

DEPARTMENT OF THE ARMY  
U.S. Army Corps of Engineers  
Washington, DC 20314-1000

EP 415-1-266

CEMP-EC

Pamphlet  
No. 415-1-266

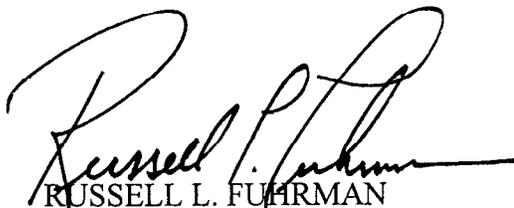
31 May 2000

**Construction**  
**RESIDENT ENGINEER MANAGEMENT GUIDE (REMG) FOR**  
**HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW) PROJECTS**

- 1. Purpose.** This Engineer Pamphlet (EP) provides information regarding remedial design; response actions (remedial actions and removals) involving hazardous, toxic, and radioactive wastes; and ordnance and explosives (OE) response actions. It highlights the many unique requirements which resident engineers must be aware of for successful completion of environmental projects.
- 2. Applicability.** This EP applies to U.S. Army Corps of Engineers resident and area offices with delegated authority to administer contracts involving HTRW and OE response actions.
- 3. Distribution Statement.** Approved for public release, distribution unlimited.
- 4. References.** References are provided in Appendix A.
- 5. Discussion.** This EP is intended to highlight aspects of HTRW and OE response actions that differ from or require additional attention compared to traditional military/civil construction projects. This pamphlet applies to all HTRW/OE field activities executed under the Environmental Protection Agency (EPA) Superfund Program, the Defense Environmental Restoration Program (DERP), activities related to civil works, support for others (SFO), the Formerly Utilized Sites Remedial Action Program (FUSRAP), etc. This EP could be used as guidance for overseas environmental work. The resident engineer must use judgment in determining what portions of this EP are applicable to overseas projects.

FOR THE COMMANDER:

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Major General, USA  
Chief of Staff

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This pamphlet supersedes EP 415-1-266, 15 December 1994.

Construction  
RESIDENT ENGINEER MANAGEMENT GUIDE (REMG) FOR  
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## SECTION 1

### INTRODUCTION

**1-1. Purpose.** The purpose of this pamphlet is to provide information regarding remedial design (RD) activities; response actions (remedial action (RA) and removals) involving hazardous, toxic and radioactive wastes (HTRW); and ordnance and explosives (OE) response actions. It highlights the unique requirements which resident engineers (RE) must be aware of for the successful completion of environmental projects.

**1-2. Applicability.**

a. This pamphlet applies to U.S. Army Corps of Engineers (USACE) resident and area offices with delegated authority to administer contracts involving HTRW and OE response actions. It is intended to highlight aspects of HTRW and OE response actions that differ from or require additional attention compared to traditional military/civil construction projects. This pamphlet applies to all HTRW/OE field activities executed under the Environmental Protection Agency (EPA) Superfund Program, the Defense Environmental Restoration Program (DERP), activities related to civil works, support for others (SFO), the Formerly Utilized Sites Remedial Action Program (FUSRAP), etc. This pamphlet is subject to modifications as the HTRW/OE programs evolve.

b. The RE should note that while many of the practices referenced herein and much of the documentation provided are applicable to asbestos abatement, radioactive waste cleanup, and OE activities, the regulations and procedures for these are very specialized and complex. The RE is cautioned to seek out more guidance and assistance when working with asbestos, radioactive material, or when facing potential exposure to ordnance or chemical warfare material; i.e., the HTRW design district, the HTRW Center of Expertise (CX) or the OE Mandatory Center of Expertise (MCX) should be consulted.

c. This EP could be used as guidance for overseas environmental work. The resident engineer must use judgment in determining what portions of this document are applicable to their project. The "Status of Forces Agreement" outlines what regulations must be followed. For additional guidance on overseas environmental projects, refer to the Overseas Environmental Baseline Guidance Document (OEBGD). The OEBGD can be found at:  
<http://osiris.cso.uiuc.edu/denix/Public/Library/Intl/OEBGD/toc.html>

**1-3. Distribution.** Approved for public release. Distribution is unlimited.

**1-4. References.** Refer to Appendix A for a list of all references used in the preparation of

this document. Hyperlink addresses are provided where possible for referenced documents. Some references that are not easily obtainable are provided in their entirety in Appendix F.

**1-5. Background.** The background of the environmental restoration programs is very complex, particularly those aspects involving HTRW and OE. Therefore, a general description of the various programs and associated activities is presented below in paragraphs a through g.

a. EPA Superfund Program. In February 1982, USACE entered into an interagency agreement (IAG) with the EPA to provide assistance in executing Public Law 96-510, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, also known as Superfund. The Superfund legislation was amended by Public Law 99-499, the Superfund Amendments and Reauthorization Act (SARA) of 1986. Superfund legislation mandated that both Federal and non-Federal agencies remedy uncontrolled hazardous and toxic waste (HTW) sites caused by past and unregulated practices. Upon expiration of the first agreement between EPA and USACE, a second IAG was signed in December 1984 which extended the partnership indefinitely. All assignments performed on behalf of the EPA are under the direct control of the regional EPA remedial project manager (RPM). Regular communication between the USACE RE, the USACE project manager (PM), and the EPA RPM is essential. Under these IAGs, the USACE is responsible for execution of activities assigned by EPA. These assignments may include:

- (1) providing technical assistance during EPA's execution of remedial investigations/feasibility studies (RI/FS);
- (2) acting as the contracting officer (CO) for "Federal lead" RD/Remedial Action (RA) activities;
- (3) managing RA and removal projects;
- (4) providing technical assistance during EPA enforcement activities;
- (5) providing technical assistance and oversight of EPA's Alternative Remedial Contracting Strategy (ARCS) contractors;
- (6) assisting in the acquisition of real estate;
- (7) providing operation and maintenance (O&M) support activities; and
- (8) assisting EPA in the implementation of community relation plans and EPA's cost recovery program.

b. DERP. DERP was formally authorized by Congress in 1986 to evaluate and remediate contamination at active and formerly used defense sites (FUDS). However, Congress had provided appropriation since FY 84 (Defense Appropriation Act) for DOD to initiate environmental restoration activities at properties formerly owned/used by the Department of Defense (DOD). DERP is implemented subject to and in a manner consistent with CERCLA and SARA, however, environmental restoration under this program is not limited to only those activities legally required by CERCLA. At the USACE level, the DERP program is considered to be comprised of three elements:

(1) The Installation Restoration Program (IRP) in which active Army installations are investigated and remediated. In addition, USACE is assisting all DOD services and the Defense Logistics Agency (DLA) with a full range of installation restoration support.

(2) The Formerly Used Defense Sites (FUDS) program in which former DOD **properties** (including OE sites) are restored. DOD assigned the Army as the Executive Agent for the FUDS Program. USACE was delegated by the Army, per memorandum dated 30 Nov 83, the responsibility for management and execution of the FUDS program, including negotiations to determine DOD liability as a Potentially Responsible Party (PRP). For FUDS program guidance/information, refer to the "Defense Environmental Restoration Program for FUDS-Program Manual." The USACE internet address for FUDS is located at: <http://hq.environmental.usace.army.mil/programs/fuds/fuds.html>

(3) The Defense State Memorandum of Agreement/Cooperative Agreements (DSMOA/CA) Program which involves IRP (all services), FUDS, and Base Realignment and Closure (BRAC) activities. The DSMOA/CA Program was developed to facilitate state involvement in providing technical assistance required for timely execution of DOD activities conducted under the DERP. These DSMOAs/CAs provide the mechanism to involve states in IRP, FUDS, and BRAC activities by establishing the terms and conditions by which they are reimbursed for the cost of providing technical support. Other than at Formerly Used Defense Sites, field offices will have no involvement in DSMOA activities unless specifically requested by the customer (installation/base).

c. BRAC Program. The BRAC program requires closure and subsequent disposal of designated DOD installations. The USACE may be involved in:

(1) preparing National Environmental Policy Act (NEPA) documentation (not generally required if the project is a remedial action done consistent with CERCLA);

(2) preparing National Historic Preservation Act (NHPA) compliance documentation;

(3) performing environmental restoration (including HTRW and OE response

actions); and

(4) performing real property actions.

d. HTRW SFO Program (other than EPA Superfund).

(1) Upon request, the USACE provides environmental restoration support for non-DOD agencies on a reimbursable basis.

(2) Past and present customers include the Department of Commerce (DOC), the Department of Energy (DOE), the Veterans Administration (VA), the General Services Administration (GSA), the Federal Emergency Management Agency (FEMA), the Commodity Credit Corporation (CCC), the Federal Aviation Administration (FAA), the Farm Services Agency (FSA), the Environmental Protection Agency (EPA), and the Bureau of Land Management (BLM). Examples of SFO projects include assisting:

(a) DOE with environmental restoration and waste management activities;

(b) DOC with environmental restoration of contaminated properties acquired through defaults on government guaranteed loans;

(c) FSA in conducting preliminary assessments of properties acquired through foreclosure or bankruptcy;

(d) FAA with their underground storage tank remediation program;

(e) GSA on an as-needed basis for underground storage tank removal and environmental assessments; and

(f) EPA with their Brownfields program.

e. FUSRAP.

(1) FUSRAP was one of several DOE programs created to address radioactive contamination in excess of current guidelines at a number of sites used by two of DOE's predecessor agencies, the Manhattan Engineer District (MED) and the Atomic Energy Commission (AEC). The sites were used for processing and storing uranium and thorium ores from the 1940s through the 1960s. Other sites included foundries, machine shops, research facilities, and nuclear fuel fabrication facilities. Many FUSRAP sites are chemically contaminated as well. Toxic chemicals include heavy metals (e.g., lead and beryllium), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), and pesticides. The

Federal Government owned some of these sites; universities, institutions, and certain private entities owned others.

(2) The Energy and Water Development Appropriations Act for FY 1998, signed into law on 13 October 1997, transferred responsibility for the administration and execution of the FUSRAP from DOE to the USACE. USACE is the "responsible agency" and is responsible for the hazardous waste generated from FUSRAP sites.

(3) Overall program management resides within Headquarters (HQ) USACE Directorate of Civil Works. The Directorate of Military Programs is the program manager for current year execution. Program and project management responsibility resides at the geographical civil works divisions and districts. Execution is the responsibility of the geographic civil works districts and the HTRW design districts.

f. Federal Facilities Compliance Support Program. Upon request from a local Federal facility or agency, the USACE can provide environmental compliance support. Examples of types of work include:

(1) preparing Resource Conservation and Recovery Act (RCRA) Part B permit applications;

(2) preparing closure plans;

(3) preparing waste analysis plans;

(4) preparing spill prevention, control, and countermeasure plans;

(5) preparing underground storage tank site assessment plans;

(6) preparing contingency plans;

(7) preparing National Pollutant Discharge Elimination System (NPDES) Permit applications;

(8) preparing air quality permit applications; and

(9) reviewing environmental projects for technical adequacy.

g. Potentially Responsible Party (PRP) Activities.

(1) Under CERCLA, as amended by SARA, PRPs are those groups or individuals

identified as potentially liable for the costs of cleaning up contaminated sites. When requested, USACE may also assist EPA in their enforcement actions on sites where a PRP is performing cleanup activities. USACE's role on these sites generally consists of technical oversight and quality assurance. This provides assurance to EPA that the technical requirements of the settlement agreement/consent decree will be met. For additional guidance/information on PRP activities, refer to Section 12 of this pamphlet.

(2) In executing the DERP program at FUDS properties and as the operator of civil works facilities, USACE is frequently involved in PRP liability issues. Typically, in those instances where DOD investigations have not provided an indication of its responsibility for site contamination, the DOD may receive notification that it is being considered as a PRP under CERCLA in one of the following ways:

(a) EPA or state regulator provides notice of PRP status;

(b) private party files suit seeking contribution, or provides notice to DOD of alleged contamination seeking DOD acknowledgment of CERCLA liability; and

(c) another Federal agency currently responsible for the property seeks DOD acknowledgment of responsibility for past contamination during time of DOD control of the property, and DOD contribution for remediating the property.

(3) In addition to the normal documents developed during other environmental restoration activities such as the Inventory Project Report (InPR), project execution report, etc., the following documents may be developed as part of the PRP process:

(a) a Site Ownership and Operation History (SOOH) and Cost Allocation report which serves as the basis for the negotiating position and settlement offer; and

(b) a settlement agreement.

(4) When requested, USACE may also be involved in assisting other Federal agencies when these agencies become PRPs.

## SECTION 2

### ROLES AND RESPONSIBILITIES

**2-1. HQUSACE.** General responsibilities are contained in Office Memorandum (OM) 10-1-1, Headquarters, U.S. Army Corps of Engineers.

a. Military Programs, Environmental Division (CEMP-R). CEMP-R develops, monitors, coordinates, and generates program execution policies and guidance, and provides funding and manpower requirements to environmental restoration program customers.

b. Civil Works Programs, Engineering and Construction Division (CECW-E). CECW-E issues and maintains technical guidance for the environmental restoration program. Timely guidance to field offices is mainly accomplished through construction bulletins (CBs). All current CBs may be viewed and a copy obtained by accessing the HQUSACE homepage: <http://www.hq.usace.army.mil/cemp/c/library.htm>

CECW-E maintains a frequently updated list of HTRW/OE projects, project type, contract award date, contract type and the point of contact (POC) for the execution phase of each project. The purpose of the list is to facilitate contact and exchange of knowledge and experience among USACE field personnel. The list is provided at Appendix D.

c. HQUSACE Safety and Occupational Health Office (CESO). CESO has overall responsibility for the USACE safety and health program, including developing HTRW/OE safety and health policy, procedures, and oversight in accordance with Engineer Regulation (ER) 385-1-92 and Engineer Manual (EM) 385-1-1.

d. Other. Other major HQUSACE element support includes Office of the Deputy Chief of Staff for Real Estate, Office of the Deputy Chief of Staff for Resource Management, Office of the Chief Counsel, and the Principal Assistant Responsible for Contracting (PARC).

**2-2. Centers of Expertise (CXs).** CXs provide specialized technical capability and support to HQUSACE, divisions, HTRW design districts, OE design centers, and geographic districts. Those specific CXs related to USACE environmental restoration programs include the HTRW CX at the Omaha District (CENWO) in Omaha, Nebraska and the OE MCX at the U.S. Army Engineering and Support Center (CEHNC) in Huntsville, Alabama.

a. The HTRW CX was established to maintain state-of-the-art technical expertise for all aspects of HTRW restoration activities and to support HQUSACE, USACE Commands, FOA and laboratories in performing their HTRW activities by providing technical oversight, review

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coordination, and assistance. The HTRW CX performs the following mandatory functions:

(1) provide technical review of "key documents" for Category B projects, as defined in CEMP-RT memorandum of 23 September 1997, Subject: Changes in HTRW Technical Roles and Responsibilities Due to Division Laboratory Closures. A copy of this memorandum is available on the HTRW CX home page at the following internet address:

<http://www.usace.army.mil/inet/functions/cw/cecwe/coexpert/newcoe/mcx/htrw/htrw.htm>

Category B projects include: (a) all "non-routine" projects in the site inspection (SI) phase; (b) all National Priorities List (NPL) sites or BRAC projects in the RI/FS phase; (c) all projects in the RD/RA Construction phase which involve innovative technologies or with RA estimates over \$5 million; and (d) any project that a district, major subordinate command (MSC), or HQUSACE requests to be reviewed due to special concerns. "Key documents" include specified deliverables (including scopes of work and/or work plans, reports, decision documents, and concept designs, as applicable) of each project phase (Refer to Table 2 of referenced memo); and

(2) coordination of all cost tracking procedures for USACE managed EPA financed Superfund projects for use by EPA in their cost recovery effort. The HTRW CX is capable of providing a wide range of functions and services that are listed on the USACE Internet homepage (see paragraph d. below).

b. The OE MCX was established to assist HQUSACE, USACE Commands, and FOAs in performing their OE activities and maintain state-of-the-art technical expertise for all aspects of OE response activities. The mission of the OE CX is to safely eliminate or reduce risks from ordnance, explosives and recovered chemical warfare materiel at current or formerly used defense sites. The OE CX performs the following mandatory functions: Any USACE activity involving ordnance or explosives, even those planned or performed as an HTRW or construction project, must be coordinated with the OE CX. The OE CX is capable of providing a wide range of functions and services that are listed on the USACE Internet homepage (see paragraph d. below).

c. For additional guidance on the management of OE response actions, refer to ER 1110-1-8153, EP 1110-1-18, and the FUDS Program Manual (for FUDS projects).

d. The detailed roles and responsibilities of the CXs are available on the USACE Internet homepage at:

<http://www.usace.army.mil/inet/centers>

**2-3. Divisions.** Divisions are responsible for providing program and quality assurance oversight for all environmental restoration projects conducted within their areas of responsibility.

**2-4. Districts and Centers.**

a. HTRW Design Districts. USACE HTRW design districts:

(1) Provide specialized HTRW expertise for the design of all aspects of assigned environmental restoration projects. This expertise includes health and safety, chemical and geotechnical data quality management, environmental laws and regulations, contracting and procurement, and environmental technical design and engineering support during construction;

(2) Perform investigations and design projects through in-house expertise and/or architect-engineer (A-E) contracted services; and

(3) Award the subsequent RA contract and transfers it to the geographic district for execution.

b. OE Design Center(s):

(1) prepare OE contract acquisition strategies;

(2) execute OE response activities in accordance with ER 1110-1-8153, EP 1110-1-18, and the FUDS Program Manual (for FUDS projects);

(3) prepare project-specific statements of work (SOW) and independent government estimates for OE response activities;

(4) assist the geographic district approved to execute OE response actions in contracting for removal actions, and serving as CO when contracts are awarded by the OE Design Center;

(5) provide engineering and design support for the final removal action;

(6) oversee the OE safety and occupational health, technical, and administrative aspects of the field work for design and removal actions (the geographic district will assume these responsibilities if the removal action is transferred to the geographic district);

(7) ensure that OE manifest documents (when required) are properly prepared and signed by the appropriate personnel unless the removal action is transferred to the geographic district); and

(8) provide OE public affairs support to the geographic district as needed.

