

CEMP-CE

Regulation
No. 10-1-50

30 April 2012

Organization and Functions
U.S. ARMY CORPS OF ENGINEERS ENVIRONMENTAL AND MUNITIONS
MANDATORY CENTER OF EXPERTISE

1. Purpose. This regulation defines the mission and the organization of the U.S. Army Corps of Engineers (USACE) Environmental and Munitions Mandatory Center of Expertise (EM CX).
2. Applicability. This regulation is applicable to all HQUSACE elements, divisions, districts, laboratories and field operating activities.
3. Distribution Statement. Approved for public release; distribution is unlimited.
4. References.
 - a. ER 10-1-22, Organization and Functions, U.S. Army Engineering and Support Center, Huntsville.
 - b. ER 200-1-1, Policy and General Requirements for the Environmental Innovative Technology Program.
 - c. ER 200-1-4, Formerly Utilized Sites Remedial Action Program (FUSRAP) – Site Designation, Remediation Scope, and Recovering Costs.
 - d. ER 200-1-5, Policy for Implementation and Integrated Application of the U.S. Army Corps of Engineers (USACE) Environmental Operating Principles (EOP) and Doctrine.
 - e. EM 200-1-15/Currently EM 1110-1-4009, Engineering and Design: Military Munitions Response Actions.
 - f. EM 385-1-1, Safety-Safety and Health Requirement Manual.
 - g. EM 385-1-80, Radiation Protection Manual.
 - h. EM 385-1-97, Explosives - Safety and Health Requirements Manual.
 - i. ER 200-2-3, Environmental Compliance Policies.

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j. ER 200-3-1, Environmental Quality, Formerly Used Defense Sites (FUDS) Program Policy.

k. ER 385-1-92, Safety and Occupational Health Document Requirements for Hazardous, Toxic, and Radioactive Waste Activities.

l. ER 385-1-95, Safety and Health Requirements for Munitions and Explosives of Concern (MEC) Operations.

m. ER 1110-1-263, Chemical Data Quality Management for Hazardous, Toxic, and Radioactive Waste Remedial Activities.

n. ER 1110-1-8153, Military Munitions Support Services.

o. ER 1110-1-8157, Geotechnical Data Quality Management for Hazardous Waste Remedial Activities.

p. ER 1110-1-8158, Corps-wide Centers of Expertise Program.

q. ER 1110-2-500, EPA/USACE Superfund Program Funding and Reporting Requirements.

r. ER 1110-3-1301, Hazardous, Toxic and Radioactive Waste (HTRW) Cost Engineering.

s. ER 1165-2-132, Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects.

t. Formerly Utilized Sites Remedial Action Program (FUSRAP) Operation Order (OPORD) 98-01 (CEMP-R, 31 October 1997).

u. Revised Mandatory Review Requirements for the Formerly Utilized Sites Remedial Action Program (FUSRAP)(CECW-ZA, September 2007) with attached FUSRAP Review and Approval Authority Matrix (Aug 07) and supplemented by CECC-E Memo, 17 January 2011, Subject: FUSRAP Approval Matrix.

v. U.S. Army Materiel Command (AMC) Environmental Restoration Program (ERP) Management Policy and Execution Guidance (16 July 1999).

5. Establishment. In November 2007, the Hazardous, Toxic and Radioactive Waste Center of Expertise (HTRW CX), Omaha, NE and the Ordnance and Explosives Center of Expertise (OE CX), Huntsville AL, realigned to form the Environmental and Munitions Center of Expertise (EM CX). The EM CX was revalidated as a CX under ER 1110-1-8158 on 13 October 2011. The predecessor to the EM CX, the HTRW CX, was originally designated by the Director of Military Programs as a mandatory center of expertise in March of 1992, when

the authorized Low Level Radioactive/Mixed Waste Center of Expertise was merged with the Superfund Design Center at the Missouri River Division.

6. Mission. The primary mission of the EM CX is to support the Corps headquarters, divisions, districts, laboratories, centers, and other customers in the performance of their military, civil, and work for others environmental missions. The EM CX performs this mission by maintaining state-of-the-art technical expertise and competencies for hazardous waste remediations, radioactive waste remediations, munitions response actions, chemical warfare materials responses, green and sustainable remediation and environmental compliance activities.

