatt solar energy farm above the site's constructed soil cap. To view or download, please visit https://www.epa.gov/superfund/climate-adaptation-profile-continental-steel-corp.

Superfund Research Brief 332: Improving How Microbes Break Down PFAS. NIEHS Superfund Research Program (SRP) grantees demonstrated a method to break down per- and polyfluoroalkyl substances (PFAS) into smaller, non-toxic molecules. Led by Yujie Men, Ph.D., of the University of California, Riverside, the team also showed that some types of PFAS can be more easily degraded than others. PFAS are a group of more than 9,000 man-made chemicals used in a variety of industrial and consumer products. Known as forever chemicals, PFAS persist in the environment because they are made up of strong carbon-fluorine chemical bonds, which are difficult to break. View or download the brief at https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=332.

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:

- Groundwater Pump and Treat System Optimization Report U.S. DOE NNSA Pantex Plant, Texas
- Characterizing and Treating PFAS-Impacted Source Zones
- A Review of Exit Strategies and Site Closeout Challenges at Navy Cleanup Sites

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

> Conferences and Symposia

27th National Tanks Conference & Exposition - Pittsburgh, PA, September 13-15, 2022. NEIWPCC is co-sponsoring the conference in partnership with U.S. EPA's Office of Underground Storage Tanks (OUST) and the Association of State and Territorial Solid Waste Management Officials (ASTSWMO). Anticipated topics of the plenary sessions and posters include innovative cleanup technologies and approaches to address leaking underground storage tanks (LUSTs), such as green remediation and high resolution site characterization tools; development of LUST conceptual site models addressing emerging contaminants; and alternative fuels stored in underground storage tanks. For more information, please visit https://neiwpcc.org/our-programs/underground-storage-tanks/national-tanks-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 Jean Balent at (202) 566-0832 or balent.jean@epa.gov. To unsubscribe, send a blank email to $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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