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c. Geographic Districts (HTRW):

- (1) provide support to the HTRW design district during RI/FS and RD;
- (2) issue the Notice to Proceed (NTP) and execute the HTRW RA projects within their geographic areas. Other execution responsibilities are identified for the FUDS program. For further information refer to the USACE DERP/FUDS Program Manual;
- (3) operate and maintain completed RA projects; and
- (4) provide technical support and oversight activities.

d. Geographic Districts:

- (1) serve as the PM for the life of OE response projects;
- (2) conduct preliminary assessments (PA) and prepare the Inventory Project Report (InPR) for sites within a district's geographical area;
- (3) perform assigned real estate functions (i.e., obtain right of entry, prepare real property transfer documentation, etc.);
- (4) prepare the community relations plan (CRP) and provide public affairs support for FUDS projects and as required for other projects;
- (5) initiate and maintain the project administrative record for FUDS projects in accordance with (IAW) CERCLA;
- (6) execute OE response activities and review and approve project documents IAW ER 1110-1-8153;
- (7) coordinate with stakeholders, regulators, and customers within the geographic area; and
- (8) perform contractor surveillance outside the exclusion zone and provide administrative support during field work.

e. OE approved Geographic Districts:

- (1) coordinate with the OE Design Center in contracting for OE removal actions;

(2) supervise and administer OE removal action contracts/task orders within assigned areas, including contract administration and OE safety and occupational health IAW ER 385-1-95 (to be published at a later date);

(3) execute administrative and field contract modifications (prior coordination with the OE Design Center and/or the OE MCX is necessary when change orders affect the OE design); and

(4) ensure the OE manifest documents are properly prepared and signed by the appropriate personnel.

**2-5. USACE Laboratory Capabilities.** The Engineer Research and Development Center (ERDC) is the U.S. Army Corps of Engineers' research and development command. ERDC consists of eight unique laboratories: five in Vicksburg, Miss., and one each in Hanover, N.H., Champaign, Ill., and Alexandria, Va. ERDC headquarters is located in Vicksburg, Miss. The ERDC provides world-renowned scientists and engineers utilizing the latest in specialized equipment to address problems facing the military and the nation. Research support includes: mapping and terrain analysis; infrastructure design, construction, operations and maintenance; structural engineering; cold regions and ice engineering; coastal and hydraulic engineering; environmental quality; geotechnical engineering; and high performance computing and information technology. In September 1997, the materials testing mission was assigned to ERDC, and the HTRW chemistry quality assurance mission was assigned to the analytical chemistry laboratory at Omaha. On 15 March 1998, the Omaha laboratory became the newest member of the ERDC team while remaining in Omaha. The laboratory was realigned as the Chemistry Quality Assurance Branch (CQAB) along with the Environmental Chemistry Branch (ECB) under the Environmental Laboratory of the ERDC. The following summarizes the capabilities of ERDC laboratories that are used for environmental work:

a. The U.S. Army Engineer and Development Center Environmental Laboratory. The laboratory has a total capability for QA testing and commercial laboratory inspections. This includes quality assurance testing for HTRW chemistry and water quality testing for the U.S. Army Corps of Engineers civil works, military projects, and support for others. The laboratory conducts commercial chemistry laboratory inspections in support of the USACE HTRW CX Laboratory Validation Program as well as for laboratory inspections for water quality laboratories performing work for the USACE. These services are performed in accordance with ER 1110-1-263, "Chemical Data Quality Management for HTRW Remedial Activities" and ER 1110-1-8100, "Laboratory Investigations and Testing." The laboratory continues to develop and improve methodologies to support USACE and Army environmental programs.

b. The U.S. Army Research and Development Center Construction Engineering Research Laboratory (CERL), located in Champaign, Illinois, is the lead laboratory in the Army

for installation support. ERDC CERL's research is directed towards increasing the Army's ability to more efficiently construct, operate, and maintain its installations and ensure environmental quality and safety at a reduced life-cycle cost. ERDC CERL is involved in:

- (1) protection of threatened and endangered species;
- (2) collection, analysis, curation, and retrieval of archeological and cultural resources;
- (3) hazardous waste and pollution abatement and management systems;
- (4) air pollution control technology;
- (5) water supply, treatment, and distribution;
- (6) wastewater collection and treatment;
- (7) solid waste management; and
- (8) industrial operation pollution control.

c. The U.S. Army Engineer Research and Development Center Cold Regions Research and Engineering Laboratory (CRREL). Located in Hanover, New Hampshire, this is the Army's lead laboratory for research in the physical sciences and engineering for cold regions and winter conditions impacting military and civil works operations, systems and facilities. ERDC CRREL provides expertise on the unique influence of cold regions on a variety of environmental quality research issues including:

- (1) characterization of contaminated sites;
- (2) low temperature bioremediation/biological processes;
- (3) fate and transport processes in frozen ground; and
- (4) development of analytical methods (especially for militarily unique analytes).

d. The U.S. Army Engineer and Development Center Topographic Engineering Center (TEC). ERDC TEC, located in Alexandria, Virginia, supports USACE districts and divisions in several environmental initiatives. ERDC TEC is investigating more efficient, accurate and complete transfer of hydrographic survey data for the production of U.S. nautical charts. One of ERDC TEC's major thrusts is the development of an extremely accurate positioning system incorporating the NAVSTAR Global Positioning System for use by USACE hydrographic

surveyors and the U.S. dredging industry. ERDC TEC can provide computer systems for digitizing recent and historic imagery to detect fill violation of wetlands.

## **2-6. USACE QA and Testing Support.**

a. Within the HTRW Program, analysis is conducted to support two primary functions. These functions are primary laboratory support for in-house projects and QA support for contractor executed work (where the USACE laboratory analyzes split samples on a percentage basis). The RE shall assure that copies of the RA contract plans and specifications and pertinent contract modifications are provided to the QA laboratory. The QA laboratory shall follow the testing procedures as described in the contract specifications so that the USACE and contractor laboratories are both utilizing the same testing procedures.

b. CQAB is the primary HTRW QA chemistry laboratory and is responsible for providing technical support at the request of the districts, the HTRW CX, and HQUSACE. Project services which are available include: (1) technical assistance in development of data quality objectives (DQOs), Sampling and Analysis Plans (SAP), and commercial laboratory standard operating procedures; (2) inspecting QA sample shipments and reporting deficiencies; (3) analyzing QA samples; and (4) providing an independent assessment of the inter-laboratory analytical data in the form of a Chemical Quality Assurance Report (CQAR) or equivalent, including resolution of discrepancies with the primary laboratory.

## **2-7. USACE Guidance/Hyperlinks.**

a. USACE criteria documents and guide specifications are distributed on the National Institute of Building Sciences (NIBS) Construction Criteria Base CD-ROM system. USACE personnel may contact HQUSACE by E-mail at: [rick.dahnke@usace.army.mil](mailto:rick.dahnke@usace.army.mil) for "no fee" subscription requests. USACE criteria documents and guide specifications are also available on the TECHINFO Internet site:

<http://www.hnd.usace.army.mil/techinfo/index.htm>

b. All USACE publications are posted on the Internet site:

<http://www.usace.army.mil/inet/usace-docs/>

c. For HTRW guidance documents only, visit this web site:

<http://www.hq.environmental.usace.army.mil/library/guidance/guidance.html>

d. For OE guidance documents only, visit this web site:

<http://www.hnd.usace.army.mil/oew/policy/regpro.html>

e. Copies of the Quality Assurance Representative's Guide (EP 415- 1-261) volumes 1,

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2, 3, 4, and 5 can be obtained from the:

USACE Publications Depot  
ATTN: CEIM-IM-PD  
2803 52<sup>nd</sup> Ave.  
Hyattsville, MD 20781-1102

You can fax your name, postal address, and the number of copies you want to the Publications Depot, (301) 394-0084. Copies of other publications may be obtained, if still available.

## SECTION 3

### USACE ADMINISTERED PROJECTS

**3-1. General.** As the HTRW and OE programs have evolved, more and more response actions and procurements are being issued as negotiated contracts or task orders on large preplaced contracts. Because of the uncertainties inherent in HTRW remedial activities, more contract pricing is now becoming cost reimbursable and less fixed price. This means that fewer contracts are "bid" and the technical requirements provided to the response contractors may be more general in nature and not in the form of rigid specifications. However, the basic information outlined in this section can be applied to all projects if the meaning of the word "bid" is expanded to encompass submittal of cost proposals in a negotiated procurement and the word "specifications" is expanded to mean the technical requirements provided to the contractor along with his more detailed work plan which has been approved by all stakeholders.

**3-2. Early Involvement.** This subsection covers the functions of the resident engineer/office for HTRW projects that should occur prior to award of the RA contract. The pre-award activities of the RE and staff are primarily that of active assistance to the USACE PM and to the designated design district. The EPA Office of Emergency and Remedial Response (OERR) Directive 9355.0-04B, "Superfund Remedial Design/Remedial Action Handbook," was used in developing a portion of this section on pre-award activities.

a. RI/FS and Record of Decision (ROD). Involvement of the RE at this stage is encouraged in anticipation of performing RA oversight activities and in order to provide the greatest amount of input for selection of an efficient remedy based upon biddability, constructibility, operability, and existing site conditions.

b. RD Phase. Due to USACE mission assignments for the Superfund, DERP, and FUDS programs, the design district may be located in a different geographical area than the HTRW site. In these cases, and in addition to the biddability, constructibility, operability, and environmental (BCOE) reviews during the design stage, the RE may be called upon to perform the quality assurance requirements for the A-E's field investigation activities. The RE can serve as the field point of contact (POC) in order to aid the design district.

### **3-3. Real Estate.**

a. General Considerations. Government and contractor personnel frequently require access to land not owned or controlled by the government during the RI/FS and RD phases of HTRW RA projects. The RE should rely on the Real Estate Division in the appropriate district to obtain the required access and to provide all other real estate support services. However, the

RE should provide local support as needed.

b. Real Estate Planning.

(1) Real Estate representatives will develop a scope of work, cost estimate, and schedule for completing real estate activities for inclusion in a project management plan (PMP), if such a plan is required. The Real Estate representative will also coordinate the analysis of project real estate requirements with other project team members including the RE. This analysis should be provided in the form of a real estate planning report (REPR).

(2) If access to land not owned or controlled by the government is required, it will normally be necessary to obtain a right-of-entry (ROE) or to acquire an interest in real property in order to prevent the occurrence of a trespass or a "taking" of private property under the Fifth Amendment to the U.S. Constitution. The decision whether to obtain a ROE or acquire an interest in real property will depend, in part, upon the purpose for which access is required. If the purpose is to perform survey and exploration work, sampling or short-term construction activities such as the removal of underground storage tanks (UST), then a ROE may be appropriate. However, work involving long-term construction activities or the installation of facilities such as monitoring wells generally requires the acquisition of an interest in real property. Approval to obtain ROEs for any purpose other than survey and exploration work must be obtained from HQUSACE if the acquisition of necessary real property interests has not been authorized.

c. Acquisition of Real Property. The acquisition of any interest in real property, with the exception of non-Superfund leases, must be authorized by HQUSACE through the issuance of a Real Estate Acquisition Directive unless acquisition approval authority has otherwise been specifically delegated to MSCs. Acquisition may be accomplished through negotiations or the initiation of condemnation (eminent domain) proceedings. Persons displaced as a result of the acquisition of real property may be entitled to relocation assistance under Federal law.

d. Additional Considerations for the EPA Superfund Program.

(1) EPA typically obtains access to Superfund sites for design and construction purposes pursuant to its enforcement authority under CERCLA without acquiring an interest in real property. The agency may obtain such access on a voluntary basis through a landowner access agreement or the agency may seek to compel a landowner to provide access by issuing an administrative compliance order or obtaining an injunction or an order in aid of access in Federal district court.

(2) Access to lands adjacent to Superfund sites may be required for support zones, decontamination facilities, stockpile areas, or other purposes. In such cases, EPA may request USACE to acquire appropriate interests in real property pursuant to EPA's acquisition authority

under CERCLA. EPA may also request USACE to perform any temporary or permanent relocations of persons displaced by response actions.

(3) A REPR will be prepared for all projects for which the Corps has been assigned responsibility for RD. The REPR serves as a planning tool to focus project team members on the real estate requirements of a project and any issues, which could lead to cost or schedule growth. The real estate representative, therefore, will coordinate the preparation of the REPR with all team members, including the RE.

(4) The REPR will identify property recommended for acquisition (estate, acreage, ownership); the strategy for relocating individuals, farms and businesses; the estimated cost (lands and damages, relocation assistance, administration, contingencies); and provide a schedule for completing the real estate work. **It is critical** that all real estate requirements be identified as early as possible in the project because a period of 9 months to 1 year is typically required to complete the acquisition process.

e. Additional Considerations for the FUSRAP.

(1) No HQ review or approval of real estate planning documents is required.

(2) To the greatest extent practical, FUSRAP is to be executed utilizing ROEs and without the necessity for real property acquisition. Chiefs of Real Estate at districts and MSCs are authorized to execute ROEs that substantially conform to the approved model.

(3) Any real property interests acquired should, in most instances, be temporary and terminate at the conclusion of remedial action. Chiefs of Real Estate at MSCs are authorized to approve the acquisition of real property interests.

(4) Pursuant to the Memorandum of Understanding (MOU) between USACE and DOE, real property accountability remains with DOE.

f. Additional Guidance. Additional guidance can be found in the following references:

(1) Memorandum, CEMP-RS/CERE-AP, 22 November 1989, Subject: "USACE Real Estate Support for EPA Superfund Program," (Refer to Appendix F);

(2) EPA Publication 9355.5-01/FS, "Real Estate Acquisition Procedures for USACE Projects," (Refer to Appendix F);

(3) HQUSACE DERP/FUDS Program Manual; and

(4) Memorandum, CERE-AP, 6 February 1998, Subject: "Guidance for the Provision of

Real Estate Support to the Formerly Utilized Sites Remedial Action Program and Delegation of Authority to Execute Rights-of-Entry and Acquire Real Property and Interests Therein," (Refer to Appendix F).

### **3-4. Planning.**

a. The QA plan. Each district office has a generic QA plan that describes projected work load, organization, staffing, responsibilities, training, pre-award activities, post-award activities, testing, and documentation. HTRW considerations should be included in this plan. HTRW training must be included if the office is to conduct any HTRW QA activities. Other areas listed above should also include HTRW specific items unless they are addressed in the supplemental project QA plan (a site-specific supplement to the generic QA plan). A supplemental QA plan should be prepared for each project. For preparation of a QA plan/supplemental project QA plan, (Refer to ER 1180-1-6, "Construction Quality Management").

b. Training. HTRW QA personnel will need additional training to properly carry out their duties. The 40-hour Occupational Health and Safety Administration (OSHA) training and 8-hour recertification (refresher) are required just to get on the job site. Other courses are almost always needed (such as training in technologies, special types of contracts, regulatory compliance, etc.) to properly inspect HTRW work. This training should be identified in the employee's individual development plan.

c. Using Outside Expertise. If the field office administering the HTRW project lacks the necessary experience, coordination should be made for qualified outside personnel to assist. Other construction offices, the district's engineering division, the designated HTRW design district, or A-E services, are all possible sources of qualified personnel. Assistance from competent and qualified industrial hygienist (IH) and safety professionals must be obtained for the review and acceptance of contractor submitted Site Safety and Health Plan (SSHP) and for answering questions concerning project safety and health. It is strongly recommended that the design engineer for engineering and design (E&D) services be included during execution of RA contracts. Confirmation must be made that the required expertise is available. The inability to ensure that engineering division or design district personnel will be available during construction will often dictate that A-E services be obtained. Determining whether or not outside help is needed should be made well in advance to allow necessary transfer of funds. Preferably, this should be done during the design or the BCOE review. This will allow comparison between HTRW training needs and the field office's training plan. Availability of qualified QA personnel should be identified during the design phase of the project.

d. Staffing. Some projects, such as those requiring incineration, may require that QA personnel be on site 24 hours a day, 7 days a week. Others may require more than normal time on site because they have many work features that require QA verification of how something was constructed. Special contract types (i.e., time and materials, cost reimbursable, etc.) may require

more and/or different resources. QA personnel must be prepared to meet these requirements. This may require use of multiple inspectors and payment of hazardous duty, night, holiday, and Sunday differential payments. These requirements must also be identified during the design phase.

e. Chemical Data Quality Management (CDQM). Perhaps the most critical area for QA control is chemical data management. Completion of almost all HTRW projects depends on meeting cleanup standards measured by chemical testing. Strict requirements are placed on the quality of this chemical data. ER 1110-1-263, "Chemical Quality Management for Hazardous, Toxic and Radioactive Waste Remedial Activities," must be used by QA personnel during the RA planning phase. The QA laboratory is a key player in this process and must be involved early on.

### **3-5. BCOE Reviews.**

a. All design reviews should be performed by the individual(s) in the field office who will administer the RA contract. If the field office performing a BCOE review lacks the necessary expertise, assistance should be obtained from other USACE personnel whose expertise matches the project's needs. In this case, the geographical district will be responsible for making arrangements for the experienced personnel to participate in certain activities during design. This effort should be coordinated with the design district that will be funding the effort. Refer to CEMP-CM memorandum, 1 Nov 91, Subject: "Transfer of Knowledge and Experience During Design and Execution of HTRW Projects," for additional information on this subject. A copy of this memorandum is under Appendix F. The following is a suggested list of additional items to be considered by the RE during the BCOE review of HTRW projects:

- (1) Confirm that compliance criteria for selecting an off-site RCRA facility is provided;
- (2) Confirm construction completion, startup, O&M, and transition of facility to follow-on operator requirements are detailed in the contract specifications. The RE should also verify that these requirements are fully coordinated with the facility managers (to whom the completed facility will be turned over; i.e., the state for Superfund projects) before the BCOE review is completed. Specifically, project acceptance criteria, including definition of project completion, must be coordinated, agreed to, and addressed in the contract specifications, to ensure customer satisfaction;
- (3) Confirm that specifications include DQOs required for the preparation of the SAP;
- (4) Confirm that submissions of safety, health and emergency response specifications are sufficient in content and details for the RA contractor to develop a SSHP that is protective of on-site personnel and surrounding communities from the physical, chemical, and/or biological

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hazards at the site;

(5) Confirm that specifications include the requirements for the RA contractor (if off-site transportation of hazardous waste is required under the contract) to prepare the manifests and related documents, and to certify that the manifest, packaging, labeling, marking, and placarding of the waste meet all applicable Federal and state regulations. See Section 7 for additional information on manifests, shipping papers and other transportation related requirements;

(6) Review the accuracy of the construction schedule, cost estimate, and any estimated quantities of material. Scheduling considerations include up-front administration and permitting, climate sensitive activities, production rates, etc.;

(7) Confirm that all work area requirements are identified and are adequate for the construction and operation phases;

(8) Ensure permit responsibilities are clearly spelled out in the specifications. Generally, all environmental permits are obtained during the design phase;

(9) Confirm that all field conditions are accurate in the drawings and/or unknown areas are identified. Confirm that representative chemical and geotechnical sampling and analytical data is referenced in the contract documents;

(10) Review the bid schedule for completeness and practicability;

(11) If the work will be performed on a cost reimbursable basis, the RE is advised to become familiar with the content of the following document: A Guide to Best Practices for Cost Reimbursement Contracts. This document is available on the internet at:  
<http://hq.environmental.usace.army.mil/tools/reimburse/reimburse.html>

(12) Review Section 11, "Demolition," for additional BCOE considerations; and

(13) Assure that required easements are secured by Real Estate Division prior to award of contract. Failure to do so can cause delays during contract activities.

b. Acquisition Planning.