7. Organization.

a. The EM CX organization reports directly to the Huntsville Engineering and Support Center's (HNC) Deputy Program and Technical Manager (DPTM). The DPTM is located in Huntsville, AL and reports to the HNC Commander. HNC Commander has a responsibility to: physically house the EM CX and support and assist in efforts to provide for the EM CX; to support and publicize the EM CX mission to other organizations including HQUSACE, Divisions, Districts, laboratories, centers, other agencies, etc.; and to provide administrative and other support services so the EM CX can function efficiently and focus on and complete critical technical missions.

b. The approved EM CX organization is comprised of an EM CX Director and four divisions. The EM CX Director and three divisions are physically located in Omaha, NE and the fourth division is physically located in Huntsville, AL. The approved EM CX organization is shown in Appendix A. Changes in structure or titles from those shown on the chart require advanced approval of HQUSACE, in accordance with procedures set forth in ER 10-1-2.

c. The EM CX has an Interagency Support Agreement (ISA) with the Omaha District to provide Information Management/Information Technology Support, Security, Safety, Library services, access to the Employee Assistance Program, access to the fitness center and building rent for the staff located in Omaha, NE. The ISA is renewed each fiscal year.

8. Technical (including legal) Competencies. A list of the disciplines and technical competencies of the EM CX is shown in Appendix B.

9. Functions and Responsibilities. The primary functions and responsibilities of the EM CX as required by the references include:

a. Critical thinking and engagement of the environmental community of practice (ECoP) on existing and emerging trends in the areas of environmental remediation, munitions response, chemical warfare material response, sustainability, and environmental compliance;

- b. Technical competencies maintained and developed in order to ensure the sustainment of the environmental community of practice within USACE (See Appendix B);
- c. Mandatory technical review for quality assurance of selected key documents, as well as other requested technical project reviews;
- d. Technical assistance to HQUSACE, divisions, districts, laboratories, centers, and other customers;
- e. Quality assurance reviews of executing districts;
- f. Guidance development to support district execution of the environmental programs;
- g. Training development and instruction to support district execution of the environmental programs;
- h. National representation with academia, research, and national professional organizations to further technical competencies;
- i. Technology transfer of existing and innovative technologies to further their application on USACE projects;
- j. Strategic communications and analysis supporting USACE environmental programs.

10. Mandatory and Voluntary Services.

a. Environmental remediation. Environmental (including chemical, radioactive and munitions) remediation requires special technical knowledge and experience in unique scientific, safety, and engineering fields pertaining to site investigation, design, and remediation. The engineering and scientific aspects of the restoration of our nation's air, water and soil are often complicated by many legal and political issues, forming a complex matrix of considerations which must be addressed for successful site cleanup. The restoration of such contaminated sites requires an expert in-house (government) multi-disciplinary technical and legal approach to solve problems. Expert level knowledge of environmental, chemical, civil, cost, and geotechnical engineering, geology, industrial hygiene, risk assessment, health physics, chemistry, Ordnance and Explosive (OE) safety, geophysics, and environmental laws and regulations, as they relate to investigation, design, construction and operation and long-term maintenance at environmental sites, is often required. The EM CX fulfills this need in support of the Army Corps of Engineers headquarters, divisions, Military Munitions Design Centers, districts, laboratories and centers nationwide. The EM CX has specific defined roles, responsibilities, and mandatory and non-mandatory technical functions described in the referenced documents. The EM CX provides expert mandatory services and highly specialized technical and legal support in the following general areas

(the sub-items listed below are meant as primary examples of support by the CX in the general areas; this listing is not exhaustive):

- (1) technical document review;
- (2) technical project assistance;
- (3) guidance development;
- (4) training development and instruction;
- (5) expert representation in national forums; and
- (6) HQUSACE support.

b. Technical Review. A primary function of the EM CX is to provide mandatory technical review of project documents as mandated by the references. In addition, the EM CX has mandatory review and approval authority for Explosive Safety Submissions, Explosive Siting Plans, Chemical Safety Submissions and Chemical Siting Plans for chemical warfare materials on behalf of HQUSACE. HQUSACE may also direct the EM CX to provide technical review on any project, if requested by a Corps district or division.

c. Technical Project Assistance. Another major function of the EM CX is to provide timely, expert technical and legal advice and assistance to Corps engineering, operations and construction offices nationwide pertaining to environmental restoration, munitions response, sustainability and compliance activities.

