



General Meeting of the  
Federal Remediation Technologies Roundtable

# Synthesizing Evolving Conceptual Site Models (CSMs) with Applicable Remediation Technologies

U.S. Geological Survey (USGS) National Center (Headquarters)  
12201 Sunrise Valley Drive | Reston, Virginia 20192  
Wednesday, November 13, 2019



## **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***



# Air Force Civil Engineer Center

## Environmental Technology Innovation Projects

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- Highlighted Projects: Remediation Technology
    - Field-scale pilot test of plasma reactor at Wright Patterson AFB appears successful for PFAS degradation. News release: <https://www.afmc.af.mil/News/Article-Display/Article/2008439/air-force-tests-plasma-reactor-to-degrade-destroy-pfos-pfoa/>
    - In situ activated carbon pilot test (TCE plume in fractured rock at Edwards AFB). Tracer-geophysics tomography test and lab work in progress.
  - Highlighted Project: Advanced Site Characterization
    - HRSC technology compendium and guidance for technology selection and CSM development. Will include case study. Target audience: RPMs, A&Es
  - Recent FY19 awards
    - PFAS sequestration technology for surface water (Ellsworth AFB)
    - HRSC of complex DNAPL sites (AFP6, Cape Canaveral)
  - For information: [jeffrey.davis.90@us.af.mil](mailto:jeffrey.davis.90@us.af.mil) [kent.glover@us.af.mil](mailto:kent.glover@us.af.mil)  
<https://www.afcec.af.mil/Home/Environment/Technical-Support-Division/Environmental-Restoration-Technical-Support-Branch/BAA/>
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# US Army Environmental Programs



- **MISSION:** Provides Environmental Cleanup, Environmental Compliance, Environmental Conservation, and Pollution Prevention for all Army installations and facilities; to include Active Army, Army Reserves, Army National Guard, and Base Realignment and Closure.
- **Current PFAS Cleanup Actions and Status:**
  - 290 PA/SI Investigations underway or complete
  - 1 Remedial Investigation underway
  - Collecting at least 18-22 PFAS analytes; acting on those with RfDs (PFOS, PFOS & PFBS)
- **All Army Drinking Water Systems tested**
  - 13 systems had detections > EPA's LHA (70 ppt for PFOS & PFOA combined)
  - Actions taken to mitigate to < 70 ppt. Periodic sampling.
- **Removing all C8 (PFOS) AFFF and replacing with new MILSPEC**
- **Name change at Army HQ Environmental Programs from the Office of the Assistant Chief of Staff for Installation Management (ACSIM) to the Office of the Deputy Chief of Staff, G-9 (DCS, G-9)**



**EPA's Small Business Innovation Research (SBIR) Program** has funded many remediation technologies including most recently, three Phase II projects (\$300K for 2 years) to develop and commercialize PFAS clean-up and detection technologies.

- DMAX Plasma LLC, Potsdam, N.Y., to develop a competitive remediation technology to chemically reduce per- and polyfluoroalkyl substances (PFAS) in contaminated water.
- AA plasma LLC, Warminster, Pa., a novel 2-stage process using a non-thermal plasma treatment to regenerate activated carbon in the first stage, with an optional amination second stage that improves the activated carbon's ability to remove contaminants from water.
- Seacoast Science, Inc., Carlsbad, Calif., to develop innovative broad-spectrum analytical methods for PFAS that will simplify analysis, reduce cost-per-sample, and allow portability to remediation sites.

In addition, there are several current Phase I projects (\$100K for 6 months) related to PFAS detection and treatment in groundwater, wastewater and soils.

[https://cfpub.epa.gov/ncer\\_abstracts/index.cfm/fuseaction/recipients.display/rfa\\_id/641/records\\_per\\_page/ALL](https://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/recipients.display/rfa_id/641/records_per_page/ALL)

The most recent remediation-related technology topic was mining site characterization and remediation. Those proposals are under review now and will be funded in early 2020.





- Federal Agency Hazardous Waste Compliance Docket Update #36 published in the Federal Register on 10/28/19
- Federal Facilities Academy training available
- “Cleaning up the Nation’s Waste Sites” market study update coming in December 2019
- Superfund Task Force 2-year anniversary



## US. EPA Federal Facilities (FF) Academy

Starting September 2019

The FF Academy is a voluntary training program developed for EPA RPMs, project managers from other federal agencies, State government, and Tribal groups who work on federal facility Superfund cleanups.

12  
Courses  
Total

11  
Webinars  
and  
1 In-Person  
Training\*

Course Schedule (1-3pm Eastern):

- [Land Use and Onsite/Offsite Determinations](#) – September 9, 2019
- [Community Involvement at Federal Facilities](#) – October 1, 2019
- [Record of Decision \(RODs\) and More at Federal Facilities](#) – November 4, 2019
- [Coordinating with Tribes at Federal Facilities](#) – December 2, 2019
- [RCRA/CERCLA Integration](#) – February 3, 2020
- [Resolving Issues before Formal Dispute](#) – March 2, 2020
- [Role of Superfund Performance Measures](#) – April 6, 2020
- [Determining Applicable or Relevant and Appropriate Requirements \(ARARs\) in RODs](#) – May 4, 2020
- [Groundwater Policy Overview](#) – June 1, 2020
- [Federal Facility Five-Year Review](#) – August 3, 2020
- [Military Munitions Policy Overview](#) – September 14, 2020

(Webinars will be archived for future viewing.)

Receive a  
Certificate  
of  
Completion



Register for Courses at <https://www.trainex.org/FFacademy>

\*The Federal Facility RPM in-person 3-day course is offered in various locations throughout the year. Check [www.trainex.org](http://www.trainex.org) for upcoming dates.

**For more information,**  
Visit: [www.epa.gov/fedfac](http://www.epa.gov/fedfac)

**Contact: Emerald Laija**  
Federal Facilities Restoration and Reuse Office (FFRRO)  
[Laija.emerald@epa.gov](mailto:Laija.emerald@epa.gov) or 202-564-2724

**- Update on Collaborative Initiatives**

- EPA & DOD applying Adaptive Site Management at a Navy Site
- TSEROWG evaluating challenges with meeting RC goals

**- DoD Vapor Intrusion Handbook**

- Fact Sheet 7: Matrix for Selecting Vapor Intrusion Investigation Technologies, July 2019
- Fact Sheet 8: Considering the Vapor Intrusion Pathway throughout the CERCLA Process, Sept 2019

**- NAVFAC OER2 Webinars**

- Navy Munitions Response Program Update on Guidance, Tools, and Templates. Nov 9, 2019 - Archive to be available on-line

- **NAVFAC Guidance Document**

- **Munitions Response RI/FS Guidance, June 2019**

- **NAVFAC Fact Sheets:**

- **Repeatable Multilevel Groundwater Sampling, Sept 2019**
  - **Environmental Statistics, Sept 2019**
  - **Munitions Constituents in Underwater Environments, Sept 2019**

- **NAVFAC Reports:**

- **In Situ Activated Carbon Case Study Review, Sept 2019**
  - **Analysis of the Long-Term Fate of Munitions Constituents from Unexploded Ordnance and Discarded Military Munitions on Terrestrial Sites (NESDI), May 2019**

**[www.navfac.navy.mil/go/erb](http://www.navfac.navy.mil/go/erb)**