(1) Written acquisition plans are required for all HTRW work in accordance with Federal Acquisition Regulation (FAR) Part 7. These plans should consider both contract and in-house acquisitions. The RE should be familiar with the overall acquisition plan and strategy in order to participate knowledgeably during the design and acquisition process. The RE is generally

included in the technical evaluation team for negotiated procurement which are common in HTRW projects. It is also common practice to include the RE in writing the formal acquisition plans and participating in the contractor selection process.

(2) Contracting for HTRW work can be significantly different from normal construction and involves many more uncertainties. Technical and regulatory uncertainties are conditions that must be handled at every site, irrespective of the extent of site characterization accomplished. HTRW work is often very expensive to complete and can be even more costly if the wrong contracting approach is used. Section 9, "Contract Types," addresses non-traditional contracting approaches that are well suited for HTRW projects.

c. Interfacing with Regulatory Agencies.

(1) During the pre-award RD phase, the RE may be contacted by local regulatory agencies about the status, time frame and selected remedy at an HTRW site. These regulatory agencies should be referred to the PM. The RE should become familiar with provisions of any interagency agreements and/or consent decrees that might impact work execution at the site or provide for stipulated penalties in the event of schedule delays.

(2) EPA has set forth procedures for addressing compliance with other environmental statutes. For on-site RAs under CERCLA, permits are not required. However, these actions shall comply with the substantive requirements of all Applicable or Relevant and Appropriate Requirements (ARARs) (Federal, state, and local laws) identified in the ROD/Enforcement Decision Document (EDD). If material is to be taken off-site, the receiving facility must possess all appropriate environmental permits identified in the ROD/EDD. EPA regulations require verification of acceptability by EPA of any facility selected for the treatment, storage, and disposal (TSD) of CERCLA waste (Refer to 40 CFR Part 300, Section 300.440). In general, the construction contractor will be responsible for obtaining any necessary non-environmental construction permits and approvals (i.e., building and electrical permits, etc.).

(3) These responsibilities need to be clearly outlined in the contract specifications in order to avoid delays and disputes during RA activities. The RE's responsibility is to verify that the plans and specifications identify all permit requirements.

d. Project Management Plan (PMP). As with the Acquisition Plan, the RE should be included as an active team member in the development of the PMP. This is especially important if there are any identifiable regulatory milestones that the RA contractor will be responsible for meeting. The RE should also attend any pre-award negotiations to be held with the RA contractor.

e. Value Engineering (VE) During the Design Phase.

(1) For CERCLA funded projects, EPA recommends that the USACE and/or the state include VE screening during the design phase for all RA projects where a potential for substantial cost savings exists. The state may be involved in the VE process because it will ultimately contribute to the RA cost.

(2) VE screening performed during the design phase must be limited to project refinements that would not significantly change or alter the approved remedy, unless otherwise approved by EPA. VE screening will consist of listing high cost items that have a potential for cost savings.

(3) Those RA projects which, as a result of the VE screening, show a reasonable promise for significant cost savings will be recommended to EPA for approval of a formal VE study by the USACE or the state. The USACE or the state will identify potential impacts on the RA project schedule and EPA funding requirements for a formal VE study. The RE as well as the HTRW CX should review all VE studies.

f. Pre-Bid Site Inspections. The HTRW design district may task the geographic construction district with the responsibility for coordinating pre-bid/award site inspections by USACE personnel and/or prospective bidders. All site visitors shall follow all applicable OSHA regulations on training, medical surveillance and Personal Protective Equipment (PPE).

(1) For USACE personnel who are required to enter the exclusion zone, an abbreviated SSHP will be prepared by the design district with review and concurrence by the RE and the geographic district Safety and Occupational Health Office (SOHO). The SSHP will cover entrance procedures that should be followed by all visitors. The SSHP should mandate that a log be kept of all individuals that plan on entering the site.

(2) All prospective bidders entering the exclusion zone or who will handle samples, soil/core borings, etc. are responsible for developing their own abbreviated SSHP for the site visit inspection activities. The SSHP shall address, at a minimum, the training and medical requirements, appropriate PPE, and proper disposal of PPE in conjunction with all potential site hazards. Proof of training and compliance with appropriate medical qualifications as required in accordance with the SSHP shall be made available by the prospective bidders if requested by USACE. Hold harmless agreements, signed by the visitors, shall be provided to the USACE representative prior to the prospective bidders entering the exclusion zone. The release should be part of the solicitation documents; the exact wording should be coordinated with the design district Office of Counsel (Refer to sample of a release at Appendix F). The RE shall ensure that the release documentation is maintained as part of the official contract file.

(3) The RE shall coordinate all site visits with the geographic district SOHO and the

design district IH.

g. Funding of RE Pre-Award Activities. The RE should ensure pre-award tasks, particularly the BCOE review, are properly funded by the design district. In most cases, the Corps is required to maintain detailed cost accounting that can be presented as evidence in cost recovery litigation with responsible parties. (Refer to Section 6, "Funding," for further guidance on funding/cost recovery responsibilities). Consult ER 415-1-16, "Fiscal Management," for further guidance on what pre-award activities should be charged to other than the supervision and administration (S&A) account.

h. Community Relations Plan (CRP). EPA is required to maintain a written CRP for Superfund projects. USACE public affairs officers are required to maintain a written CRP for DERP-FUDS projects. For DERP-IRP projects, the installation is responsible for the CRP. The RE should be aware of the support role that will be provided to the EPA RPM or public affairs officer, as appropriate. It is emphasized here that the RE will only provide a support role and will not become the lead in community relations activities (Refer to paragraph 13-3, "Community Relations").

i. Health and Safety. The RE, as the USACE construction manager, must have input on project safety and health issues at the earliest point. Safety and health are the most important considerations of HTRW projects, and the RE with support from the district SOHO shall ensure that the considerations specified in ER 385-1-92 are addressed. Refer to Section 4, "Health and Safety," for additional information on health and safety policies, responsibilities, and criteria.

**3-6. Post-Award Activities - General.** Just as with any other type of project, the field office will conduct a preconstruction conference, a separate contractor quality control (CQC)/QA coordination meeting, prepare minutes of each, review submittals, conduct inspections, and perform other quality management activities as specified in ER 1180-1-6. HTRW submittals are covered in paragraph 3-11. Some other HTRW aspects of RA implementation are discussed below.

**3-7. Preconstruction Conference.**

a. The RE on an HTRW project should invite or coordinate the invitations as appropriate for USACE personnel, the respective installation, EPA, state, or local officials, to attend the conference to discuss the scope of work and any pertinent issues on the project. Other invitees may include the QA laboratory and designer.

b. Items that may be discussed, in addition to the items typically discussed at a regular preconstruction conference, are the contractors safety and health program and SSHP to include

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activity hazard analyses, inspection/audits, spill and discharge control plan, manifesting, waste and borrow areas, and permits and security. (Note: The SSHP required by the contract satisfies the requirement for submission of an accident prevention plan (Federal Acquisition Regulation (FAR) 52.236-13)).

c. Another item that may be discussed is the SAP. This plan, prepared by the contractor, describes responsibilities and procedures for the specific project to ensure that all data acquired meets the intended purposes of the contract. The SAP is referenced in ER 1110-1-263. This ER also describes a Quality Control Summary Report (QCSR) that is to be prepared by the contractor at completion of the work. This report contains any deviations from the SAP, any problems encountered and corrective actions taken, and data presentation. For sites on the NPL, the QCSR must contain the chemical data required by regulators for deleting the site from the NPL.

d. Frequently, a phased NTP is issued where the contractor may work on submittals or perform nonintrusive site activities, in the support zone or clean areas of the site, pending approval of the SSHP. The SSHP and SAP require acceptance and approval, respectively, before any on-site work commences.

### **3-8. HTRW Construction Quality Management (QM).**

a. Quality Management. QM on HTRW projects is fundamentally the same as on any other project. The CQC system manages and controls the work to ensure it complies with contract requirements. The government QA system ensures that the CQC system is functioning and that the product meets the required level of quality. QM policy and guidance are provided in ER 1180-1-6. While the provisions of ER 1180-1-6 are fully applicable to HTRW work, the nature of HTRW work often presents some unique challenges to QA personnel. QA personnel involved in HTRW work must, therefore, learn how to use some new and different "tools" to ensure that plans and specifications are met. EP 415-1-261, "Quality Assurance Representatives Guide -Volume 5," provides construction representatives with a reliable checklist type reference for each phase of construction for HTRW work.

b. Definable Features of Work. QA personnel must ensure that the defined features of work will allow them to conduct proper QM. The three-phase control system (preparatory, initial, and follow-up inspections) works only if work features have been properly defined. For example, excavation, stockpiling, characterization, transportation, and disposal of contaminated soil might be improperly lumped together under one work feature (such as contaminated soil disposal). The QA personnel might not be able to verify adequacy of field sampling for preliminary separation of soils into hazardous and non-hazardous piles, disposal sampling locations, and loading of trucks (some landfills charge by the truck load regardless of how full the truck is). Without any dishonest intent by the contractor, this could potentially lead to higher disposal costs, improper disposal, or regulatory violations. Both the QA personnel and the contractor must fully understand the critical times at which CQC/QA activities must be

conducted.

c. Three-Phase Control System.

(1) Preparatory Phase. Safety is critical on HTRW projects. QA personnel must ensure the following:

(a) The site has been set up according to the SSHP;

(b) The contractor has all prescribed PPE and safety equipment on hand and the equipment is appropriate for the potential on-site hazards. PPE and safety equipment must comply with the requirements of EM 385-1-1. Many specifications require the contractor to provide PPE and safety equipment for QA personnel;

(c) Calibration and certification of testing and monitoring equipment have been performed;

(d) Employees performing testing and monitoring have the appropriate training and qualifications; and

(e) Transportation, disposal, and other required permits have been obtained by the contractor and/or government prior to start of work. Failure to do so could lead to illegal disposal, work delays, and regulatory violations.

(2) Initial and Follow-Up Phases. In most cases, the lack of an obvious sign of contamination will make these inspections challenging. QA personnel must ensure the following:

(a) Samples are properly taken at the correct locations;

(b) Samples are handled and transported properly, including chain-of-custody documentation; and

(c) Procedures outlined in the specifications and approved work plans are strictly followed.

In other words, QA personnel must inspect how contamination is removed and how the site is tested. This again points out the importance of having qualified QA personnel. The activity hazard analysis and spot checks for compliance with safety and health requirements and procedures are revisited during these phases.

**3-9. Accountability.** HTRW inspections must be well documented and the personnel time

properly documented. In some cases a "customer," such as EPA, will have additional or special documentation requirements to ensure enforcement actions are properly conducted. Because they are paying for our work, they will also want accurate time/expense records. In other cases, the Government may be seeking reimbursement from PRPs. Cost recovery requires detailed records (which will stand up to legal review) of contractor and USACE work and expenses. Unsigned, incomplete, or inconsistent inspection reports may allow claims by PRPs that the work was not done, or done inefficiently, and should therefore not be paid for.

**3-10. Chemical Data Quality Management.** Quality management of chemical data is critical to HTRW projects. QA personnel should refer to, and be familiar with, ER 1110-1-263 as well as EM 200-1-1, EM 200-1-3, and EM 200-1-6. These documents define policy for the HTRW CDQM Program. Note that it is the role of the designated project "Chemical QA Function" to perform specified activities which comprise the project-specific approach to CDQM. The Chemical QA Function is performed by USACE personnel (i.e., HTRW Design District technical staff and/or a USACE QA Lab) and can be supplemented or supplanted by contract support under direct management of USACE QA personnel. The Chemical QA Function performs any or all of the following activities: (1) coordinate the request for USACE lab validation for primary laboratory services or evaluate alternative credentials for candidate environmental laboratories; (2) review of contractor personnel qualification documentation contained in the Contractor Quality Control Plan; (3) review of Sampling and Analysis Plans and other reports related to environmental testing; (4) inspection of incoming QA samples to verify that samples have been collected, packaged, and shipped correctly; (5) QA sample analysis; (6) data review as described in EM 200-1-6; (7) generation of the Chemical Quality Assurance Report (CQAR); (8) generation of the Chemical Data Quality Assessment Report; and (9) support audits/oversight of field sampling and laboratory testing activities during RA execution. Further note that both the district construction office's generic Quality Assurance Plan (for HTRW construction projects) and the Supplemental Project QA Plan should establish the project-specific QA compliance monitoring activities as well as the roles and responsibilities for the Chemical QA Function. The project specifications as well as the Sampling and Analysis Plan should reflect these requirements as well. Use of the Chemical Quality Assurance Branch (CQAB) Laboratory (Omaha, Nebraska) for support of the Chemical QA Function is strongly recommended. The Chemical QA Function needs to be coordinated (including transfer of funds) prior to beginning of construction. The following paragraphs discuss details of some key compliance monitoring activities.

a. Review of Sampling and Analysis Plan. HTRW projects require a SAP that includes the project-specific DQOs for the work. EM 200-1-3, "Requirements for the Preparation of Sampling and Analysis Plans," contains guidance on the generation of a SAP. The SAP is composed of two parts: the Field Sampling Plan (FSP); and the Quality Assurance Project Plan (QAPP). The FSP defines the field activities, including all requirements for sampling, field documentation, field tests (e.g., conductivity, pH, etc.), sample packaging and shipping, etc. The

QAPP defines the fixed and field measurement analytical protocol and chemical data reporting requirements. If specified, ten percent of samples are split or collected in triplicate for quality control (QC) and QA testing. This frequency can be increased or decreased based on the type of work and the decision of the management team. ER 1110-1-263 and EM 200-1-6, "Chemical Quality Assurance for HTRW Projects," contain guidance on QC/QA sampling frequency.

b. Pre-Construction Laboratory Validation. If specified, the primary and/or the QA laboratory will be validated by the HTRW CX. Validation of a commercial laboratory by the HTRW CX may take 16 to 24 weeks. EM 200-1-1 contains detailed guidance on laboratory validations with which the RE needs to be familiar. Project funding may be required for CX execution, depending on the program for which RA is being conducted (e.g., FUDS, Army BRAC, Army IRP etc).

c. Laboratory Analysis. QA personnel should ensure that appropriate turn-around times are specified for all primary and, if applicable, QA lab analyses. This will ensure that needed data is available in a timely manner in order to make project decisions. In some instances a cost/benefit analysis is used to determine if mobile laboratory services, or expedited fixed laboratory turnaround times, are necessary to meet project objectives. The Chemical QA Function should be consulted to determine if unreasonably short turnarounds are being identified. These short turnaround times may result in poor quality work by project laboratories.

d. Review of Chemical Data. The overall data review process is specified in the project planning documents. When split sample analysis is being performed, the guidance provided in this paragraph must be followed. QA personnel will receive the contractor's test results. At a minimum, they should review the results for proper sampling procedures (as described in the SAP). Normally, the Chemical QA Function will then review the data. QA samples will be sent to the QA laboratory along with daily quality control reports (when sampling or analyses are involved) and all of the contractor's test results or, at a minimum, all data that is necessary to determine chemical data quality. EM 200-1-6 contains guidance on the data package deliverables. The Chemical QA Function will compare the contractor's sample results against the QA sample results. The QA laboratory will report to the field office on a frequent basis the adequacy and acceptability of the data. The Chemical QA Function will generate the CQAR within 30 days of submission of the contractor's test results.

### **3-11. Submittals - HTRW Specific.**

a. General. HTRW projects have many unique submittal requirements that are not required for non-HTRW projects. The following paragraphs describe some of these HTRW specific submittals and identify the required or recommended reviewers and procedures. Due to the unique nature of HTRW projects, it is highly recommended that the designer be one of the primary reviewers of these documents. In addition, mandatory reviewers for CDQM submittals

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are covered in detail in ER 1110-1-263. Contractual approval authority of these submittals remains with the area/resident office.

b. Sampling and Analysis Plan (SAP). The SAP is a document prepared for all field and laboratory activities, contract deliverables related to the acquisition and reporting of chemical data for HTRW activities. The plan must be approved prior to initiation of any activities involving sampling and/or chemical analysis. Mandatory reviewers of this document are the QA laboratory and the HTRW design district, with monitoring performed by the HTRW CX.

c. Quality Control Summary Report (QCSR). The QCSR, submitted at the end of the contract, addresses chemical quality control practices employed and summarizes the daily quality control reports prepared throughout the project, including all the chemical data and analyses collected/performed (this document may be called the chemical quality management final report). Review and approval of this document is performed by the HTRW design district and the geographic district/field office respectively, with monitoring by the QA laboratory and the HTRW CX. This submittal is not required by regulation, however, some divisions still require its submission.

d. Site Safety and Health Plan (SSHP). The SSHP establishes policies and procedures for protecting workers and members of the public from the specific hazards of the HTRW site for which the plan was developed. The SSHP includes such programs as medical surveillance, monitoring and sampling, emergency response, spill containment, site control, activity hazard analyses, etc. Mandatory review of the SSHP is required by the HTRW design district, the geographic construction district, and the construction district SOHO. The emergency response plan (sub-component of the SSHP) must be coordinated with local officials prior to initiation of any on-site activities. Refer to CB No. 99-2, "Emergency Responder Agreements for Fund-Lead Remedial Actions - EPA Superfund Program," for additional information on emergency response plans.

e. Material Handling Plan (MHP). The MHP consists of procedures for the safe handling of contaminated material, drummed material, and contaminated liquids in addition to procedures for off-site transportation and disposal of materials. Manifesting, Department of Transportation (DOT) shipping papers, and chain-of-custody procedures should also be included. Review should be performed by the area/resident office with assistance from the design district. The construction district SOHO may also be asked to review the MHP if the potential for personnel or public exposure exists. This MHP may also cover importation of clean fill materials for large, grading projects.

f. Spill and Discharge Control Plan (SDCP). The SDCP consists of contingency measures and reporting responsibilities for potential uncontrolled spills and discharges of contaminated and/or hazardous materials. These spills and uncontrolled discharges may include

leachate decontamination water, sewage, and drummed material. Review should be performed by the area/resident office, with the assistance from the design district, and the construction district SOHO.

g. Dust, Vapor, and Odor Control Plan (DVOCP). This plan consists of site procedures to minimize and control the creation of dust, vapors, and odors. Review of this document should be performed by the area/resident office with assistance from the design district.

