TechDirect, October 1, 2014

Welcome to TechDirect! Since the September 1 message, TechDirect gained 201 new subscribers for a total of 37,917. 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 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.

> Open Solicitation

Deadline Extended for EPA's 2014-2015 SBIR Phase I Solicitation. The U.S. EPA has announced a new closing date of October 9, 2014 for the Small Business Innovation Research (SBIR) Program Solicitation to develop and commercialize new environmental technologies. EPA is one of 11 federal agencies that participate in the SBIR Program as a result of the Small Business Innovation Development Act of 1982. EPA is calling for small businesses to apply for Phase I awards up to $100,000 to demonstrate proof of concept in one of the following topic areas: air and climate, manufacturing, toxic chemicals, water, building materials, food waste, and homeland security. Phase I awardees are eligible to receive Phase II funding, up to $300,000 for two years, through an additional application process. For more information and to view the solicitation, see https://www.fbo.gov/spg/EPA/OAM/CMD/SOL-NC-14-00014/listing.html .

> Upcoming Live Internet Seminars

ITRC Green & Sustainable Remediation - October 2, 2014, 11:00AM-1:15PM EDT (15:00-17:15 GMT). Many state and federal agencies are just beginning to assess and apply green and sustainable remediation (GSR) into their regulatory programs. This training provides background on GSR concepts, a scalable and flexible framework and metrics, and tools and resources to conduct GSR evaluations on remedial projects. The training is based on the ITRC's Technical & Regulatory Guidance Document: Green and Sustainable Remediation: A Practical Framework (GSR-2, 2011) as well as ITRC's Overview Document, Green and Sustainable Remediation: State of the Science and Practice (GSR-1, 2011). Beyond basic GSR principles and definitions, participants will learn the potential benefits of incorporating GSR into their projects; when and how to incorporate GSR within a project's life cycle; and how to perform a GSR evaluation using appropriate tools. In addition, a variety of case studies will demonstrate the application of GSR and the results. The training course provides an important primer for both organizations initiating GSR programs as well as those organizations seeking to incorporate GSR considerations into existing regulatory guidance. For more information and to register, see http://www.itrcweb.org or http://clu-in.org/live.

Porewater Concentrations and Bioavailability: How You Can Measure Them and

Why They Influence Contaminated Sediment Remediation - October 6, November 19, December 1, 15, 2014. NARPM Presents and Risk e-Learning are offering a four-part webinar series to help you understand why, how, and when to measure porewater concentrations and bioavailability as part of contaminated sediment assessment and management. Hosted jointly by the EPA Contaminated Sediments Forum and the National Institute of Environmental Health Science's Superfund Research Program, this webinar series will also focus on the use of passive sampling devices (PSD) and what they tell us about contaminant bioavailability. Previously held as a course at the National Association for Remedial Project Managers (NARPM) Training Program meeting, the webinar series features experts in the field of porewater and bioavailability and includes lectures and case studies, including practical tips to maximize the utility of porewater and bioavailability measurements. Presenters will explain the basics of chemical fate, transport, and uptake, with a focus on porewater as a key route of exposure and a strong indicator of bioavailability. PSDs are a promising technology for measuring porewater concentrations and assessing bioavailability, particularly for common sediment contaminants such as polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), chlorinated pesticides, and dioxin-like compounds. The webinar series will include information about direct measurements of porewater, such as centrifuging sediment samples, or Henry Samplers, which may also be used and are particularly useful for measuring metals. For more information and to register, see http://clu-in.org/live.

ITRC Groundwater Statistics for Environmental Project Managers - October 7, 2014, 2:00PM-4:15PM EDT (18:00-20:15 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 http://clu-in.org/live.

Remedial Action Framework (RAF): Overview of Remedial Action Framework (RAF) - October 8, 2014, 2:30PM-4:30PM EDT (18:30-20:30 GMT). USEPA's Office of Superfund Remediation and Technology Innovation and the Office of Acquisition Management will host this webinar on the new Remedial Action Framework (RAF). The primary purpose of the contracts awarded under the Remedial Acquisition Framework will be to provide national support through multiple award contracts to the EPA remedial program and its responsibilities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Superfund Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA); and the Robert T. Stafford Natural Disaster Act pursuant to the Federal Response Plan (FRP) and other laws. This webinar will provide a general overview of the RAF and will clarify to the contractor community the three suites of contracts under the RAF umbrella: Design and Engineering Services (DES); Remediation Environmental Services (RES); and Environmental Services and Operations (ESO). For more

information and to register, see http://clu-in.org/live.