(1) Assist HQUSACE, Divisions, Districts, laboratories and centers on technical issues resolution, technical committee participation, and other exchanges at HQ level of other federal and state agencies, including regulatory agencies (e.g., HQ EPA, State EPA offices, etc). At the request of Divisions, districts and their customers, interact directly with subordinate functions of other federal and state agencies, including regulators, in resolution of program and project technical issues and technical information exchange.

(2) Support Divisions by participating in the Quality Assurance (QA) oversight and audits of the districts, as requested.

(3) Support HQUSACE by participating in QA oversight and audits of Military Munitions Design Centers and Remedial Action Districts.

(4) Provide specialized legal and technical review of Defense Environmental Restoration Program (DERP) FUDS activities as directed or requested and to assist in assuring nationwide program consistency and execution. Assist USACE elements with individual PRP project actions as requested.

(5) Support USACE elements for DA Civil Works activities as requested.

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(6) Review and provide technical assistance on environmental aspects of Civil Works projects. (See *e.g.* ER 1165-2-132, ER 200-2-3).

(7) Develop and/or maintain cost engineering tools, such as Remedial Action Cost Engineering Requirements (RACER).

(8) Lead and coordinate various USACE Radiation Safety Support Team (RSST) efforts to provide comprehensive health physics support to applicable projects and to mentor new Corps health physicists; the Corps Risk Assessment Group (CRAG), and the Environmental Chemistry team.

(9) Lead and coordinate the Environmental Compliance and Cleanup sub-CoP to the ECoP and the fourteen Areas of Interest.

(10) Gather information on innovative technologies from various federal agencies and the private sector, provide technology transfer and foster their use among USACE elements.

(11) Interact with USACE and other DOD environmental research and development (R&D) functions to develop statements of need for new technologies and current technology refinement, supplement environmental research teams, identify project test and evaluation sites, and promote use of R&D products on project sites (achieving tech transfer, best practices, and lessons learned information).

(12) Develop guidance and provide technical assistance on implementation of a decision framework for incorporating sustainable practices into Army environmental compliance, remediation and munitions response projects as requested by HQUSACE.

d. Guidance Development. The subject matter experts at the EM CX are responsible for developing technical and policy guidance on behalf of HQUSACE.

(1) Develop and update environmental technical guidance in support of the Corps environmental mission, as well as work with other federal agencies in drafting nationwide environmental guidance and policy on behalf of HQUSACE.

(2) Assist and work with various HQUSACE offices (Environmental, Construction, Safety, Civil Works, etc.) in developing, disseminating, and coordinating USACE HTRW and Military Munitions Support Services (M2S2) technical policies, procedures, and guidance.

e. Training Development and Instruction. The technical experts within the EM CX serve as Subject Matter Experts for various Corps environmental training courses, developing the course content, course materials and providing in-house experts to serve as instructors.

(1) Serve as subject matter experts and instructors for environmental and military munitions PROSPECT courses.

(2) Manage the FUDS Training Program on behalf of HQUSACE.

(3) Develop and instruct training courses to meet the needs of the FUDS community.

(4) Serve as the USACE subject matter representative to the DOD Interservice Environmental Education Review Board (ISEERB) on an as needed basis.

(5) Provide environmental law training and mentoring to district counsel.

f. Expert Representation in National and Regional Forums. The staff of the EM CX makes presentations at professional national and regional conferences, and represents USACE in many national meetings and forums.

(1) Coordinate with the DOD Executive Agent (U.S. Army Joint Munitions Command) on all applicable USACE radioactive waste disposal issues.

(2) Represent the USACE at the DA Radiation Safety Council and the Low Level Radiation Waste Disposition Advisory Committee.

(3) Serve on Tri-Service task forces and steering committees in an effort to address federal cost engineering initiatives and issues.

(4) Represent the Corps on various DA, DOD Tri-Services, Federal and professional technical committees and task forces, including the Environmental Data Quality Workgroup, and the Tri-Services Environmental Risk Assessment Workgroup, as requested by HQUSACE.

(5) Serve on Strategic Environmental Research and Development/Environmental Security Technology Certification Program (SERDP/ESTCP) technical committees to promote the development and transfer of innovative technology for use on DOD environmental remediation and munitions response projects.

g. Support to HQUSACE.

(1) Provide for processing and centralized database management for all USACE EPA Superfund program Interagency Agreements. Also maintain an oversight management role for Superfund cost recovery data for all Divisions and Districts and instruct other offices on cost recovery procedures as requested.