### **3-12. Documentation and Record Keeping Requirements.**

a. Record keeping is a critical element of the HTRW/environmental restoration mission. Many of the documents created will be made a part of the permanent administrative record for the site. Project records are often solicited through the Freedom of Information Act (FOIA) and play a key role in the recovery of costs from identified responsible parties. All records associated with environmental restoration programs are to be retained permanently, unless otherwise specified in the latest revision of the Modern Army Record Keeping System (MARKS) standards. Please refer to the MARKS standards for guidance concerning appropriate classification, retention, and safeguarding of all documents.

b. In the case of the administrative record, the lead agency or installation for each program or site will become the office of administrative record. The EPA is the office of administrative record for the Superfund program. For the Installation Restoration program, each installation maintains its own records. For FUDS and FUSRAP sites, the executing district serves as the office of administrative record.

(1) Financial Records. Financial documents consist of all records which substantiate the work performed or costs incurred on a project/site. Under the Corps of Engineers Financial Management System (CEFMS), all financial documents, with the exception of invoices, travel receipts, and cost transfer requests are electronic documents. Prior to transferring their disbursing authority to the Finance Center, each USACE Resource Management Office is responsible for retaining the original invoices. All supporting documentation for Superfund credit card purchases is to be maintained by the supporting activity, in accordance with CEFC-AO, Standard Operating Procedure (SOP) No. UFC-13. Only the total page (a copy is acceptable) is required to be sent to the Finance Center for payment. CERM-F memorandum, Subject: "Policy for Retention of Travel Receipts," dated 7 June 1996, provides guidance for retention of travel receipts. The policy includes special instructions for travel associated with the Superfund program. All other financial documents are facsimile copies of electronic records and the retention and security responsibilities for these records reside with the CEFMS Systems staff under the direction of the Finance Center. Working papers used to establish overhead, indirect and burden rates are required to be retained unless the CEFMS Budget Module is used to compute these rates. In accordance with the revised MARKS standards, financial records for

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environmental restoration projects will be retained for 30 years. A CECI-IR/CEMP-R memorandum, Subject: "Environmental Classification Standards," dated 10 August 1999 outlines record keeping requirements (see Appendix F). Additional information related to record keeping requirements can be found at the following Internet site:  
<http://www.rmd.belvoir.army.mil/markstit.htm>

(2) Contract Records. Official contract records consist of, but are not limited to, those documents detailed on the ENG Forms 3726, 3726-1, and 3726-2 (Official Contract Record Checklist - Pre-award, Contract, and Contract Modification/Delivery Order). The contracting division of the performing district is the custodian of these records and is responsible for their safeguarding. Duplicate copies of official records maintained in other offices are considered working documents, subject to destruction when no longer needed. When a field or area office has been designated as an auxiliary "office of record," documents such as construction surveys, daily inspection reports, progress schedules, etc., must be retired under the same MARKS number as the official contract records in the custody of the USACE performing district contracting division. Upon completion of the work, the completed DD Form 1594 (Contract Completion Statement) must be forwarded to the contracting division for incorporation into the official contract records. The field records will then be reviewed and duplicate copies, considered working documents, removed and destroyed when no longer needed. Contract records include record of procurements made under small purchase authority using DD Form 1155 or other comparable form.

c. Safety Records. Those records relating to HTRW/environmental accidents and incidents reported on ENG Form 3394 for which the USACE performing district safety office is the office of permanent record shall be retained and retired in accordance with the revised MARKS classifications and retentions.

d. Laboratory Test Results. Test reports generated as a result of HTRW/environmental restoration efforts will be released to the individual or office requesting the services. For purposes of retirement, these reports will be incorporated into the site-specific files.

e. Site-Specific Environmental Records. These records consist of documents created in connection with the investigation, planning, design, remedial action, technical assistance and maintenance of projects associated with the HTRW environmental restoration program. Also included are program and project management documents, documents associated with the administrative record, remedial design, remedial action, closeout and other related documents. These records may be created by engineering, program & project management, construction, real estate, drill crews, survey crews and laboratories. While many of these documents may also be maintained by the project manager, a local determination must be made concerning which office will be the office of permanent record for consolidation and subsequent retirement. All duplicate records are to be destroyed when no longer required for daily operations. Consolidated site files

will be retired in accordance with the revised MARKS classifications and retentions.

f. **Legal Records.** Legal documents include PRP negotiations, Freedom of Information Act (FOIA) records, and documents created to assist the U.S. Department of Justice (DOJ) or EPA in representing the government in liability cases. All legal documents will be maintained by the local office of counsel.

g. **Manifest Records.** The fully executed original manifest records and all records related to the transport of materials shall be permanently retained. The RE should consult with the customer's representative to ensure timely completion of all reporting requirements. Manifest records shall be retained on site for 3 years in accordance with 40 CFR 262.40. After 3 years, the records shall be incorporated with the site/project file and retired with those records consolidated under "Site-Specific Environmental Records." All other waste shipping papers shall be permanently retained in the site/project file.

h. **Contractor Records.** The contractor is required to maintain and preserve medical records on employees that are permitted in the support zone for 30 years after leaving employment in accordance with 29 CFR 1910.1020. Contractor maintained records forwarded to the Contracting Officer upon completion of the project consist of training logs, daily reports, weekly safety reports, air monitoring results, laboratory test results, manifest documents, chain-of-custody documents, meteorological records, photographs, decontamination of equipment and vehicles and any other documents that are pertinent to the project. In addition, any contractor operating under a cost reimbursable contract is required to maintain all financial records to support cost recovery.

**3-13. Indemnification.** CERCLA, as amended by SARA of 1986, provides the President with discretionary authority to hold harmless and indemnify any response action contractor against any liability for negligence arising out of the response action contractor's performance in carrying out response action activities, unless such liability was caused by the conduct of the remedial action contractor (RAC) which was grossly negligent or which constituted intentional misconduct. This indemnification applies only to RAC liability resulting from a release of a hazardous substance or pollutant or contaminant arising out of response action activities. EPA interprets CERCLA Section 119 as authorization for making indemnification available to response action contractors undertaking remedial actions on NPL facilities or removal actions. This includes response action contractors working for USACE in support of the EPA Superfund program. For future Superfund contracts entered into after the effective date of the final guidelines (25 January 1993), indemnification will not be offered except in rare cases and with written authorization from EPA. DOD has elected not to provide indemnification for USACE contracts entered into under DERP.

**3-14. Reporting.**

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a. Superfund. Each RD/RA district is responsible for management reporting of all Superfund projects. The following management information systems and reports that require the RE's input are utilized to monitor this program as managed by USACE:

(1) USACE Programs and Project Management Information System (PROMIS). HQUSACE requires all Superfund RA projects to be reported in PROMIS. Districts utilize the system to prepare and submit monthly Project Executive Summary (PES) reports on USACE-lead Superfund RD and RA assignments. The RE should assist the PM by providing data related to the RA project for incorporation into PROMIS. Refer to CEMP-RS memorandum, 7 Jan 99, on the implementation of PROMIS (see Appendix F);

(2) In a growing number of construction field offices, the Corps of Engineers utilizes a software package known as the Resident Management System (RMS). This Windows based software has been implemented as the Corps' standard nationwide. The USACE RMS is used for automation and reporting and is linked to PROMIS (downloads information until contract award), CEFMS (exchanges financial data on contracts) and, in the future, will be linked to the Standard Procurement System (SPS). Most of the forms required within USACE field offices have been coded within the RMS software package. In addition, the RMS for Windows program is compatible with various Report Writers, which can be used to generate special purpose forms or reporting processes based upon the users need and/or technical ability; and

(3) SF 1080s should be submitted to the EPA monthly for reimbursement of allowable in-house expenses. EPA regions also require a monthly progress report (prepared by the PM with input from the RE if involving management of RA activities). EPA region reporting requirements are found in the site-specific IAG.

b. Defense Environmental Restoration Program (DERP).

(1) USACE Programs and Project Management Information System (PROMIS). HQUSACE requires all DERP projects to be reported in PROMIS. Since PROMIS has currently no upward reporting capability, districts utilize PROMIS data to prepare and submit monthly PES reports which provide senior management at districts, MSCs and HQUSACE with a brief overview of project status including project background, cost information, schedule, and major projects and issues. The RE should assist the PM by providing data related to the RA project for incorporation into PROMIS.

(2) Refer to paragraph 3-14 a. (2) for information on the USACE RMS.

(3) All program and execution data for the FUDS program are reported by the USACE PM in the automated web-based FUDS Management Information System (FUDS MIS) located at the USACE ERDC.

c. Other Projects. All other projects that fall under Support For Others (SFO), FUSRAP, BRAC, FUSRAP etc., will be reported in PROMIS. The REs are responsible to report the status of remedial action projects as soon as contract award is made to RMS.

### **3-15. Agreements with Regulatory Agencies.**

a. Federal Facility Agreements. Environmental restoration work at active DOD facilities, FUDS, FUSRAP, and civil works facilities may involve Federal IAGs and Federal Facility Agreements (FFAs) that establish certain milestone dates for specific actions and also may entail stipulated penalties. Normally, USACE is party to such agreements on FUDS, FUSRAP, and civil works facilities, whereas the installation is the signature party for active DOD facility sites. However, all regulatory milestones must be met or a new milestone developed, negotiated with the regulator, approved by the regulator, and be **in writing** prior to the expiration of the deadline. On FUDS, FUSRAP, and civil works facilities, USACE has the lead in negotiating revisions to the scheduled milestones. On active DOD facility sites, the installation commander will have the lead with USACE as an active participant.

b. Regulatory Milestones. Missing regulatory milestone dates for submittal of primary documents or schedules, etc., can result in stipulated penalties being assessed by the regulatory agency (EPA in the case of NPL sites). It is the PM's responsibility to carefully monitor compliance with milestone dates and ensure that needed extensions are obtained. REs managing projects that have regulated milestones must be aware of the importance of meeting these milestone dates. In view of the potential for assessment of penalties, the Office of Counsel should be consulted promptly in the event of any questions on the legal implications of non-compliance with milestone schedules. If missing a deadline is anticipated, it should be immediately reported to the USACE PM. The RE will be advised to either revise the schedule or take appropriate action to comply with the established milestone schedule. Under these agreements, REs should understand that written milestone schedule revisions are required to avoid the assessment of penalties. Informal verbal agreements between the RE and regulators may prove inadequate to avoid assessment of penalties should a milestone schedule in the agreement be missed. REs do not have the authority to approve revisions to the milestone schedule contained in the agreement nor to approve changes or deviations requested by involved regulators during performance of the work. All matters concerning these types of issues should be referred to the PM and to the design district.

## SECTION 4

### HEALTH AND SAFETY

**4-1. Purpose.** This section describes USACE health and safety policy, responsibilities, and criteria for the effective management of HTRW projects. This includes providing comprehensive and site-specific safety and health criteria to be used by USACE and contractors in developing Safety and Health Programs (SHP) and Site Safety and Health Plans (SSHPs) for all HTRW site activities conducted by USACE or its contractors.

**4-2. Authority.** The development and implementation of appropriate SHPs and SSHPs for HTRW site operations are mandated by OSHA 29 CFR 1910.120/29 CFR 1926.65, and is applicable to all USACE and contractor personnel engaged in on-site activities associated with Superfund, DERP, SFO, civil works projects, and any other HTRW projects.

**4-3. Responsibilities.** HTRW health and safety program execution, document preparation, and the review and approval responsibilities of specific USACE elements (e.g., HQUSACE, OE MCX, HTRW CX, HTRW design districts, divisions, and geographic districts, etc.) shall be implemented as described in ER 385-1-92.

**4-4. Policy.** All USACE elements shall follow ER 385-1-92 and comply with (and specify contractor compliance with) OSHA standards 29 CFR 1910 (general industry) and 29 CFR 1926 (construction). In addition, the Department of the Army, USACE, and its contractors must comply with EM 385-1-1, "Safety and Health Requirements Manual," throughout all investigative, design, and RA phases of HTRW projects.

a. Training.

(1) It is Corps policy that prior to conducting on-site HTRW activities (intrusive or non-intrusive) in contaminated areas (exclusion zone or contamination reduction zone) of an HTRW site, all USACE and contractor personnel shall have successfully completed the following:

(a) formal 40-hour HTRW health and safety training course;

(b) 3 days of actual on-site training under the guidance of a trained and experienced supervisor; and

(c) 8 hours of refresher training annually.

(2) All on-site supervisors shall complete the above requirements and an additional 8-hour supervisor's course covering at least the following topics:

- (a) employer's safety and health program,
- (b) PPE program,
- (c) spill containment program, and
- (d) health hazard monitoring procedures and techniques.

(3) For additional important information on training, refer to CESO-I memorandum dated 13 May 1994, subject: "HTRW Safety and Health Training Courses and Medical Surveillance Required by OSHA standards 29 CFR 1910.120 and 1926.65." This document can be found in Appendix F. Refer also to Section 5, "Training."

b. Medical Surveillance and Record Keeping. All USACE personnel performing on-site HTRW activities (intrusive or non-intrusive) in contaminated areas (exclusion zone or contamination reduction zone) of an HTRW site shall be evaluated for inclusion in a medical surveillance program that meets the requirements of 29 CFR 1910.120 (f), ER 385-1-40, and EP 385-1-58. Generally, if employees meet the medical surveillance inclusion criteria, exams can be given on a biennial frequency (every other year) for most USACE HTRW staff (refer to CESO-I memorandum "HTRW Medical Surveillance Program Inclusion and Frequency Criteria), Located in Appendix F). OSHA standards 29 CFR 1910.120/1926.65 require that occupational exposure monitoring and medical surveillance records be maintained for a period of 30 years. Office of Personnel Management regulation 5 CFR Part 339 specifies personnel record-keeping procedures be consistent with OSHA standards. Such records are to be maintained in the individual's employee medical folder (SF-66D). The geographic district SOHO is the proponent responsible for medical surveillance.

c. Documentation. Copies of certificates of training, medical surveillance, and respirator fit testing of all USACE project personnel required to enter contaminated areas of the site should be available on site for examination by OSHA.

d. Staffing. USACE commands shall staff an Industrial Hygienist and safety professional(s) in the SOHO. These personnel shall support safety and occupational health (SOH) aspects of in-house preliminary assessments and site investigations. They shall also provide support during construction activities. In addition, an IH shall be staffed in the HTRW design district's engineering component to serve as a technical team member in developing and reviewing contractor or in-house investigations and designs.

e. Submittals. ER 385-1-92 requires several SOH documents be developed and implemented, as applicable, for all HTRW activities. The content of the Health and Safety Design Analysis (HSDA) required by ER 385-1-92 is used by the design district along with CEGS 01351, "Safety, Health, and Emergency Response (HTRW/UST)," to develop the final

safety, health, and emergency response specifications for an HTRW construction solicitation. The requirements for the contractor's SSHP are described in the safety, health, and emergency response specification section of the contract. CEGS-01351 and ER 385-1-92 specify that the contractor requirement for a separate accident prevention plan (APP), required by FAR clause 52.236-13, shall be considered met if the contractor has integrated the requirements of the APP into the SSHP submission. Contractor compliance with EM 385-1-1 will be observed.

f. USACE Oversight of "PRP Lead" Projects - EPA Superfund Program. OSHA requirements concerning developing and implementing an SHP and SSHP are applicable to USACE and contractor personnel engaged in on-site activities at PRP enforcement sites. USACE oversight officials on PRP sites must review the PRP's SSHP prior to conducting on-site activities. Comments and concerns regarding the PRP's SSHP must be submitted to the EPA RPM. Site prerequisite training and medical surveillance applicable to USACE oversight officials shall be met prior to any oversight activities taking place. USACE oversight officials shall adopt and comply with all applicable requirements of the PRP SSHP.

g. OE and HTRW Combined Waste Sites. On sites where both OE and HTRW wastes exist, the RE should ensure that the SSHP is properly coordinated among the various Corps and contractor elements. See Section 10, "Ordnance and Explosives," for further information.

## SECTION 5

### TRAINING

#### 5-1. General.

a. Oversight and management of HTRW projects includes additional responsibilities for planning, scheduling, and documentation of the required training. The OSHA standards for hazardous waste operations and emergency response (29 CFR 1910.120 (general industry) and 29 CFR 1926.65 (construction)) require that all employees exposed to hazardous substances, or safety hazards (directly associated with HTRW to be remediated) receive certain minimum training and, when required, medical surveillance. Records of employee training and required medical surveillance must be available at the project site. This training must be received before the employee can work on a hazardous waste site. Managers and supervisors within the RE office have the responsibility for determining which of their staff members will receive the required training and for monitoring their staff to ensure that their training is current. Funding also needs to be considered in advance to maintain a fully trained staff.

b. An individual development plan is an important tool to successfully manage the required training that employees have received, are scheduled to receive, and will need in the future. Special training is required for the duties and responsibilities connected with a hazardous waste site in addition to the basic requirements. Some of the HTRW required training courses also have refresher course requirements.

