General Meeting of the
Federal Remediation Technologies Roundtable

Modeling in Support of Site Remediation

U.S. Geological Survey (USGS) National Center (Headquarters)
12201 Sunrise Valley Drive | Reston, Virginia 20192
Wednesday, May 22, 2019

Ecosystems ★ Climate ★ Energy & Minerals ★ Natural Hazards ★ Environment & Human Health ★ Water

USGS Technical Announcements

https://www.usgs.gov/news/technical-announcements

Water Resources
Energy Resources
Environmental Health
Mineral Resources
Ecosystems
Core Science Systems
Natural Hazards

https://www.usgs.gov/science/mission-areas

U. S. Geological Survey

U.S. NRC STAFF ANNOUNCEMENTS AT THE FRTR MEETING ON MAY 22, 2019

BOBY EID, USNRC/NMSS

The Ninth International Symposium on Naturally Occurring Radioactive Material (NORM IX):

The Conference of Radiation Control Program Directors (CRCPD), in association with the International Atomic Energy Agency (IAEA) is organizing the Ninth International Symposium on Naturally Occurring Radioactive Material in Denver, Colorado. The conference will be convened on **September 23 -27, 2019 in Denver, Colorado**. The Symposium aims to harmonize approaches and methods for NORM management, and through practical case studies, provide guidance for their application. Symposium topics include waste management, remediation and decommissioning, environmental protection, stakeholder processes, and regulations applicable to industries involving NORM.

IAEA Recently Issued Three Guidance on Protection of the Public and the Environment:

The International Atomic Energy Agency (IAEA) recently issued three General safety Guides:

a. Radiation Protection of the Public and the Environment (GSG-8);
b. Regulatory Control of Radioactive Discharges to the Environment (GSG-9); and
c. Prospective Radiological Impact Assessment for Facilities and Activities.

An important issue in these guides is establishing dose criteria for reference biota and flora.

Waste Management 2020 SYMPOSIA:

WM 2020 Conference will be held on **March 8-12, 2020 in Phoenix AZ**. The conference has nine tracks of sessions, oral presentations, and posters. This conference is attended by over 2000 participants annually. Main tracks of interest to FRTR are:

a. Low-Level waste, very low-level waste, norm residues, and depleted uranium (Track #3);
b. Decontamination and Decommissioning (Track #6); and
c. Environmental Remediation (Track #7).

Early June 2019 is the opening call for abstracts, and **deadline for Abstract Submittal is August 23, 2019**.

NIEHS Superfund Research Program

- Open Solicitations:
  - Small Business Innovative Research (R43-R44) – Remediation and Site Characterization Technologies

- Upcoming SRP-Sponsored Meetings
  - Per- and Polyfluoroalkyl Substances: Second National Conference June 10 – 12, 2019, Boston, Massachusetts
  - The 16th International Congress on Combustion By-Products and Their Health Effects, July 10 – 12, 2019, Ann Arbor, Michigan
  - 2019 SRP Annual Meeting, November 18 – 20, 2019, Seattle, Washington (http://srp2019.org/)

- Webinar Archive: "Biogeochemical Interactions Affecting Bioavailability for in situ Remediation" webinar series concluded this week and is available on Clu-In.

- Monthly SRP Research Brief: "Current Research Brief 293: Study Sheds Light on Breakdown of PCBs to Potentially Harmful Metabolites in Humans"

SRP Website: https://www.niehs.nih.gov/srp

Questions: heather.henry@nih.gov

Navy Update to FRTR Training/Webinars

New Optimization Training:

- **CECOS Optimizing Remedy Selection and Site Closeout Class update**
- **OER2 Webinar: EPA Superfund Optimization Program webinar**
  Presenters: Carlos Pachon (EPA) and Kirby Biggs (EPA)

2019 Remediation Innovative Technology Seminar (RITS)

- **Topics**
  - Innovative Sampling Methods and Data Analysis for Reducing LTM Costs
  - In Situ Chemical Oxidation Best Practices and New Innovations
  - How Much Risk Does LNAPL Pose at Legacy Petroleum Impacted Sites?
  - Managing Emerging Contaminants at CERCLA Sites
  - PFAS Site Characterization
  - Adaptive Site Management for Complex Sites
- **Remaining Dates/Locations:**
  - June 3-4: San Diego, CA
  - June 5-6: Silverdale, WA
  - June 12-13: Honolulu, Hawaii

US EPA Announcements

- Superfund Task Force Overview
  - –Technology Highlights
- Technology Reporting
  - –Superfund Remedy Report
  - –Optimization Status Report
  - –Six Adaptive Management Pilots (one Navy site)
- New Technology Documents
  - –Best Management Practice Guides
- Federal Facilities RPM Course
- Federal Agency Haz Waste Compliance Docket
- Federal Facilities Academy
- Operating Properly and Successfully

SMART SCOPING FOR ENVIRONMENTAL INVESTIGATIONS
TECHNICAL GUIDE

Under CERCLA, the identification of contamination sources is important to the listing of sites on the National Priorities List and the investigation and remediation of all types of sites.

Select Resources: Past and Current Uses

- EPA. 1988. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA. Interim Final. OSWER Directive 9355.3-01. EPA 540/G-89/004. October.
- EPA. 2000. Abandoned Mine Site Characterization and Cleanup Handbook. EPA 910-B-00-001. August.
- EPA. 2005. Contaminated Sediment Remediation Guidance for Hazardous Waste Sites. OSWER Directive 9355.0-85. EPA-540-R-05-012. December.

Previous Investigations

Data from previous investigations are evaluated to estimate contaminant distributions in the environment and evaluate potentially complete pathway-receptor networks. Questions to be answered include:

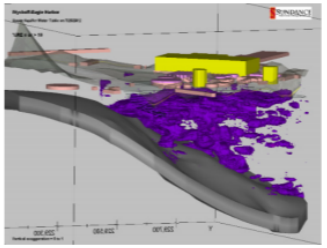
- What are the potential pathways of concern?
- What are the primary pathways for contamination that pose a threat to human health and the environment?
- What is the potential magnitude of the problem?
- What investigative tools and strategies have worked or failed?
- What remedies have been tried and with what success?
- What are potential critical data gaps?
- What are the perceived risks associated with the site?
- What are viable completion strategies?

Every site-related document, regardless of its intended audience or purpose of creation, should be assessed for information that contributes to the CSM. Diligence in gathering and evaluating all data from previous investigations is essential to preparing a thorough CSM.

Select Resources: Previous Investigations

- EPA. 1988. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA. Interim Final. OSWER Directive 9355.3-01. EPA 540/G-89/004.
- EPA. n.d. Conceptual Site Model Checklist. https://triadcentral.clu-in.org/ref/ref/documents/CSM_Checklist.pdf
- EPA. n.d. Triad Central Web Resources. https://triadcentral.clu-in.org/index.cfm

Highlight 3. Detailed Site Subsurface



Geology and Hydrogeology

Based on investigative experience and other independent research into groundwater contamination, EPA has found that the nature of the geologic structure through which