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(2) Maintain expert knowledge of environmental and safety laws, regulations, and guidance providing comments through the HQUSACE and the Army on federal and state proposed rules and regulations that may impact the Corps' environmental mission.

(3) Serve as the Corps liaison to the United States Army Public Health Command on environmental risk assessment issues.

(4) Provides technical, programming and budget support for the Deactivated Nuclear Power Plant Program.

(5) Provides technical support to the Office of the Army Chief of Staff for Installation Management (OACSIM) in completing assignments to assist OACSIM in the development of policy and guidance for cleanup.

(6) Serve as Program manager for HTRW/MC (munitions constituent) chemical data quality management activities in accordance with ER 1110-1-263.

(7) Review and approve Explosives Safety Submissions and Explosives Siting Plans, and Chemical Safety Submissions and Chemical Siting Plans for chemical warfare materials and After Action Reports on behalf of HQUSACE.

(8) Conduct a quality control (QC) review and subsequent approval of all Munitions Response Site Prioritization Protocol (MRSPP) scores submitted through FUDS Management Information System (FUDSMIS) prior to submission to the Army Quality Assurance Panel.

(9) Support HQUSACE through the management and execution of the Department of Defense and State Memorandum of Agreement (DSMOA) program.

(10) Serve as the USACE Radiation Safety Staff Officer.

(11) Serve on the Military Munitions Support Services (M2S2) Advisory Board.

(12) Serve on 'The Corps Environment' editorial board.

(13) Serve on the ECoP Steering Committee.

11. Procedures and Criteria to Accomplish Reimbursable Work.

a. A majority of the work performed at the EM CX is mandated as per the referenced documents.

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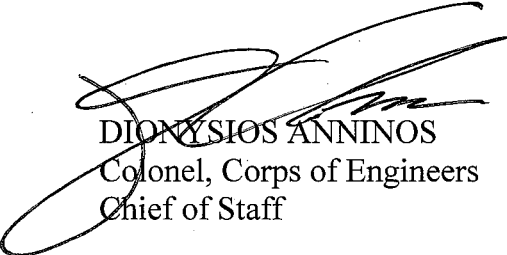
b. For work not mandated by the referenced documents, the EM CX has established a list of EM CX Points of Contacts (EM CX POCs). The EM CX POCs have been assigned to each USACE Division. When a Division requires assistance from the EM CX, they would contact the EM CX POC. The POC will coordinate and assign the work within the EM CX and will work with the customer to identify requirements, funding and schedules.

12. Reporting Procedures. The EM CX maintains state-of-the-art hardware and off-the-shelf software necessary to support the record keeping of the EM CX's workload. The system used for this purpose is called TADDS, the Time Analysis and Document Distribution System. Through the workload analysis function of TADDS, each member of the EM CX enters their work activities and timesheets. The work activities entries reflect the funding source, the program the work supports, the number of hours spent on the task, the type of task, and other activity specific information. TADDS also provides reports related to the specific work activities of each EM CX member and for the organization as a whole. The EM CX provides briefings and periodic reports to all customers and proponents as requested. In addition, near the onset of each new fiscal year, the EM CX posts on its web site an updated briefing providing a summary of the work activities and funds execution for the previous fiscal year with projections for the new fiscal year.

13. Customer Service Criteria. The CEHNC has established, as part of their Quality Management System, internal procedures to monitor the quality of their services through a customer feedback and satisfaction survey. Annually, per HNC Quality Procedure 82-01, HNC sends a customer satisfaction survey to identified customers of the EM CX. All surveys are tracked by HNC's Business Management Office. Surveys with unresolved customer complaints and negative comments must have corrective action performed in accordance with HNC-QP-85-02 or HNC-QP-85-03 and these corrective actions are tracked by the Quality Council and HNC Commander to ensure continual improvement of services.