**5-2. HTRW Health and Safety Training Requirements.** All USACE personnel performing on-site activities at known or suspected HTRW sites (exclusion or contamination reduction zone) shall be trained in accordance with the requirements outlined in Department of Labor/OSHA 29 CFR 1910 and 29 CFR 1926. As a minimum, such training shall include:

a. A minimum of 40 hours of off-site classroom HTRW health and safety instruction (29 CFR 1910.120 (e) and 29 CFR 1926.65(e)). This training is mandatory and is available through the PROSPECT program. The course is entitled "Safety and Health for Hazardous Waste Sites" (PROSPECT course number 351);

b. Three days of actual field experience under the direct supervision of a trained, experienced supervisor (29 CFR 1910.120 (e) and 29 CFR 1926.65(e));

c. Eight hours of supervisory training for those on-site USACE personnel who directly oversee the actions of other USACE employees performing on-site activities (29 CFR 1910.120(e) and 29 CFR 1926.65(e)). The 8-hour supervisory training (a one time requirement) is not available under the PROSPECT program but is usually offered by local universities and

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training organizations. For information on the availability of such training contact your local SOHO;

d. Site-specific training (29 CFR 1910.120 (e) and 29 CFR 1926.65(e) and EM 385-1-1, 01.B.02 and 28.D.03). The site-specific training is provided by the contractor as specified in the contract specification section "Safety, Health and Emergency Response" and through compliance with the project SSHP and project specific work plans;

e. Eight hours of annual refresher training (29 CFR 1910.120 (e) and 29 CFR 1926.65(e)). This is mandatory training and is available through the PROSPECT program, "Safety and Health for Hazardous Waste Sites – 8-Hour Refresher" (766 Exportable) or could be arranged through outside sources. There is also a newly developed web-based 8-hour refresher available through the Huntsville Training Division (refer to CB No. 99-1, Safety and Health HTRW Annual Refresher Course). The refresher training should also include site-specific training as required by paragraph (e)(2) and/or (e)(4) of referenced CFRs;

f. Comprehensive Hazard Communication Training Program for Workers (29 CFR 1910.1200 and 29 CFR 1926.59). The requirement for this training applies to all USACE personnel who could be exposed to hazardous materials (brought on to the site for use rather than the waste being cleaned up) while performing their duties on either HTRW or non-HTRW construction sites. DOD developed the DOD Federal Hazard Communication training program to be implemented and enforced by all DOD components. Training material consists of two DOD publications and a videotape. These are: "Defense Federal Hazard Communication Training Program, Trainer's Guide," "Department of Defense Federal Hazard Communication Training Program, Student's Workbook," and the associated 90-minute videotape. The SOHOs at district levels have developed training sessions utilizing the DOD training materials. This training has to be completed prior to any USACE personnel assuming his/her duties that involve hazardous materials. The training covers the following areas:

- Federal Hazard Communication Standard
- Chemical Forms and Exposure Hazards
- Types of Physical and Health Hazards
- Controlling Chemical Hazards
- Introduction to MSDSs and MSDSs Physical Hazard Information
- MSDS Health Hazard Information
- Using Labels and the Hazardous Chemical Inventory

The SOHO is the responsible proponent for the OSHA-required training; and

g. Respiratory Protection Program for Employees (29 CFR 1910.134 (c) and 29 CFR 1926.103). Employers are required to develop and implement a written respiratory protection program with required worksite-specific procedures and elements for required respirator use. OSHA regulations (29 CFR 1910.134(k)) require, as part of this program, the employer to provide effective training to employees who are required to use respirators. The training must be comprehensive, understandable, and recur annually, and more often if necessary. These requirements are not specific to HTRW, but apply whenever respiratory protection is needed. For HTRW projects, site-specific respiratory training requirements should be reiterated in the SSHP and should meet the requirements set forth in the District respiratory protection program. Implementation of the appropriate respiratory protection program for USACE personnel on work sites is the local district's responsibility. For additional information on respiratory protection, refer to Sections 5 and 28 of EM 385-1-1.

### **5-3. Hazardous Waste Management and Transportation Training Requirements.**

a. Personnel who manage hazardous waste for the purpose of shipment are required to complete a program of classroom instruction or on-the-job training that teaches hazardous waste management procedures and contingency plan implementation relevant to the positions in which they are employed, as required by EPA under 40 CFR 262.34 (a) and 40 CFR 265.16. An annual review of initial training material is also required. The training must be designed to ensure that the employees are able to respond effectively to emergencies by familiarizing them with emergency systems, procedures, plans, and equipment. The substantive requirements of the initial training under these standards are met by the initial training under OSHA. The annual review requirements are met by the OSHA 8 hour refresher including the site-specific training.

b. The Department of Transportation (DOT) 49 CFR 172.700, Subpart H requires anyone involved in any activities related to the transportation of HAZMAT to receive an initial training and a recurrent training every three years\*. DOT regulations require the employer to certify that the employees have received the required training. DOT training must cover the following three areas:

(1) General awareness/familiarization training: this training is designed to enable the employee to recognize and identify hazardous materials consistent with the DOT hazard communication standards of 49 CFR Subpart 172. PROSPECT course number 223 (36 hours)

\* DOD 4500.9-R, Defense Transportation Regulation II, Chapter 204, October 1999, requires that all employees who prepare and ship hazardous material by commercial or military vehicle to be trained every two years. USACE is complying with DOD requirement and requires the refresher be taken every two years rather than three as required by DOT. The list of DOD approved courses include USACE PROSPECT courses (223, 429, and 441).

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and course number 429 (12 hours) satisfy the initial and refresher training requirements, respectively.

(2) Function-specific training: this training provides employees with functional-specific training concerning requirements of 49 CFR Subpart 172 which are specifically applicable to the functions the employee performs. For USACE personnel, this training focus on activities related to the proper DOT and RCRA classification of hazardous wastes and the proper development and certification of shipping documents. The above PROSPECT courses (223 and 429) are tailored to satisfy this training requirement and are DOD approved courses in accordance with the current DOD 4500.9-R. Employees involved with the shipment of Radioactive Class 7 materials require function-specific training for radioactive material. PROSPECT Course 441, Radioactive Waste Packaging, Transportation & Disposal fulfills the function-specific initial training requirement. The PROSPECT refresher course 429 with the added Radioactive Waste module serves as the corresponding function-specific refresher.

(3) Safety Training: this training provides the employee with knowledge of emergency response information, self-protection measures and accident prevention methods and procedures. The OSHA initial and annual refresher training described in paragraph 3a. above satisfy this DOT training requirement.

c. USACE Policies and Procedures.

(1) It is USACE policy that all USACE members executing hazardous waste manifests and related documents receive the required training before executing such documents. The refresher PROSPECT training course (429) can be provided on site by a PROSPECT instructor or locally by the certified district "train-the-trainer" instructor. The train-the-trainer instructor must be certified by the Professional Development Center (Huntsville), must receive the necessary up-to-date training, must obtain all the refresher course material needed to teach the refresher course through Huntsville, and must only teach employees from within his/her own district. USACE train-the-trainer instructors are only certified to teach the refresher course not the basic 36-hour course.

(2) After receiving the required DOT training, USACE personnel assigned the responsibility of signing hazardous waste manifests and related documents, must submit the training certificate to the district Commander or Deputy Commander to certify that the employee has been trained and is certified in accordance with 49 CFR 172, Subpart H. If USACE personnel receive training from sources other than PROSPECT, the district will be responsible to assure that the training meets DOT requirements and that such training focus on activities related to the proper DOT and RCRA classification of hazardous wastes and the proper development and certification of shipping documents. In addition to the training certification, USACE

personnel must be formally designated and authorized by the district Commander or Deputy Commander to sign Hazardous Waste Manifests and related documents. In the case of radioactive waste, only the District Commander can designate and authorize employees to sign the shipping documents. The authorization letter should also show that the individual is within his or her scope of employment when signing manifests and related documents. The nomination should further provide information that the person has the necessary experience and has satisfactorily performed as a Corps employee. A record of current training, including the preceding three years have to be kept as long as the employee is employed and 90 days after employment ends. The record must include the employee's name; most recent training completion date; a description, copy or location of the training materials; the name and address of the training provider; and a copy of the District Commander/Deputy Commander certification.

**5-4. Asbestos Abatement Training Requirements.** For projects that involve asbestos abatement, the following training requirements shall be met by USACE personnel responsible for project oversight:

- a. Personnel collecting bulk samples shall be trained as an "Inspector" pursuant to EPA 40 CFR 763, subpart E, appendix C, by an accredited provider.
- b. Personnel developing or overseeing asbestos project designs shall be trained as a "Project Designer" pursuant to EPA 40 CFR 763, subpart E, appendix C, by an accredited provider.
- c. Personnel conducting onsite construction QA shall be trained as a "Contractor/Supervisor" pursuant to EPA 40 CFR 763, subpart E, appendix C, by an accredited provider.
- d. Annual refresher training is required to meet the applicable categories above.
- e. All personnel performing typical onsite construction QA of asbestos abatement projects must meet the training requirements for the "competent person" as defined in the OSHA 29 CFR 1926.1101(o)(4).
- f. The EPA asbestos training requirements presented in the above paragraphs are described in the EPA's Model Accreditation Plan (MAP) subpart E, appendix E of 40 CFR Part 763 - Asbestos. The MAP applies to work in public and commercial buildings as well as to work being performed in schools. EPA has another asbestos related training requirement in their National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR 61.145 (c)(8) of subpart M. This training requirement applies to at least one on-site representative (such as a foreman) for demolition and renovation activities that involve the removal, handling, or disturbance of regulated asbestos containing material. A NESHAP training refresher course is required every two years. NESHAP considers those individuals who have completed EPA MAP

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Contractor/Supervisor training and annual refresher training to be in compliance with the NESHAP training requirements.

g. USACE Policy on Asbestos Training Requirements for USACE Personnel. Department of Defense Instruction (DODI) 4715.10, Environmental Education, Training and Career Development specifically includes the EPA asbestos MAP training as environmental-related Federally mandated training for DOD employees. The instruction also requires DOD personnel to be certified as required by Federal or state requirements. AR 420-70, "Buildings and Structures," requires compliance with Federal, state, and local requirements concerning asbestos activities including training. AR 200-1 requires USACE Commanders to comply with legally applicable and appropriate Federal, state, and local environmental regulations and for Army personnel to meet EPA MAP education and training requirements. Compliance with state environmental regulations is required, therefore, USACE personnel must check the requirements of the state in which the work is to be performed (Refer to the legal opinion under Appendix F, which allows USACE Commands to pay for asbestos training, certifications, licenses, and fees).

h. Sources of Asbestos Training Courses and Technical Information. The Huntsville Training Directorate has no asbestos training courses (except for a brief coverage of asbestos waste manifesting that is covered in the 36-hour PROSPECT course entitled "Hazardous Waste Management and Manifesting"). However, 40 CFR Part 763 provides information on EPA-approved MAP asbestos training courses. To obtain a free listing of training providers in your state (or nationally), call the EPA contractor, Vista Computer Services, at (800) 462-6706. The vendor listing is updated quarterly and includes addresses, POCs, phone numbers, and the types of training offered. For additional information, consult your training officer, library, safety and occupational health office, local EPA, or OSHA office. Asbestos related reference material may be obtained by calling the toll-free EPA hotline at (800) 368-5888.

#### **5-5. Lead Hazard Control (Abatement) Training Requirements.**

a. All USACE personnel conducting onsite QA of any lead hazard control (abatement) project shall be trained in accordance with OSHA 29 CFR 1926.62(1)(2).

b. For projects that involve lead hazard control (abatement) activities in public access buildings (including target housing and child-occupied facilities as defined in 40 CFR 745), the following additional training requirements shall be met by USACE personnel responsible for performing project oversight:

(1) Personnel conducting or overseeing the collection of bulk (i.e., paint chips), dust (i.e., dust wipes), or soil samples or taking direct reading samples shall be trained in accordance with EPA 40 CFR 745 and meet the "inspector" qualifications and accreditation requirements;

(2) Personnel developing or overseeing lead hazard control (abatement) project designs shall be trained as a “Project Designer” pursuant to EPA 40 CFR 745.226(c)(1), by an accredited provider; and

(3) Personnel conducting onsite QA of lead hazard control (abatement) projects, shall be trained as a “Supervisor” pursuant to EPA 40 CFR 745.226(b)(1), by an accredited provider.

c. For lead projects that DO NOT involve public access buildings (including target housing and child-occupied facilities), such as lead-based paint abatement on steel and hydraulic structures, USACE personnel responsible for project oversight need only be trained in accordance with OSHA 29 CFR 1926.62.

**5-6. Ordnance and Explosives (OE) Training Requirements.** Personnel involved in OE response activities must receive training on ordnance recognition and safety and must be thoroughly trained regarding the nature of the materials handled, hazards involved, and necessary precautions. All personnel performing on-site work activities, wherein they may be exposed to hazards resulting from hazardous waste site operations, must complete applicable training in compliance with 29 CFR 1910, 29 CFR 1926, EM 385-1-1, and ER 385-1-92. Additional training requirements and qualifications concerning OE response activities will be published, in the near future, in ER 385-1-95. This document will provide guidance concerning both USACE and contractor personnel, and requirements concerning the specific type of work being performed. The following training courses are recommended to acquire a working familiarity with OE policy and procedures:

a. U.S. Army OE Safety Workshops: Typically 3-day workshops (one for conventional OE and one for CWM projects) are provided by CEHNC Design Center and OE MCX personnel. The workshop provides a general background of OE projects, reviews the laws and regulations governing OE projects, provides a comparison of OE and HTRW projects, describes typical OE project flow, and provides background on the various types and components of OE;

b. OE Recognition Training: This weeklong training course provides an in-depth look at the types of OE and the procedures for recognizing OE in the field. The hazards associated with specific ordnance items are explained in a manner to promulgate management of these hazards onsite; and

c. Site-Specific Training: Often it is beneficial to retain the project’s OE support unit (i.e., 52<sup>nd</sup> EOD Group, Army Technical Escort Unit) to conduct site specific training that is focused on the particular OE items of concern and the associated hazards. The training should include a review of the measures to be taken to protect workers from OE hazards. Requests for this support should be made through the OE CX.

**5-7. Training Documentation.** In addition to the mandatory training requirements established under the various environmental and safety laws and regulations, each regulation carries specific training documentation requirements. Many times, employees are properly trained in accordance with Federal and state regulatory training requirements; however, the training was not properly documented in the files or the training files cannot be produced during a regulatory inspection. Thus, this may result in a violation being pursued by the inspector. Documenting that training has been completed is the easiest part of training and must be done in accordance with the specific regulatory requirements. This means that training records must include specifically designated information and in many cases this information must be maintained at specific locations at the facility, depending on the regulatory requirement. Documentation of all health and safety training, including the names of employees trained, the duration of the training, the contents of the training courses, and the dates of training will be appended to the SSHP. Each employee who has successfully completed the training and field experience requirements specified above will be certified as having successfully completed the necessary training and will maintain a copy of the written certification at the project site.

**5-8. Specialized Training.** Other highly recommended specialized training includes confined space entry/rescue and first aid/CPR. There are also many Federal environmental laws that require specialized training, such as for lead abatement activities. The U.S. Army Environmental Awareness Support Center published a directory of environmental training courses in July 1997. Eventually many of the courses in the directory will be part of the Army Environmental Training Master Plan (AETMP). A list of all PROSPECT courses can be found at:  
<http://pdsc.usace.army.mil>

## SECTION 6

### FUNDING

**6-1. EPA Superfund Program.** Funding for the EPA Superfund program is provided from EPA with an IAG EPA Form 1610-1. All IAGs from EPA are forwarded to the HTRW CX for review to ensure compliance with the EPA/USACE National IAG. The HTRW CX is the central POC for funds tracking of the Superfund program and maintains a sole source database of all Superfund IAGs. Accounting information for the IAG will be assigned by the HTRW CX. Once the review is complete and accounting data assigned, the IAG will be forwarded to the performing USACE district for acceptance. The regulations governing the transfer of funds between the EPA and USACE can be found in ER 1110-2-500, "Corps/EPA Superfund Program Funding and Reporting Requirements."

a. The direct fund cite/revised reimbursable funding method for the Superfund program was implemented for IAGs issued after 1 Oct 91 and which provide for the following activities:

- (1) RD;
- (2) RA; and
- (3) rapid response.

b. The scope of work section of the IAG will specify a total dollar amount for direct fund site (for contract payments) and a total amount for revised reimbursable (for in-house payments). Each amount represents a limitation, and the funds are not interchangeable.

c. The direct fund cite/revised reimbursable method does **not** apply to the following:

- (1) Existing IAGs accepted prior to 1 Oct 91 or any amendments to those IAGs;
- (2) Blanket (generic) IAGs and related work authorization forms;
- (3) Technical assistance (RI/FS, phase I, enforcement, O&M, state lead), 5-year reviews, and site assessments;
- (4) Real Estate; and
- (5) VE and cost estimating.

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d. Direct Fund Cite Method: Contracts awarded with direct fund cite funding will cite the EPA Appropriation, 68/20X8145, and will identify the EPA Cincinnati Financial Management Center (CFMC) as the payment office. A copy of the contract documents and signature cards (for personnel authorized to approve contractor's requests for payment) must be forwarded by the USACE district procurement office (responsible for the RA contract award) to EPA at the following address within two weeks of award. Copies of all contract modifications will also be distributed to EPA CFMC and to the EPA RPM. All contract documents forwarded to EPA CFMC will use a transmittal sheet and must include the IAG number, site name, contractor's name, contract number, fund cite, amount, statement of award, and Contracting Officer's dated signature. CFMC will acknowledge receipt of the transmittal within three days after receipt:

Environmental Protection Agency  
Cincinnati Financial Management Center  
Cincinnati, OH 45268-7002

The construction division at the executing district will coordinate with the procurement office and establish proper procedures and delegate responsibilities to ensure that the signature cards and copies of future contract modifications are forwarded to CFMC and to the EPA RPM in a timely manner.