ITRC Incorporating Bioavailability Considerations into the Evaluation of Contaminated Sediment Sites - October 9, 2014, 11:00AM-1:15PM EDT (15:00-17:15 GMT). ITRC's web-based Technical and Regulatory Guidance, Incorporating Bioavailability Considerations into the Evaluation of Contaminated Sediment Sites (Sed-1, 2011) and associated Internet-based training are intended to assist state regulators and practitioners with understanding and incorporating fundamental concepts of bioavailability in contaminated sediment management practices. This guidance and training describe how bioavailability considerations can be used to evaluate exposure at contaminated sediment sites, the mechanisms affecting contaminant bioavailability, available tools used to assess bioavailability, the proper application of those tools and how bioavailability information can be incorporated into risk-management decisions. This guidance and training also contain summaries of case studies where bioavailability has been assessed and considered in the contaminated sediment remedial decision making process. This guidance and training provide insight on how bioavailability assessments can be used to understand, mitigate and manage risk at a contaminated sediment site, often at a reduced overall project cost. For more information and to register, see http://www.itrcweb.org or http://clu-in.org/live.

Managing Contaminants in Urban Vegetable Gardens to Minimize Human Exposure - October 15, 2014, 1:00PM-3:00PM EDT (17:00-19:00 GMT). The following topics will be presented: (1) Common Contaminants and Human Exposure Risks of Urban Gardening. This presentation will provide an overview of common contaminants found in urban soils, plant uptake of contaminants and bioavailability and human exposure risks. (2) Using Soil Amendments to Reduce Human Exposure to Contaminants. This presentation will also explore the efficacy of using soil amendments in vegetable gardens to reduce food-chain transfer and bioaccessibility of contaminants. (3) Gardening at Brownfield Sites. The results from a series of test sites across the country will be shared to highlight key findings on using soil amendments to minimize exposure to contaminants. Best practices will be also discussed. For more information and to register, see http://clu-in.org/live .

ITRC Remedy Selection for Contaminated Sediments - October 16, 2014, 11:00AM-1:15PM EDT (15:00-17:15 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 Use and Measurement of Mass Flux and Mass Discharge - October 21, 2014, 2:00PM-4:15PM EDT (18:00-20:15 GMT). The ITRC technology overview, Use and Measurement of Mass Flux and Mass Discharge (MASSFLUX-1, 2010), and associated Internet-based training provide a description of the underlying concepts, potential applications, description of methods for measuring and calculating, and case studies of the uses of mass flux and mass discharge. This Technology Overview, and associated Internet-based training are intended to foster the appropriate understanding and application of mass flux and mass discharge estimates, and provide examples of

use and analysis. The document and training assumes the participant has a general understanding of hydrogeology, the movement of chemicals in porous media, remediation technologies, and the overall remedial process. For more information and to register, see http://www.itrcweb.org or http://clu-in.org/live.

NARPM Presents...Exploring Recreational and Educational Opportunities at the Picayune Wood Treating Site - October 21, 2014, 1:00PM-3:00PM EDT (17:00-19:00 GMT). Three major ways that EPA's Office of Superfund Remediation and Technology Innovation (OSRTI) Technology Innovation and Field Services Division (TIFSD) provides technical assistance for ecological revitalization and reuse of sites is through information exchange in "Eco-Forums," reuse planning and an educational eco-curriculum. These tools and support are done through interagency agreements, at a regional level, and directly with site stakeholders. This webinar will discuss the eco-curriculum framework that was developed to help integrate the scientific aspects of cleanup and remedial components into a curriculum for local schools and will look in depth at the TIFSD eco-curriculum pilot project at the Picayune Wood Treating Superfund Site in Mississippi, Region 4. For more information and to register, see http://clu-in.org/live.