FOR THE COMMANDER:

2 Appendices
A – Organization Chart
B – Disciplines and Competencies

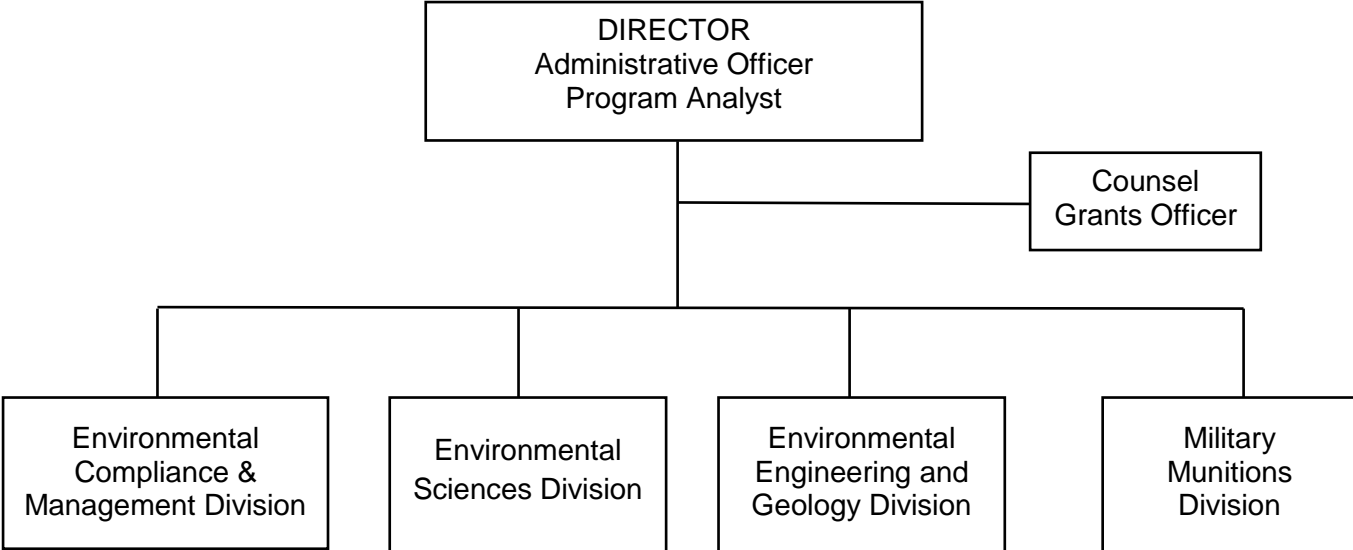


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Colonel, Corps of Engineers
Chief of Staff

APPENDIX A

Organization Chart

Environmental and Munitions Mandatory Center of Expertise



APPENDIX B

Environmental and Munitions Mandatory Center of Expertise

Disciplines and Competencies

Table B-1. Technical Disciplines Found in the EM CX

• Chemical Engineers
• Chemists
• Civil Engineers
• Cost Engineers
• Cost Recovery Specialists
• Environmental Attorneys
• Environmental Engineers
• Funds Managers
• Geologists
• Geophysicists
• Geotechnical Engineer
• GIS Specialists
• Health Physicists
• Hydro-Geologists
• Industrial Hygienists
• Innovative Technology Advocates
• Ordnance and Explosives Safety Specialists
• Program Managers
• Quality Assurance Specialist
• Regulatory Specialists
• Risk Assessors
• Risk Communicators

Table B-2. EM CX Staff has Technical Competencies in the Following Areas

• Adsorption Systems (carbon and non-carbon)
• Air Modeling/Air Monitoring
• Air Pollution Control
• Air Sparging
• Air Stripping Systems
• Aquifer Testing
• ARARs Analysis
• Asbestos Abatement
• Biofilters

Table B-2. EM CX Staff has Technical Competencies in the Following Areas

- **Biofouling of Wells**
 - **Bioremediation (Bio-Slurry, Bioventing, Composting, Landfarming)**
 - **CERCLA Five Year Reviews**
 - **Chemical Data Quality Management and Environmental Chemistry**
 - **Chemical Feed Systems**
 - **Chemical Oxidation UV Systems**
 - **Chemical Warfare Material**
 - **Community Relations**
 - **Composite Risk Management**
 - **Composting**
 - **Computer Applications (GIS/CADD)**
 - **Cost Engineering/Cost to Complete**
 - **Cost Recovery**
 - **Data Quality Objectives and Scoping**
 - **Defense and State Memorandum of Agreements**
 - **Defense Environmental Restoration Program (DERP)**
 - **DOD Environmental Laboratory Accreditation Program (ELAP)**
 - **Electronic Environmental Lab Data Management**
 - **Emerging Contaminants**
 - **Environmental Law**
 - **Environmental Management System**
 - **Environmental Operating Principles**
 - **Environmental Statistics**
 - **Environmental Laws and Regulations**
 - CERCLA
 - Clean Air Act
 - Clean Water Act
 - DOT Regulations
 - EPA Asbestos Regulations
 - EPCRA
 - Green House Gas Regulation
 - Lead Requirements
 - Manifesting Issues
 - Military Munitions Rule
 - RCRA Regulations
 - Radioactive Waste Regulations
 - TSCA – PCB Regulations
 - SDWA Regulations
 - Sludge Regulations
 - Sustainability
 - UST Regulation
 - **Explosive/Chemical Siting Plans**
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Table B-2. EM CX Staff has Technical Competencies in the Following Areas