(1) The original ENG Form 93, Payment Estimate - Contract Performance, will be express mailed by the USACE district billing office to the following address with a transmittal sheet within two business days of signature:

Environmental Protection Agency  
Cincinnati Financial Management Center  
Attn: Accounting Operations, Suite 300  
4411 Montgomery Road  
Cincinnati, OH 45212

A copy of the signed payment estimate will be clearly marked "COPY" and forwarded separately to the EPA RPM. The final payment estimate will be clearly marked "FINAL" and will be forwarded by the USACE PM to the EPA RPM and to CFMC. The EPA RPM must approve the contractor final payment estimate before CFMC makes the payment. EPA will comply with the guidelines established by the Prompt Payment Act and will make the payment to the contractor. (A sample of ENG Form 93 is included in ER 37-2-10, "Accounting and Reporting Civil Works Activities.")

(2) In the case of indefinite delivery type contracts using the direct cite method, a payment estimate will address one delivery order only. If a contractor has performed work on

more than one delivery order during a billing period, each delivery order will require a separate ENG Form 93.

(3) For Direct Fund Cite contract awards subject to a Defense Contract Audit Agency (DCAA) audit, such as a Total Environmental Restoration Contract (TERC) delivery order contract award, a Public Voucher for Payment (SF1034) is signed and certified by the USACE Contracting Officer's Representative (COR).

(a) The contractor's request for payment will be reviewed, certified by the billing office and express mailed to the cognizant audit office (DCAA, EPA, or other cognizant audit agency). Refer to the Memorandum of Agreement (MOA) between DCAA and USACE for USACE Civil Works Funded Contracts under Appendix F. This agreement changes yearly. The HQUSACE Audit office issues a memorandum to all audit and procurement offices at the districts that contain the annual financial agreement (hourly billing rate) between DCAA and USACE.

(b) A cover letter will be used by the billing office for transmittal of the SF1034 to the cognizant audit office. The letter will identify a POC with a telephone number, the contract number, contractor name, pay estimate number, and identify the EPA CFMC as the payment office. The cover letter will request the audit office to express mail the approved payment request directly to CFMC at the address shown under paragraph d.(1) above.

(c) The cover letter to the audit office will be copy furnished to CFMC to monitor receipt of the payment request. If CFMC does not receive the approved request within 14 days of receipt of the copy-furnished cover letter, the POC identified in this letter will be contacted. Requests for payment received in EPA without the audit office certification will be returned to the POC. EPA will not forward documents to the audit office.

(4) The contractor earnings (during the reporting period) and a summary of the contractor's activities will be reported in the monthly status report (which accompanies the SF 1080 for in-house billings). The monthly status report will be submitted by the USACE PM to the EPA RPM as standard procedure.

(5) Contract financing payments made under cost-type contracts are not subject to interest penalties for payment delays per Paragraph (b) "Contract Financing Payments" of FAR 52.232-25(b)(4), "Prompt Payment" (Mar 94), and 52.232-27(b)(2), "Prompt Payment for Construction Contracts." "Contract Financing Payments" means a government disbursement of monies to a contractor under a contract clause or other authority prior to acceptance of supplies or services by the government. Final payments fall under "Invoice Payments" and are subject to interest penalty assessment. "Invoice Payments" means a government disbursement of monies to a contractor under a contract or other authorization for supplies or services accepted by the government. This includes payments for partial deliveries that have been accepted by the

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government and final cost or fee payments where amounts owed have been settled between the government and the contractor. Although contract-financing payments are not subject to interest penalty for payment delays, every effort should be made to expedite payments to contractors.

e. Revised Reimbursable Method (for in-house activities). With the direct fund cite/revised reimbursable method of payment, the revised reimbursable funding is limited to in-house activities such as labor, travel, small purchase orders and other miscellaneous in-house costs. The USACE district will forward a monthly **certified** SF 1080 billing (signature cards for personnel authorized to approve request for payments for in-house activities are required for EPA files) with a status report (see paragraph d.(4) above) to the following address:

Environmental Protection Agency  
Cincinnati Financial Management Center  
Cincinnati, OH 45268-7002

EPA will process a payment to USACE within 5 days of receipt of the SF 1080 billing. The USACE PM will provide a copy of the SF 1080 billing and status report marked "COPY" to the EPA RPM. The EPA RPM will discuss any discrepancies with the USACE PM, and any mutually agreed adjustments will be documented in a memorandum from the EPA RPM to the USACE PM. The final SF 1080 billing must be clearly marked "FINAL" and will be approved by the EPA RPM before the payment is processed.

f. IAGs Not Funded Under Direct Fund Cite/Revised Reimbursable Method. For any EPA Superfund IAGs that are **not** funded under the direct fund cite/revised reimbursable method, the revised reimbursable method and SF 1080 billing system will be used for processing contract payments and payment for in-house activities. The certified SF 1080 billing and status report procedures, as stated in paragraph e. above, will apply.

**6-2. DERP Program.** DERP funding generally follows the same financial guidelines as other defense programs. Funding for DERP programs are provided from the Defense Environmental Restoration Account (DERA). Although these are "no-year" appropriations, they are transferred to other service accounts for obligation purposes. Once transferred, the funds take on all the characteristics of the appropriation to which they are transferred. Therefore, environmental restoration account funds transferred to the O&M, Army appropriation have a one-year life and will expire at the end of the fiscal year, unless the funds have been obligated by contract award.

a. Army Installation Restoration Program. The Major Army Command (MACOM) manages funding for the IRP program. All project funding requests must be submitted by the PM to the installation and forwarded through their MACOM for approval. Once approved, the MACOM will either authorize the installation to MIPR the funds to the district or send the request to the HTRW CX to prepare the Work Authorization Directive (WAD) and distribution

of the funds by Funds Authorization Document (FAD) through HQUSACE. Once the FAD is received, funds are obligated and expended the same as other direct funded programs. Contingency funds (2 percent of the contract at award) will be provided on contracts awarded for \$5 million or more. For contracts less than \$5 million, no contingency will be provided. Additional funds will be provided on an as-needed basis. All fund requests should be processed through the PM.

b. FUDS. FUDS program managers at the divisions control the distribution of funds allocated by CEMP-RF. Accounts are established in the HQUSACE budget office for each division (quarterly) based on requirements stated in the DERP-FUDS workplan. Division program managers will then determine the amount of in-house and contract funding to issue to their districts and to Huntsville for the execution of OEW projects. No contingency funds are provided for FUDS projects. However, divisions have complete flexibility in transferring funds among approved projects as deemed necessary.

c. Fiscal Year-End Closing. In early September of each FY, funding (including S&A) on all DERP projects must be reviewed and excess funds returned. Excess funds must be returned to the DERA account to avoid expiration. Funds left in the O&M, Army appropriation and similar accounts will expire. The RE should identify the needs of the project to the funding district (particularly during the beginning of the FY) in order to ensure that sufficient funds are made available for continuous operation.

## SECTION 7

### MANIFESTS, SHIPPING PAPERS AND OTHER TRANSPORTATION RELATED REQUIREMENTS

**7-1. Purpose.** When shipping hazardous waste, hazardous materials, or other remediation materials and wastes, typically the Environmental Protection Agency (EPA), the Department of Transportation (DOT) and/or the Nuclear Regulatory Commission (NRC) regulations must be followed. In addition, state environmental offices may have more stringent requirements with respect to manifesting hazardous waste. The purpose of this section is to identify USACE policy with respect to hazardous waste manifesting, NRC manifesting, and the use of other shipping papers such as asbestos waste shipping records, chain-of-custody forms, etc. In addition, other transportation related requirements are discussed. USACE policy and guidance on hazardous waste manifests and hazardous material shipping has been issued under the following references:

- a. ER 1110-1-263, "Chemical Data Quality Management for Hazardous, Toxic, and Radioactive Waste Remedial Activities;"
- b. ER 1180-1-6, "Construction Quality Management."
- c. EP 200-1-2, "Process and Procedures for RCRA Manifesting;" and

**7-2. Background.** The RCRA addresses the "cradle-to-grave" management of hazardous waste. This includes the generation, storage, treatment, transportation and disposal of hazardous wastes. The EPA implementing regulations (40 CFR 262) require a generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage, or disposal to prepare and sign the EPA Uniform Hazardous Waste Manifest Form 8700-22. This form quantifies and describes the hazardous waste in detail. The DOT also requires a shipping document that describes the transported hazardous material to accompany the shipment to its final destination. Unless the receiving state or the state where the shipment has originated from has its own manifest, the EPA Uniform Manifest is used. The manifest satisfies both EPA and DOT requirements. EPA, OSHA, and DOT regulations further require various aspects of contingency planning by hazardous waste generators.

**7-3. General.** With the exception of hazardous waste generated as the result of USACE response actions on FUSRAP, Formerly Used Defense Sites, or facilities operated and maintained by USACE, USACE is not considered to be the owner or generator of the hazardous waste it transports as part of response activities. The customer agency is the generator for purposes of execution of the hazardous waste manifest. However, due to logistic complexities, a customer may not be able to provide an individual to sign hazardous waste manifests in a timely

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manner. The customer may then request USACE to sign project manifests on their behalf. The EPA regulations (40 CFR 262 appendix, item 16.) makes clear that generators may have an agent act on their behalf in signing manifest forms. Specifically the instructions say, "Generators may preprint the words "on behalf of" in the signature block or may hand write this statement in the signature block prior to signing the generator certifications." As explained in the Federal Register Notice (51 Fed. Reg. 35192), EPA did not intend to impose personal liability on the individual who actually signs the certification. Further, EPA clarified that "employees or other individuals may sign the manifest certification for a generator who is a legal entity, such as a corporation." This statement makes clear that the generator may permit persons on-site to sign on behalf of the generator, as long as the signer has clear authority from the generator to do so.

#### **7-4. Policy.**

a. It is USACE policy, if requested by its customers, to execute hazardous waste manifests and related documents on behalf of those customers when not precluded by state statutes or regulations. Currently, USACE is signing manifest forms and related documents on behalf of EPA, FEMA, and FSA.

b. Manifest execution and related responsibilities will be performed by USACE at sites or facilities where USACE is considered the owner/generator of the hazardous waste. Examples of such sites include civil works facilities or where USACE is considered the agency responsible for the waste such as DERP-FUDS and FUSRAP sites.

c. With regard to DERP-Installation Restoration (IR) and BRAC environmental restoration activities, manifest execution and related responsibilities ordinarily belong to the customer (i.e., the installation or the base).

d. With regard to OE response actions on FUDS sites, if the OE Design Center is responsible for the execution (not the geographical district), a representative from the OE Design Center or the contractor shall be responsible for meeting all regulatory requirements and signing the manifests and related documents.

e. When the additional cost of sending a qualified USACE representative to a remote location for a small clean up project is unwarranted, the option of requiring the on-site contractor to sign the manifests on behalf of the generator is permitted and should be considered. This option can only be exercised on a project-specific basis after written authorization from the customer and approval of the Chief of Construction Division at the executing district have been given. Requirements for the contractor to sign the manifests must be approved, as noted above, prior to the solicitation process and be incorporated into the technical provisions of the contract solicitation.

f. In the past, FUSRAP contractors were executing manifests and other shipping documents on the government's behalf. As new contracts are awarded by the USACE, the USACE will assume these responsibilities.

**7-5. Procedures.** Where USACE personnel execute Uniform Hazardous Waste Manifest forms and related documents, procedures will be adopted by the executing districts and centers as described below:

a. In the Generator's Name and Mailing Address box (block #3) on the Uniform Hazardous Waste Manifest form, USACE authorized personnel shall enter the following information: "Environmental Protection Agency/Superfund Program," "DOD (DERP/FUDS)," "FEMA," or "Department of Agriculture/FSA" as appropriate followed by "c/o" and then the name and address of the USACE office that manages the returned manifest forms. In the generator's certification box (Block #16), for Superfund sites, the authorized USACE employee would then sign his or her name, followed by "USACE" after writing or printing the phrase "On behalf of the Environmental Protection Agency." On FUDS sites, USACE personnel should follow the same procedure after typing or printing the phrase "On behalf of the Department of Defense." For FEMA sites the authorized USACE employee would sign his or her name, followed by "USACE" after writing or printing the phrase "On behalf of the Federal Emergency Management Agency," and so on. All other manifest related documents executed by USACE members on behalf of a customer shall be executed by signature followed by USACE after writing or printing the phrase "On behalf of the (customer's name)."

b. On facilities where USACE is the "owner/generator" of hazardous wastes or the "responsible agency," such as civil works facilities or FUSRAP sites, USACE personnel shall enter in block #3 on the manifest form "U.S. Army Corps of Engineers," followed by the name and address of USACE office that manages the returned manifest forms. In the generator's certification block (block #16), the USACE authorized employee would sign his or her name after typing or printing the phrase "On behalf of the U.S. Army Corps of Engineers."

c. When the contractor signs the manifest form on behalf of the USACE or a customer, the contractor will enter, in block #3, the name and address of its organization. In the generator's certification box (block #16), the contractor's authorized employee would sign his or her name after typing or printing the phrase "On behalf of the U.S. Army Corps of Engineers" or "On behalf of (the name of the customer/agency)," as appropriate.

d. USACE personnel authorized to execute manifest forms and related documents shall ensure compliance with all reporting requirements (e.g., exceptions reports, biennial reports and state reports) as well as follow-on requirements, including the assembly and retention of all appropriate documentation and certifications.

e. USACE personnel executing hazardous waste manifests and related documents must ensure that the USACE is authorized by its customers to execute hazardous waste manifests and related documents on their behalf prior to such documents being executed. The customer request and authorization must acknowledge that the customer retains all responsibilities for the hazardous waste as a generator. This shall extend to the execution of the hazardous waste manifests, land disposal restriction notification and certifications, waste profile sheets, and other forms necessary for the completion of manifests for transportation and disposal of hazardous waste. This authorization, as well as a customer statement retaining all generator responsibilities, is most appropriately incorporated as a specific provision within a Memorandum of Agreement, IAG, or correspondence signed by a recognized agency official. Authorization for executing and certifying manifest forms and related documents on behalf of EPA is delegated in EPA's letter dated 18 October 1990 (a copy of the letter is in Appendix F). Authorization for executing and certifying manifest forms and related documents on behalf of FSA must be obtained on a project-by-project basis. FEMA's authorization is provided in the MOA between the U.S. Army and FEMA, signed in 1991.

f. Approval to undertake the delegated responsibility of signing manifest forms and related documents for customers other than EPA, FEMA, and FSA rests with the chief of construction division at the executing district. If state statutes or regulations do not permit the USACE to sign such documents on behalf of the customer, the RE or other designated USACE representative is to contact the PM for further guidance.

g. All USACE employees executing hazardous waste manifests and related documents must receive appropriate training before executing such documents. Training records fulfilling all regulatory requirements must be documented and maintained onsite during the life of the project in the event of a regulatory inspection. Once the contract is closed, these should become part of the official contract file. Training requirements and PROSPECT courses that satisfy these requirements are presented in paragraph 5-3b. of Section 5, "Training."

h. Only USACE members formally designated and authorized by a MSC or district commander/deputy commander shall be allowed to execute hazardous waste manifests and related documents for that site. The authorization letter should identify that the individual is within his/her scope of employment when executing manifests and related documents. In order to document appropriate training and the scope of an individual's signature authority, a nomination and authorization procedure must be implemented. All persons nominated to be manifest certifying officials must have completed the required training and obtained certification. The nomination package should contain a one-page summary of the person's training and experience in HTRW and manifesting. The nomination package should also have the authorization letter (to be coordinated with the local counsel) ready for signature. The authorization letter must clearly state that the execution of manifests and related documents are within the scope of the individual's official duties. The nomination should further provide

information that the person has satisfactorily performed as a USACE employee. For FUSRAP sites, only the District Engineer with delegated FUSRAP responsibility for a particular site shall authorize USACE personnel to sign manifests and shipping documents for that site. Prior to offsite transport of waste, the responsible USACE District must ensure that the waste has been adequately characterized for the potential presence of radioactive contaminants and hazardous waste. Waste will be transported only to facilities that may lawfully accept the contaminants present in the waste.

i. Where USACE employees are executing hazardous waste manifests and related documents, the contract under which the waste is being transported must address supporting chemistry-related requirements and procedures. These items are imposed by the specifications and addressed by the contractor in the Sampling and Analysis Plan (SAP). The SAP addresses among other things, laboratory activities, chemical data documentation, equipment, sampling documentation, quality control, sample custody and shipment, analytical methods and document preparation. The project specific supplement to the QA Plan, developed by the RE, must define the USACE quality assurance role in the manifesting process. Area and Resident Engineers are encouraged to periodically request a review (by qualified in-house project support staff such as regulatory specialists, chemists, industrial hygienists or the HTRW CX) of project specific transportation and disposal related documents prior to signature. This is especially true in the case of a large and variable number of waste streams.

j. When USACE or customers are going to be signing hazardous waste manifests, but contractors are going to be preparing materials for shipment, the contractor should be required by contract to certify that materials have been properly packaged, labeled, and marked in accordance with all Federal and state regulations. This will enable the USACE/customer representative to certify on the manifest that the materials are properly packaged, labeled, and marked even though these activities were conducted by other persons. Likewise, the contractors should be required to certify as accurate any other documents he prepares relative to the shipment of hazardous waste including the manifest, the Land Disposal Restriction Notifications and waste profile sheets. All contractor certifications should be retained by USACE as supporting documentation in accordance with paragraph 3-12 of Section 3, "USACE Administered Projects."

k. For FUSRAP sites, a large volume of soil will be moved by rail. In such a case, the words "and rail" must be added to the language currently found in block 16 of the hazardous waste manifest. The two words should be added after the word "highway" in the certification block as described in the instructions for completing the manifest in the appendix to Part 262. The word "highway" should be crossed out if the shipment from the site to the disposal facility is entirely by rail. In addition, when transporting by rail, the manifest is not handled in the same manner as for the highway mode. Section 49 CFR 172.205(f) should be consulted for the additional requirements pertaining to manifest dissemination when waste is transported by rail. In addition to RCRA manifest requirements, there may be instances when a NRC Uniform Low

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Level Radioactive Waste Manifest is required. In general this NRC manifest will be required on sites with low level radioactive wastes as defined by the NRC or it may be required by the recycling or disposal facility for shipments of low activity radioactive material. The NRC manifest and associated requirements can be found in Appendix G to 10 CFR 20. This NRC manifest, when properly completed, will fulfill the NRC and DOT requirements. It should be noted that there will be situations when neither a NRC nor a hazardous waste manifest is required, however a DOT shipping paper may be required (most likely due to a reportable quantity of radionuclides in the package). Conversely, there may be situations when both a NRC and a hazardous waste manifest will be required. Lastly, there may be situations when the FUSRAP remediation waste is not regulated by EPA, NRC or DOT. For example, if the waste contains less than 2000 picocuries per gram and there is not a reportable quantity of any hazardous substance in the shipment and the waste does not contain a hazardous waste, then the shipment would not be regulated by the EPA, NRC, or DOT. In those cases, while not required by Federal regulations, the USACE requires a chain-of-custody form be developed and used to track all FUSRAP shipments to treatment and/or disposal facilities (See paragraph 7-10a. of this section).