Estimating Environmental Footprints Using SEFA (Spreadsheets for Environmental Footprint Analysis) - October 28, 2014, 11:30AM-1:30PM EST (15:30-17:30 GMT). In 2012, the EPA released the "Methodology for Understanding and Reducing a Project's Environmental Footprint," which presents green remediation metrics associated with contaminated site cleanup and a process to quantify those metrics in order to achieve a greener cleanup. In conjunction with the Methodology, the EPA developed a set of analytical workbooks known as "SEFA" (Spreadsheets for Environmental Footprint Analysis), which can be used to quantify the environmental footprint of a site cleanup. An August 2014 update to the workbooks now offers greater consolidation of data entry, greater flexibility for specifying site-specific parameters, new charts and graphics for presenting results, and expanded user instructions. This 2-hour internet seminar will provide an overview of SEFA, demonstrate how to use the workbooks, and highlight the updated features. Opportunities will be provided throughout the seminar for participants to submit questions and observations regarding SEFA. Prior to attending this seminar, participants are strongly requested to: (1) read the Methodology or the introductory fact sheet http://clu-in.org/greenremediation/methodology/docs/GR_Overview_of_Footprint_Methodology_FS_3-29-12.pdf, and (2) download and review the updated SEFA workbooks, which are available at http://clu-in.org/greenremediation/methodology. For more information and to register, see http://clu-in.org/live.

SERDP and ESTCP Kick Off Webinar Series - October 30, 2014, 12:00 to 1:30 pm EDT(17:00-18:30 GMT). The SERDP and ESTCP research programs are proud to launch a new webinar series with the goal of promoting the transfer of innovative, cost-effective and sustainable solutions developed using SERDP and ESTCP funding. The series is geared for Department of Defense and Department of Energy practitioners, the regulatory community and environmental researchers. The goal is to provide cutting-edge and practical information that is easily accessible at no cost. The webinars will be held approximately every two weeks on Thursdays from 12:00 to 1:30 pm EDT. Each webinar will feature two distinguished speakers per technical topic from the SERDP and ESTCP research programs. The first webinar will be held on October 30, 2014 on vapor intrusion at contaminated sites and will feature key results from three Environmental Restoration projects. Vapor intrusion webinar presenters include Dr. Paul Johnson (Arizona State University) and Dr. Thomas McHugh (GSI Environmental). Future webinar topics include waste-to-energy technologies, management of contaminated sediments, acoustic methods for underwater munitions, solar technologies, lead-free electronics and many others. For more information, please see http://www.serdp-estcp.org/Tools-and-Training/Webinar-Series.

Overview of New EPA Superfund Groundwater Guidance and Tools - November 4, 2014, 12:30PM-1:30PM EST (17:30-18:30 GMT). Groundwater remediation is a component of more than 90 percent of active Superfund sites and achieving remedial action objectives can take years or even decades. Collectively federal agencies, states and potentially responsible parties (PRPs) spend hundreds of millions of dollars each year to address contaminated groundwater. Given the importance of groundwater, the challenges and costs associated with groundwater remedies, the US Environmental Protection Agency (EPA) has recently issued a new suite of guidance and tools to help focus resources on the information and decisions needed to effectively complete groundwater remedies and to ensure that these remedies protect human health and the environment. This 1 hour webinar will describe the benefits and utility of the following recently issued EPA guidance and tools: Guidance for Evaluating Completion of Groundwater Restoration Actions (Nov. 2013), Groundwater Remedy Completion Strategy (May 2014), Recommended Approach for Evaluating Completion of Groundwater Restoration Remedial Actions at a Groundwater Monitoring Well (Aug. 2014), and Groundwater Statistical Tool (Aug. 2014). The above EPA groundwater guidance and other resources are available on EPA's website at http://www.epa.gov/superfund/health/conmedia/gwdocs/. Participants may also be interested in the CLU-IN seminar on Evaluating Completion of Groundwater Restoration Remedial Actions on November 12, 2014. For more information and to register, see http://clu-in.org/live.

> New Documents and Web Resources

Optimization Review: Jones Road Superfund Site, Harris County, Texas (EPA 542-R-14-006). This report discusses the optimization review performed at the Jones Road Ground Water Plume Superfund Site, located in western Harris County just outside of the city limits of Houston, Texas. The document includes site-specific background; the optimization evaluation team's understanding of the conceptual site model; and optimization findings and recommendations related to improving protectiveness, effectiveness, technical improvement, site closure and environmental footprint reduction (August 2014, 44 pages). View or download at http://clu-in.org/techpubs.htm.