- **Explosive Contamination (Munitions Constituents)**
 - **Explosives Safety**
 - **Field Measurement of Environmental Monitoring**
 - **Filtration and Dewatering**
 - **Floating Product Recovery**
 - **Formerly Used Defense Sites (FUDS)**
 - **Formerly Utilized Sites Remedial Action Program (FUSRAP)**
 - **Geophysical, Surface and Downhole Methods**
 - **Geophysics**
 - **Geostatistics**
 - **Geosynthetics**
 - **Geotechnical Testing**
 - **Green and Sustainable Remediation (GSR)**
 - **Ground Water Extraction**
 - **Ground Water Modeling**
 - **Hazard Assessments**
 - **Health Physics/Radiation Safety**
 - **Horizontal/Directional Drilling**
 - **Incremental Sampling**
 - **Innovative Technologies**
 - **In-Situ Thermal Remediation**
 - **In-Situ Chemical Oxidation**
 - **Laboratory Assessment**
 - **Landfill Covers/Liners**
 - **Landfill Off-Gas Collection**
 - **Land Use Controls**
 - **Lead Paint Abatement**
 - **Long Term Monitoring Optimization**
 - **Low Flow Sampling Methods**
 - **Low Level Radioactive Waste**
 - **Manifesting Hazardous Waste**
 - **Metals Treatment**
 - **Monitoring Wells, Installation and Sampling**
 - **Munitions Response**
 - **Munitions and Explosives of Concern (MEC) Detection Equipment (Water or Land)**
 - **Munitions Response Site Prioritization Protocol**
 - **Natural Attenuation**
 - **National Environmental Policy Act**
 - **Oil/Water Separators**
 - **Operations and Maintenance of Treatment Systems**
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Table B-2. EM CX Staff has Technical Competencies in the Following Areas

<ul style="list-style-type: none">• Passive Diffusion Samplers
<ul style="list-style-type: none">• Perchlorates
<ul style="list-style-type: none">• Permeable Reactive Barriers
<ul style="list-style-type: none">• Phytoremediation
<ul style="list-style-type: none">• Potentially Responsible Party Investigations
<ul style="list-style-type: none">• Pollution Prevention
<ul style="list-style-type: none">• Radiochemistry
<ul style="list-style-type: none">• Relative Risk Site Evaluation
<ul style="list-style-type: none">• Remediation System Evaluation and Optimization
<ul style="list-style-type: none">• Restoration Advisory Boards (RABs)
<ul style="list-style-type: none">• Risk Assessment
<ul style="list-style-type: none">• Risk Communication
<ul style="list-style-type: none">• Safety and Occupational Health
<ul style="list-style-type: none">• Site Characterization and Analysis Penetrometer System (SCAPS)
<ul style="list-style-type: none">• Slurry Walls
<ul style="list-style-type: none">• Soil gas Sampling
<ul style="list-style-type: none">• Soil Sampling Methodology
<ul style="list-style-type: none">• Soil Vapor Extraction
<ul style="list-style-type: none">• Soil Washing
<ul style="list-style-type: none">• Statistical Evaluations
<ul style="list-style-type: none">• SW-846 Laboratory Methods
<ul style="list-style-type: none">• Technical Project Planning
<ul style="list-style-type: none">• Thermal Treatment: Incineration, Low Temperature Thermal Desorption
<ul style="list-style-type: none">• Underground Storage Tanks
<ul style="list-style-type: none">• Uniform Federal Policy Quality Assurance Project Plan (UFPQAPP)
<ul style="list-style-type: none">• Vapor Intrusion
<ul style="list-style-type: none">• Water Supply
<ul style="list-style-type: none">• Wetland Remediation