1. As per 49 CFR 172 subpart G, a person who offers a hazardous material for transportation must provide a 24-hour emergency response telephone number for use during the event of an emergency. This number must be monitored at all times the hazardous material is in transportation and the person must be either knowledgeable about the material and has comprehensive emergency information or has immediate access to a person who possesses such knowledge and information. This number must be entered on the shipping papers (hazardous waste manifests, NRC manifests, Bills of Lading, Asbestos Waste Shipment Records, etc.). The Corps may retain this duty or contractually require the contractor to perform this duty.

m. For all wastes shipped on a hazardous waste manifest (including TSCA regulated PCBs), a copy of the hazardous waste manifest with the written signature of the owner or operator of the designated treatment/storage/disposal (TSDf) facility should be received within 35 days of the date the waste was accepted by the initial transporter. If this copy is not received from the TSDf within this period, the USACE signatory of the manifest must contact the transporter and/or owner or operator of the designated facility on the 35th day to determine the status of the waste. If a copy of the signed hazardous waste manifest is not received within 45 days of the date the waste was accepted by the initial transporter, an Exception Report must be filed on the 45th day with the EPA and/or authorized state hazardous waste office as required in 40 CFR 262.42. The RE must assure that office procedures are in place for manifest signatory to track receipt of the TSDf manifest copy and provide for timely issuance of the Exception Report as required.

**7-6. DOT Regulated Materials.** For DOT regulated hazardous materials that are not transported with EPA hazardous waste manifests or NRC manifests, either the contractor (if

required by the contract) or a USACE member formally designated as specified above may sign the DOT shipping papers with the exception of any FUSRAP waste. DOT training is mandatory to perform this function.

### **7-7. Sample Shipments.**

a. There are instances when analytical samples may be considered RCRA regulated hazardous wastes, TSCA PCB wastes, and/or DOT regulated hazardous materials. However, RCRA and TSCA provide an important exclusion for analytical samples being transported to and from the laboratory if the sample meets the conditions outlined below. If the samples meet the terms specified below, a hazardous waste manifest is not needed. If the terms are not met, a manifest is required for transporting these samples to and from the laboratory.

(1) Under Federal EPA regulations, a sample of solid waste or a sample of water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to the manifesting requirements of RCRA or TSCA, when:

- the sample is being transported to a laboratory for the purpose of testing; or
- the sample is being transported back to the sample collector after testing; or
- the sample is being stored by the sample collector before transport to a laboratory for testing; or
- the sample is being stored in a laboratory before testing; or
- the sample is being stored in a laboratory after testing but before it is returned to the sample collector; or
- the sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(2) In order to qualify for the exemption from manifesting under RCRA and/or Toxic Substances Control Act (TSCA) regulations, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

- comply with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or
- comply with the chain-of-custody and packaging requirements found in either 40 CFR 261.4(d)(2)(ii) or 40 CFR 761.65(i)(3) (e.g., include sample collector's name, mailing address, and telephone number; laboratory's name, mailing address, and telephone number; quantity; date of shipment; sample description; and package the sample so that it does not leak, spill, or vaporize).

b. While a sample may be excluded from the RCRA and/or TSCA manifesting requirements, the sample may still be considered a DOT regulated hazardous material if the sample collector anticipates that the sample meets a DOT hazardous class. For example, a sample preserved with acid may exhibit a corrosive hazard class (class 8), a sample of TNT contaminated soil may be explosive (class 1) or a flammable solid (class 4.1), a sample involving chemical agent may be toxic (class 6.1) or may be an irritant (class 9). For samples suspected to be regulated hazardous materials, compliance with the DOT regulations in 49 CFR 171-180 is mandatory. This includes the appropriate requirements for the preparation of shipping papers, marking, labeling, packaging and placarding. In addition, if these samples are to be shipped by air, the International Air Transport Association (IATA) regulations must be followed. Companies routinely used to ship samples will have a Dangerous Goods Bill of Lading or similar shipping document that should be used when transporting samples that may potentially be DOT hazardous materials. In addition, persons offering these shipments must be DOT trained and emergency response information must be provided to the shipper.

c. Detailed guidance pertaining to the transportation of samples that are potentially hazardous materials can be found in Appendix F of EP 200-1-3.

#### **7-8. Asbestos Waste Shipment Records.**

a. Asbestos-containing waste material is regulated by EPA under the Clean Air Act. DOT also regulates Asbestos Containing Material (ACM) as a hazardous material during the course of transportation. OSHA has also established worker protection standards (including training requirements) for all activities that involve ACM such as manufacturing, fabricating, and demolition and renovation of structures that contain ACM. Many states have been authorized by EPA (EPA agreement states) to act as the regulatory authority for asbestos abatement activities. The state regulations may be more stringent than the Federal regulations but as a minimum should meet the Federal requirements.

b. The EPA requires the use of an asbestos Waste Shipment Record (WSR) or a similar form when ACM is transported offsite (40 CFR 61.150(d)). Though not a federally regulated hazardous waste, a hazardous waste manifest could be used when shipping asbestos if all the WSR required information is placed on the manifest. The following additional information is required to be placed on any form used to transport asbestos:

- (1) name, address, and telephone number of the waste generator;
- (2) name and address of the local, state, or EPA regional office responsible for administering the NESHAP program;
- (3) approximate quantity of asbestos in cubic meters or yards;

- (4) name and telephone number of the disposal site operator;
- (5) name and physical site location of the disposal site;
- (6) transport date;
- (7) name, address, and telephone number of the transporter(s); and

(8) a certification that the contents are fully and accurately described by the proper shipping name and are classified, packed, marked, placarded, and labeled and are in all respects in proper condition for transport by highway according to applicable regulations.

c. In addition to the information required on the WSR or similar form, asbestos is a DOT regulated hazardous material thus all DOT shipping paper, labeling, marking, packaging and placarding requirements must be met. The WSR, manifest, or a similar form may be used as the DOT shipping paper if all the required DOT information (49 CFR 172 subpart C) is also included on the form.

d. Unless specified otherwise in the asbestos demolition and renovation contract, the prime contractor is considered to be both the operator and authorized agent for the waste generator and will be required to complete and sign the generator portion of the WSR (Operator's certification, line 9 of the WSR form), and be responsible for ensuring that both the transporter and the waste disposal site owner/operator complete and sign their sections of the form. This is in line with the NESHAP regulations, 40 CFR Part 61.

e. NESHAP (40 CFR 61.150(a)) specifies that containers or wrapped materials that contain asbestos-containing waste material must have warning labels specified by OSHA under 29 CFR 1926.1101(k)(8). Labels will indicate the name of the waste generator and location where the waste was generated. NESHAP 40 CFR 61.150(c) requires that vehicles used to transport asbestos-containing waste material be marked with a warning sign during loading and unloading of the waste. The specific EPA marking requirements for vehicles are found in 40 CFR 61.149(d). In addition, compliance with the DOT regulations in 49 CFR 171-180 is required when transporting asbestos as asbestos is a DOT regulated hazardous material.

f. This WSR will be provided to the owner or operator of the waste disposal facility at the time the waste is delivered to that facility. Upon completion of this "cradle-to-grave" reporting procedure, the contractor must return the original completed and signed WSR to the USACE RE within the timeframe established by the contract. The RE must maintain a copy of the completed WSR for the contract file and provide the original to the facility owner/waste generator.

- g. EPA regulations (40 CFR 61.150(d)(3) and (4)) state that if the WSR signed by the

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disposal site owner or operator is not received by the waste generator (or its authorized agent) within 35 days of the date the waste was accepted by the initial transporter, the waste generator/authorized agent shall contact the transporter and/or disposal site owner/operator to determine the status of the waste shipment. NESHAP directs the waste generator to submit an exception report to EPA if the signed WSR is not received within 45 days of the date the waste was accepted by the initial transporter. The prime contractor is responsible for completing the exception report on behalf of the waste generator and submitting it to the NESHAP office with a copy to the RE. WSRs must be kept on-site by the generator for at least two years as specified in 40 CFR 61.150(d)(5).

h. For demolition and renovation contracts, designated Corps personnel shall be assigned the responsibility of overseeing contractor actions and assuring that the WSR is properly prepared, signed by all parties, and returned within the established timeframes. USACE personnel must be trained as described in paragraph 5-4 of Section 5, "Training."

i. The Abatement Contractor must provide a person or persons who are both trained in NESHAP/state regulations and DOT regulations as per 49 CFR 172, Subpart H and capable of complying with them. That person is required to be onsite whenever regulated ACM is stripped, removed, or disturbed. EPA training requirements are provided in 40 CFR 61.145 (c)(8). AR 200-1, Chapter 8, also requires that Army personnel involved in asbestos abatement activities meet the EPA's Model Accreditation Plan training requirements found in 40 CFR 763, Appendix C to Subpart E. For a complete discussion of training requirements, see Section 5, "Training," of this pamphlet.

**7-9. Nuclear Regulatory Commission Manifests.** For Nuclear Regulatory Commission (NRC) manifests, the policies and procedures outlined for hazardous waste manifests, training, and record keeping are applicable.

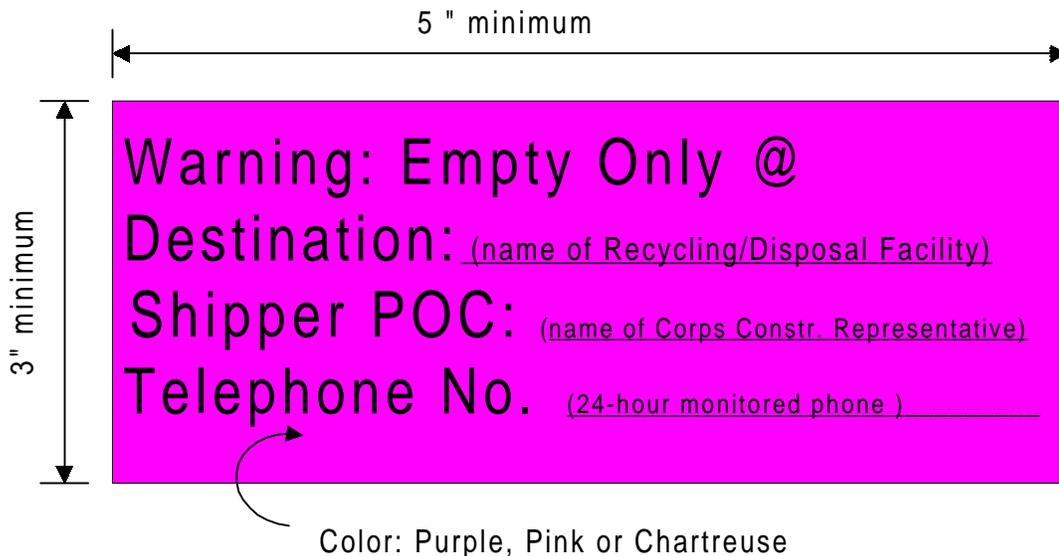
**7-10. Other FUSRAP and Radioactive Waste Shipping Requirements.**

a. In some cases, FUSRAP and radioactive wastes will not be regulated during the course of transportation by the DOT, EPA or the NRC. In these instances, a chain-of-custody form shall be developed and used for each shipment of waste in order to track the waste from the original site to ultimate placement/disposal. A copy of that document shall be placed in the project file. An example chain-of-custody form can be found in EP 200-1-2.

b. There is a basic Corps of Engineers disposal notification requirement for all radioactive and FUSRAP wastes. HQUSACE requires all USACE disposal of Low Level Radioactive Waste (LLRW) (both DOD and non-DOD generated) to be reported to the HTRW CX prior to shipment. This is strictly for record keeping purposes. The HTRW CX maintains the data and reports this data to HQUSACE. The notification requirements found in the

memorandum can be found in EP 200-1-2.

c. In addition to the DOT markings and labels, a specially designed label shall be placed on all containers of FUSRAP waste regardless of whether the material is a hazardous material or not. The label indicates the Disposal/Recycling Facility destination and a telephone number of a USACE point of contact with knowledge of the contents. This additional label duplicates existing information that is required on shipping papers for DOT hazardous materials. Therefore it must not violate any DOT requirements or create any confusion (e.g., label color). Several highly visible labels must be placed on top of the container liner (e.g., burrito bags in gondolas) or exterior sides of transport vehicles, to ensure workers observe the information. The label should read as shown. Labels may be ordered through any commercial label manufacturing company; however, the label specification should adhere to the design shown at Figure 7-1.



**Figure 7-1, FUSRAP Waste Label**

d. Since a majority of the FUSRAP waste is shipped via railroad, FUSRAP Districts should obtain access rights to the NetREDI internet system. The NetREDI system, developed by the American Association of Railroads, receives input from over 300 railroads for shipments. The NetREDI system is an immediately available resource for the construction representatives or project managers if they want an instant method to verify tracking information supplied by their contractors. Free registration can be obtained by calling (800) 872-1045 ext 65403 or <http://registration.railnetredi.com/>

**7-11. The Off-Site Rule Requirement.**

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a. **CERCLA Requirement.** Besides the waste profile, manifest, and land disposal restriction notification paperwork, there is an additional obligation found under the implementing regulations of CERCLA. That requirement is the "Off-Site Rule" found at 40 CFR 300.440 *Procedures for planning and implementing off-site response actions*. Basically, the regulation requires that when CERCLA waste is to be managed off-site, the waste must be managed in a permitted facility that is not releasing hazardous waste, hazardous constituents, or hazardous substances into the environment. Further, the authority of this regulation applies to entities conducting removals and remedial actions under CERCLA authority at any type of site (Superfund, FUDS, IRP, BRAC, FUSRAP, etc.).

b. **Verification of Facility Status.** The treatment and disposal facility compliance is determined by the EPA Regional Administrator in which the facility resides. Thus, it is necessary that prior to shipping CERCLA remediation wastes off-site that the EPA regional point of contact be called to verify the facility status. The Regional POCs can be obtained from the EPA Hotline (1-800-424-9346). While there is no regulatory requirement to maintain a record of the conversation, it is highly recommended that the call be documented so that you can prove to a regulator that you did indeed make the phone call if questioned.

**7-12. Certificates of Disposal/Destruction/Placement.** While not a Federal regulatory requirement, USACE requires that for all hazardous wastes, CERCLA remediation wastes, FUSRAP wastes, asbestos, PCBs, etc., a "Certificate of Disposal/Destruction/Placement" be required from the ultimate disposal facility. The certificate must correlate to each shipment of waste to the facility. This certificate will be a requirement of the contract. The certificate shall be placed in the project/site file.

**7-13. Spill Reporting Procedures.** USACE spill reporting procedures can be found on the Internet at:

<http://www.environmental.usace.army.mil/info/technical/comply/complys/complys.html>

Each district currently has an Emergency Operations Center (EOC) or an Emergency Management Office (EMO). USACE ER 500-1-1, chapter 11, requires all districts to have a designated EOC/EMO and a plan outlining the upward reporting requirements should a natural disaster or hazardous material spill occur. It is recommended that the district (MSCs) build upon the existing emergency response structure by including any additional hazardous waste and/or FUSRAP reporting requirements within their existing plans.

**7-14. Additional Information.**

a. EP 200-1-2 outlines the requirements for proper disposal of RCRA waste and shipment of hazardous materials. The pamphlet covers the following subjects and more:

- (1) obtaining a generator number;
- (2) properly describing the waste;
- (3) shipping paper requirements;
- (4) signature requirements;
- (5) record-keeping requirements;
- (6) marking, labeling and placarding requirements;
- (7) spill reporting requirements;
- (8) responsibilities as a generator and as QA personnel;
- (9) liabilities associated with transporting hazardous materials;
- (10) technical assistance hotline numbers, web sources, and sources of training; and
- (11) manifest preparation checklists.

The EP can be found on the Internet at:

<http://www.usace.army.mil/inet/usace-docs/eng-pamphlets/ep.htm>

b. The HTRW CX publishes a newsletter titled "Environmental Compliance and Transportation Information Bulletin" for distribution to districts and divisions. The document disseminates changes in hazardous material transportation requirements and regulations. The Bulletin is available on the Internet at:

<http://www.environmental.usace.army.mil/info/technical/comply/complpub/complpub.html>

c. The HTRW CX also has a web site that contains additional HTRW regulatory compliance information. Most helpful would be the Environmental Regulatory Fact Sheets and Frequently Asked Questions. The web address is as follows:

<http://www.environmental.usace.army.mil/info/technical/comply/comply.html>

d. In addition, all field offices that transport hazardous materials must have access to the latest federal and state regulations in order to keep current with all requirements. The Code of Federal Regulations is now available on the Internet at:

<http://www.access.gpo.gov/nara/cfr/cfr-table-search.html>

e. Field personnel also need to review state regulations for appropriate requirements as they often differ from the Federal requirements. State regulations are available to government

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employees at no cost on the Internet at:  
<http://www.denix.osd.mil/>

## SECTION 8

### CLOSEOUT PROCEDURES

**8-1. General.** This section provides procedural information on accomplishing operable unit completion, construction completion, site completion, and site deletion. This guidance applies only to those sites that are on the NPL. Additional guidance on closeout and 5-year review of sites is provided in the following documents:

- a. OSWER Directive 9320.2-09A-P, “Close Out Procedures for National Priorities List Sites”, January 2000.
- b. OSWER Directive 9355.7-02, “Structures and Components of Five-Year Reviews;” and
- c. OSWER Directive 9355.7-03B-P, “Comprehensive Five-Year Review Guidance;”

### **8-2. Definitions.**

a. Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), requires EPA to maintain a National Priorities List (NPL) on uncontrolled hazardous waste sites that have released or pose a threat of release of hazardous substances into the environment. Sites on the NPL are eligible for Superfund-financed remedial actions.

b. Superfund addresses NPL sites through early and long-term actions using removal and/or remedial authority. **Early actions** are cleanup actions that take less than five years to complete. They achieve prompt risk reduction and are performed under either removal or remedial authority. Cleanup actions that take more than five years to implement are called long-term actions. Long-term actions are conducted under remedial authority and achieve risk reduction through more extensive remediation activities.

c. Cleanup activities under remedial authority are called remedial actions (RA). An RA typically begins at an NPL site after completion of the remedial investigation/feasibility study (RI/FS). The RI/FS determines the nature and extent of contamination, and identifies alternatives for the remedy. EPA’s Record of Decision (ROD) documents the remedial activities selected to achieve protectiveness. RAs are designed to protect human health and the environment, and they include treating, containing, and removing contaminated material; providing alternate water supplies; and/or imposing institutional controls that address site use.