Optimization Review: Carson River Mercury Superfund Site, Carson City, Nevada (EPA 542-R-14-007). This report discusses the optimization review performed at the Carson River Mercury Superfund Site which is located in Carson City, Nevada. The document includes recommendations for (1) an appropriate remedial strategy for the site, (2) approaches for improving remedy implementation, and (3) additional characterization efforts (August 2014, 50 pages). View or download at http://clu-in.org/techpubs.htm.

Optimization Review: Baird & McGuire Superfund Site, Town of Holbrook, Norfolk County, Massachusetts (EPA 542-R-13-003). This document provides project background and information about the second optimization review conducted at the Baird & McGuire Superfund Site which was performed in 2012. The document includes site-specific background and remedy information; the optimization evaluation team's understanding of the conceptual site model; and optimization findings and recommendations related to improving effectiveness, reducing cost, technical improvement, site closure and green remediation. The report also includes a suggested approach to implementing the recommendations (May 2013, 106 pages). View or download at http://clu-in.org/techpubs.htm.

Remedial Design Optimization Review Report: East 67th Street Ground Water Plume NPL Site, Odessa, Ector County, Texas, EPA Region 6 (EPA 542-R-14-002). This report discusses the optimization review performed at the East 67th Street Ground Water Plume NPL Site in Odessa, Texas. The document includes site-specific background and remedy information; the optimization evaluation team's understanding of the conceptual site model; and optimization findings and recommendations related to improving effectiveness, reducing cost, technical improvement, site closure and green remediation (January 2014, 50 pages). View or download at http://clu-in.org/techpubs.htm.

Remedial Design-Stage Optimization Review Report: Sandy Beach Ground Water Plume Superfund Site, Tarrant County, Texas, EPA Region 6 (EPA 542-R-14-003). This report discusses the optimization review performed at the Sandy Beach Road Ground Water Plume Superfund Site which is located within incorporated areas of Pelican Bay and Azle, Texas and an unincorporated portion of Tarrant County, Texas. The document includes site-specific background and remedy information; the optimization evaluation team's understanding of the conceptual site model; and optimization findings and recommendations related to improving effectiveness, reducing cost, technical improvement, site closure and green remediation (April 2014, 49 pages). View or download at http://clu-in.org/techpubs.htm.

Optimization Review: Lockwood Operable Unit 1 - Beall Source Area, Billings, Montana (EPA 542-R-14-009). This report discusses the optimization review performed at the Lockwood Solvent Groundwater Plume Site (LSGPS) which is located on the outskirts of Billings, Montana. The document includes site-specific background; the optimization evaluation team's understanding of the conceptual site model; and optimization findings and recommendations related to improving effectiveness, reducing cost, technical improvement, site closure and green remediation (September 2014, 83 pages). View or download at http://clu-in.org/techpubs.htm.

Optimization Review: Lockwood Operable Unit 2 - Soco/Brenntag Source Area Billings, Montana (EPA 542-R-14-010). The Lockwood Solvent Groundwater Plume Site (LSGPS) is located on the outskirts of Billings, Montana, in EPA Region 8. The site is managed as two operable units (OUs). OU1 consists of contaminated soils and a plume of chlorinated solvents in groundwater associated with the Beall Source Area (Area B), and OU2 consists of affected media associated with the Brenntag (Soco; Area A) Source Area. This optimization review addressed remedial components planned for affected soil and groundwater in OU2. OU1 is addressed under a separate optimization review report (September 2014, 103 pages). View or download at http://clu-in.org/techpubs.htm.

Nuclear Site Remediation and Restoration during Decommissioning of Nuclear Installations. Decommissioning of nuclear facilities and related remedial actions are currently being undertaken around the world to enable sites or parts of sites to be reused for other purposes. Remediation has generally been considered as the last step in a sequence of decommissioning steps, but the values of prevention, long-term planning and parallel remediation are increasingly being recognized as important steps in the process. This report, prepared by the Task Group on Nuclear Site Restoration of the NEA Co-operative Programme on Decommissioning, highlights lessons learned from remediation experiences of NEA member countries that may be particularly helpful to practitioners of nuclear site remediation, regulators and site operators. It provides observations and recommendations to consider in the development of strategies and plans for efficient nuclear site remediation that ensures protection of workers and the environment (August 2014, 246 pages). View or download at http://www.oecd-nea.org/rwm/pubs/2014/7192-cpd-report.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 http://clu-in.org/products/tins/ . The following resources were included in recent issues:

- Semi-Passive Oxidation-Based Approaches for Control of Large, Dilute Groundwater Plumes of Chlorinated Ethylenes
- Field Methods for Determining Lead Content in Bridge Paint Removal Waste
- Modeling Study of Iron and Manganese in Groundwater
- U.S. EPA Region 4 Technical Services Section Issue Paper for Polychlorinated Biphenyl Characterization at Region 4 Superfund and RCRA Sites: Technical Services Section Issue
- Developing and Field-Testing Genetic Catabolic Probes for Monitored Natural Attenuation of 1,4-Dioxane with a One-Year Timeframe
- Preconcentration for Improved Long-Term Monitoring of Contaminants in Groundwater
- Use of Compound-Specific Stable Isotope Analysis to Distinguish Between Vapor Intrusion and Indoor Sources of VOCs: User's Guide for CSIA Protocol
- Contaminated Sediments Remediation: Remedy Selection for Contaminated Sediments
- Best Practices for Risk-Informed Decision Making Regarding Contaminated Sites: Summary of a Workshop Series

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 8 resources, events, projects and news items were added to EUGRIS in September 2014. 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:

Guidelines for Remediation Strategies to Reduce the Radiological Consequences of Environmental Contamination (2012). This Technical Report Series, number 475, was produced by the International Atomic Energy Agency (IAEA). The book specifically collates, and summarizes recent activities relevant to remediation conducted under the auspices of the IAEA, but also refers to relevant studies conducted elsewhere. View or download at http://www-pub.iaea.org/MTCD/publications/PDF/trs475_web.pdf .

> Conferences and Symposia

LNAPLs: Science, Management, and Technology - ITRC 2-day Classroom Training, Richmond, VA, October 29-30, 2014. Led by internationally recognized experts, this 2-day ITRC classroom training will enable you to develop and apply an LNAPL Conceptual Site Model (LCSM), understand and assess LNAPL subsurface behavior, develop and justify LNAPL remedial objectives including maximum extent practicable considerations, select appropriate LNAPL remedial technologies and measure progress, and use ITRC's science-based LNAPL guidance to efficiently move sites to closure. 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.

Call for Ideas! 2015 National Brownfields Training Conference, Chicago, IL, September 2-4, 2015. Your ideas for interactive, insightful, and engaging educational sessions are being sought for Brownfields 2015. Submit your ideas for educational sessions tailored to encourage conversations and participation from attendees. The

conference planning committee is looking for ideas in the following topic areas/tracks: Moving Forward: How Do We Get from Ideas and Plans to Assessment and Cleanup; Heavy Lifting: Leveraging Available Financing to Spur Brownfields Redevelopment; Put on Your Marketing Hat: Real Estate and Development; Planning for a Better Environment; Working Toward a Sustainable Future; Making a Visible Difference in Communities; Worry Beads: How to address Liability and Avoid Enforcement; Launching a New Era of State, Tribal, and Local Partnerships. The call for ideas is open until November 3, 2014. For more information and to submit your idea, see http://www.brownfieldsconference.org/en/education/call_for_ideas.

Call for Papers! International Conference-Exhibition on Soils, Sediments and Water (Intersol) 2015, Paris, France, March 24-26, 2015. The themes for Intersol 2015 are emerging and orphan pollutants, in situ treatment of soil and groundwater, and mining sites. The call for papers is open until October 31, 2014. For more information and to submit an application, see http://www.intersol.fr/appel.php.

Call for Abstracts! 13th International UFZ-Deltares Conference on Sustainable Use and Management of Soil, Sediment and (Ground)Water Resources (AquaConSoil), Copenhagen, Denmark, June 9-12, 2015. The 13th International AquaConSoil Conference will focus on sustainable use and management of soil, sediment and water resources through four themes: dealing with contamination of soil, groundwater and sediment; soil, groundwater and sediment in the biobased, circular economy; managing multiple functions of the subsurface; and the role of the subsurface in climate change adaptation. It will provide opportunities for scientists, companies and policy makers to extend and enforce their network, start new cooperation activities and be informed of the latest developments in the field of sustainable use and management of soil, sediment and water resources. The call for abstracts is open until November 30, 2014. For more information and to submit an abstract, see http://www.aquaconsoil.org/themes--call.html.

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. 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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