Treatment that reduces waste toxicity, mobility, or volume is the preferred cleanup action. However, not all the waste needs to be treated or removed as long as protectiveness is achieved.

d. A Superfund site may require several RAs to address all the site hazards. In that case, the site is divided into distinct segments known as operable units. Completion of an operable unit (OU) can be achieved through early actions, long-term actions, or a combination of both.

e. Long-Term Remedial Actions (LTRAs) are typically response actions undertaken for restoring ground or surface water quality and require a long period of operation and maintenance.

f. EPA introduced the site construction completion date to capture a milestone in site remediation prior to site deletion and to communicate more accurately the progress of NPL site cleanups. Construction completion at a site occurs when: (1) the physical construction of the last OU (or the single OU) is complete (whether or not final cleanup levels have been achieved), and (2) the preliminary closeout report has been prepared and signed. The signature date of the report marks the construction completion milestone date. Construction completion criteria are satisfied when the final remedy or remedies have been constructed at the site in accordance with design plans and specifications and a pre-final inspection has been conducted to document punch list items. The punch list items (in this context) are described as activities that are part of the contract specifications that do not affect the functioning of the remedy. Typical punch list items that allow a construction completion determination include items such as: revegetation of disturbed areas, removing construction debris, installing support equipment such as fire extinguishers, demobilizing activities, installing monitoring wells, etc.

g. A remedy becomes operational and functional (O&F) when the remedy is determined to be functioning properly and is performing as designed. For O&M transfer purposes, the remedy becomes operational and functional either one year after the construction is accepted (the one year period is known as the shake down period) or when EPA and the state concur that it is performing as designed, whichever occurs first. The shake down period enables minor modifications in the remedy to ensure the remedy is operating as designed.

h. Remedial Action Report (RA). The RA Report documents the cleanup activities that took place at a single operable unit and is prepared upon completion of the shake down period (when the remedy is determined to be operational and functional). For multiple OUs, an RA report must be completed for each OU, including the final operable unit. For LTRAs, an interim RA Report is prepared when the physical construction of the system is complete and the OU is operating as designed. The report is amended and completed when the LTRA cleanup standards specified in the ROD are achieved. The RA report includes information of all early and long-term actions within the OU. In addition, it documents that the cleanup standards specified in the Record of Decision (ROD) have been met. At PRP-Lead sites, the RA report also certifies that the requirements in all applicable enforcement documents have been satisfied. The RA report

becomes part of the site completion documentation. The elements of the RA report are as follows:

- (1) Description of the site and remedies selected;
- (2) Chronology of events;
- (3) Performance standards and construction quality control;
- (4) Construction activities;
- (5) Final inspection;
- (6) Certification that the remedy is O&F;
- (7) O&M plan; and
- (8) Summary of project costs.

i. Operation and maintenance (O&M) activities are performed to protect the integrity of the remedy at the site. At fund-lead sites, the state performs O&M after the remedy is declared to be operational and functional. Exceptions to this are LTRAs where EPA operates the system for up to 10 years.

j. Site completion occurs when no further response is required at the site (except for O&M activities that are performed or controlled by the state or responsible parties), the constructed remedies are operational and performing according to engineering design specifications, all cleanup goals have been achieved, and the site is deemed protective of human health and the environment. When site completion requirements are achieved the RPM prepares a draft Final Closeout Report (COR). The RPM sends the draft report to EPA Headquarters for comments, and requests the Regional Administrator's signature of the final report after incorporating Headquarters' comments. Once site completion is achieved, the site becomes a candidate for NPL deletion.

k. When no further response is required after site completion, the site is eligible for deletion from the NPL. This stage is known as site deletion. Essentially, this process entails documenting the response activities for the site, verifying that activities have been conducted and documented, and offering the public an opportunity for notice and comment before the site is formally deleted from the NPL.

l. Preliminary Closeout Report. A Preliminary Closeout Report (PCOR) is required when site construction completion is achieved prior to site completion (i.e., when cleanup levels

specified in the ROD have not been met when construction completion is achieved). The PCOR demonstrates and documents that construction at a site has been completed. The PCOR focuses on site conditions, construction activities, construction QA/QC, and a detailed schedule of steps remaining for site completion. The report is prepared by the EPA RPM and is sent to EPA Headquarters for comments. After incorporating Headquarters' comments and obtaining the signature of the EPA Superfund Regional Division Director, the report is forwarded to EPA Headquarters. The construction completion milestone is achieved on the date the PCOR is signed. A PCOR may not be needed when construction and site completion are achieved simultaneously. In these cases, the Final Closeout Report satisfies documentation requirements for both events.

m. Final Closeout Report. When site completion requirements are achieved, a Final Closeout Report is prepared. The final COR consolidates the results of all previous site activities and ensures that all issues regarding site completion have been addressed (e.g., O&M assurances, cleanup concentrations, and implementation of institutional controls).

### **8-3. Operable Unit Completion Milestone.**

a. Operable unit completion is achieved when:

- (1) All construction activities within the OU are complete;
- (2) The contractual final inspection (attended by EPA, state, customer, etc. has been conducted and the work has been accepted;
- (3) The remedy is operational an functional; and
- (4) The designated regional or state official signs a letter accepting the RA Report.

b. The NCP requires an additional set of inspections at fund lead sites to satisfy the operable unit completion milestone criteria. An inspection is conducted jointly by EPA and the state at the end of all construction activities to concur that the remedy has been constructed in accordance with the ROD and the remedial design. This inspection can be conducted in conjunction with the contractual final inspection. This requirement applies mostly to sites requiring O&M. During this inspection, EPA and the state determine concurrently the beginning of the shake down period or O&M testing period. The remedy becomes operational and functional either one year after the construction is accepted or when the EPA and the state concur that the remedy is performing as designed, whichever occurs first. In the latter case, the NCP requires an additional EPA/state joint inspection to declare the remedy operational and functional.

c. Normally, the primary contracting/oversight party is tasked with preparing the RA report. For USACE projects, this responsibility will be included in the work assignment or the Interagency Agreement (IAG). The RA report is prepared by an individual who is familiar with both the design and construction efforts associated with the RA (usually the RE) and should be signed and dated by the preparer. The report will then be submitted to the RPM for review and comment. Once the RPM's comments are incorporated, the designated regional official signs a letter accepting the final RA Report.

d. For LTRAs, an interim RA Report is prepared when the construction of the system is complete and the unit is operating as designed. The report is amended and completed when the LTRA cleanup standards specified in the ROD are achieved.

e. Completion of the final operable unit frequently means the site is eligible for construction completion and eventually site completion. Initiation of the operable unit completion and construction completion process can be simultaneous requiring the preparation of many reports. However, an RA Report for the final operable unit must still be prepared.

#### **8-4. Construction Completion Milestone.**

a. When the physical construction at the NPL site is complete, the RE will assist the EPA RPM in completing the PCOR report by providing any requested documentation, information and data.

b. NPL sites that are fully addressed by early actions under removal authority (i.e., removal actions) can meet the construction completion and site completion simultaneously. In such cases, a PCOR may not be needed. The Final Closeout Report can satisfy documentation requirements for both events.

c. Construction completion criteria at LTRAs sites is met when the physical construction of the remedy (e.g., construction of the treatment plant, pumps, and initial extraction wells) is complete and a pre-final inspection has been conducted to document punch list items. The PCOR should address five-year review requirements even though this milestone is independent from site completion and site deletion.

d. The process of achieving construction completion for final OUs with bioremediation and in-situ soil vapor extraction remedies is similar to that for LTRAs. When the remedy is constructed, and no further construction is anticipated, these sites may qualify for inclusion on the Construction Completion List. The key criterion is whether the follow-on work necessary to operate the remedy is minor. If significant post construction activity is likely, the site is not candidate for construction completion.

e. A site may be included in the Construction Completion List before monitoring

activities or institutional controls are in place if those activities are included in the PCOR. Although future RAs may or may not result from such monitoring, the need for monitoring (as long as it is not significant or is considered part of O&M activities) does not prohibit listing a site as a construction completion. Institutional controls are legal and administrative measures to prevent exposure to contaminants at concentrations above health-based risk levels that may remain at a site. Usually institutional controls limit activities at or near sites. Examples are: land and natural resource restrictions, deed restrictions, prohibition of well drilling, building permits, etc. Institutional controls may constitute a remedy by themselves or supplement containment and treatment remedies to reduce potential threats to human health and the environment.

f. If the site is a No-Action ROD site where EPA has not previously undertaken a RA, the construction completion and site completion milestones may be achieved when the ROD is signed. A No-Action ROD results when the lead agency determines that no remedial action is necessary to protect human health and the environment. If the site is a No-Action ROD site, no Preliminary or Final COR is needed and the following certification of completion is included in the declaration section of the No-Action ROD: "EPA has determined that its response at this site is complete and no action/no further action is necessary at this site. Therefore, the site now qualifies for inclusion on the Construction Completion List."

g. No-Action RODs where EPA has previously conducted RAs triggers statutory documentation requirements. At those sites, the RPM may choose to either prepare a Final COR or a No-Action ROD that: (a) Incorporates the information normally included in the Final COR and (b) includes the above certification of completion. The construction completion and site completion milestones are achieved upon signature of either the No-Action ROD or the Final COR.

h. A site with a final operable unit ROD requiring passive remediation only may achieve construction completion when the delegated regional official approves the ROD. Implementation of institutional controls is an example of passive remedies as are some types of bioremediation and natural attenuation. No-Action RODs requiring monitoring only (for other than O&M purposes) fall within this category. These No-Action RODs do not meet the requirements of construction completion and site completion simultaneously as site completion is not achieved until such time as all cleanup levels and other ROD requirements have been met. The RPM does not need to prepare a PCOR to meet the construction completion criteria. Instead, the following certification of completion is placed in the declaration section of the ROD: "EPA has determined that its future response at this site does not require physical construction. Therefore, the site now qualifies for inclusion on the Construction Completion List."

i. Construction completion criteria for PRP projects are identical to those for fund lead projects. Inclusion of a site on the Construction Completion List does not have any legal significance and does not affect any enforcement agreement with PRPs.

j. Construction completion procedures for Federal sites are identical to those for PRP-financed RAs. A signed PCOR or No-Action ROD generally documents construction completion.

k. For state-lead sites with no ROD and sites where the state assumes all responsibility for overseeing PRP response actions, additional documentation is required. EPA includes these sites on the Construction Completion List based on a determination by the state that all response action is complete. To initiate the construction completion process, EPA must receive a letter from the state's Division Director (or equivalent) certifying completion as follows: "The state of \_\_\_\_\_ has determined this site is protective of human health and the environment. Therefore, all response action at this site is complete and no further construction is anticipated." In most instances, the state prepares the PCOR and EPA concurs with this decision by signing the PCOR and by including the site in the Construction Completion List.

**8-5. Site Completion.** A site is eligible for site completion following successful implementation of the final operable unit RA. Approval of the final COR signifies that all cleanup levels specified in the RODs have been achieved and the site has entered O&M. A Remedial Action Report for each operable unit, including the final, is required to document that the work was performed according to design specifications. An RA report, however, cannot document site completion. Only the Final COR satisfies completion requirements. The following describes NPL site completion requirements for cleanup activities under removal and remedial authority:

a. NPL sites addressed entirely by early actions under removal authority reach the construction completion and site completion simultaneously when: (1) the RPM documents in the final Pollution Report (POLREP) that the site contractor has demobilized and left the site or that the PRP's contractor has completed the early action in accordance with the enforcement document, and (2) a No-Action ROD or a Notice of Intent to delete (NOID) states that all necessary remediation is complete. In general, cleanup actions under removal authority will not have a ROD.

c. Sites addressed under remedial authority are eligible for site completion when all early and long-term actions have been implemented and the site completion criteria are met. When site completion requirements are achieved, the RPM prepares a draft final COR. The RPM sends the draft report to EPA Headquarters for comments and requests the Regional Administrator's signature of the final COR (after incorporating Headquarters' comments). If the ROD for the final operable unit requires no additional cleanup activities, site completion can be documented through either a final COR or a No-Action ROD. The No-Action ROD, however, should address all the components of a final COR including information on previous site activities. RODs requiring passive remediation or monitoring for other than O&M purposes do not meet the site completion criteria immediately following the ROD signature. Once the

institutional controls are in place, natural attenuation has reached the clean-up concentrations, or all monitoring requirements specified in the ROD are met, the site is eligible for site completion and site deletion. If a site requires no response action, the EPA RPM prepares either a No-Action ROD or a final COR (in an abbreviated form because there was no cleanup activities).

c. The final COR provides the overall technical justification for site completion. Usually the RPM prepares the final COR, but the RPM may task the state to prepare it at state-lead sites.

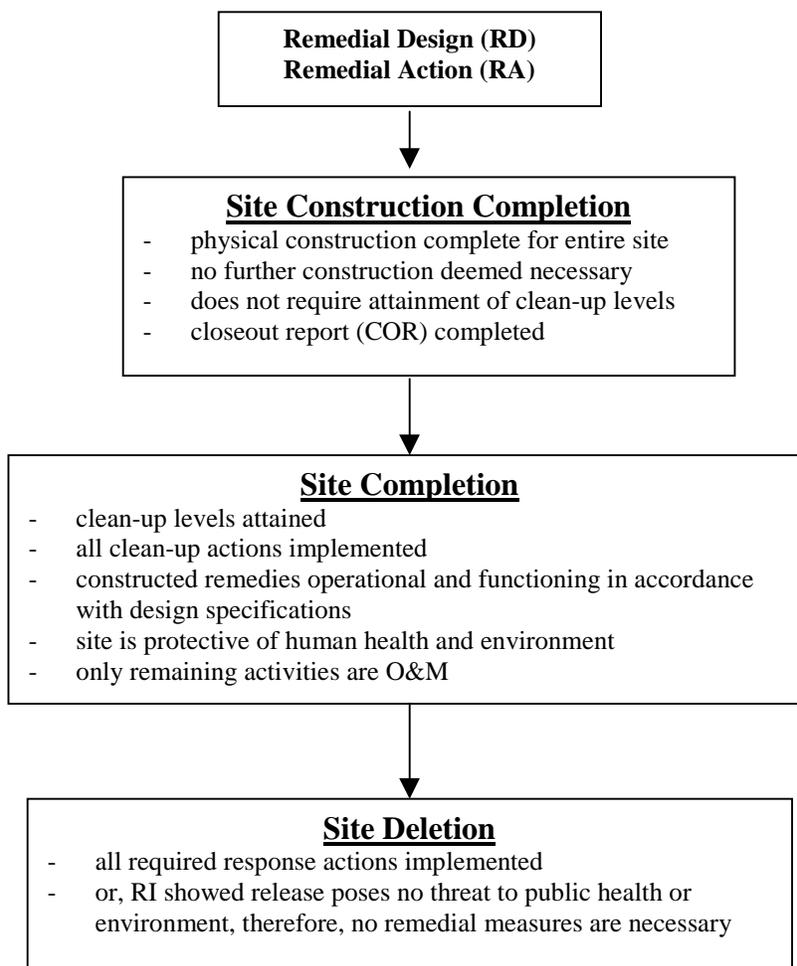
#### **8-6. Site Deletion.**

a. The NPL deletion process begins at most sites once the site completion milestone has been achieved. Site deletion requirements ensure that: (1) the documentation of activities and decision making at the site is complete, (2) the activities conducted and documented are verified, and (3) the public has an opportunity for notice and comment before a site is formally deleted from the NPL. O&M activities which are performed (after the remedy is determined to be operational and functional) to protect the integrity of the remedy at the site do not bar deletion. LTRAs meet the requirements of site completion and site deletion when the LTRA cleanup standards specified in the ROD are achieved.

b. The deletion process is divided into three steps: process initiation, publication of Notice of Intention to Delete, and preparation of a responsiveness summary.

c. The following flow diagram (Figure 8-1) summarizes the CERCLA NPL Site Closeout Process.

### NPL SITE CLOSEOUT PROCESS



**Figure 8-1, NPL Site Closeout Process**

#### **8-7. Five-Year Review Program.**

a. Sites Subject To Review. EPA will conduct a statutory review at any site at which a Post-SARA remedy, upon attainment of the cleanup levels, will not allow unlimited use and unrestricted exposure (i.e., the remedy will leave waste onsite after response is complete). EPA will conduct a policy review of (1) sites where no hazardous substances will remain above levels that allow unlimited use and unrestricted exposure after completion of the RA, but the cleanup levels specified in the ROD will require five or more years to attain (such as LTRAs); and (2) pre-SARA sites at which the remedy, upon attainment of the ROD cleanup levels, will not allow

unlimited use and unrestricted exposure. Although a site may have a No-Action ROD or a no further action ROD, if waste remains onsite, and continued monitoring and/or access and institutional controls are required, the site is subject to five-year review.

b. **Timing.** The events that trigger reviews differ for statutory and policy reviews. Statutory reviews are triggered by the initiation of the RA (actual RA onsite construction start date); policy reviews are now triggered by construction completion. All subsequent statutory and policy reviews are due five years after the completion date of the previous review. If a site has multiple OUs, the triggering event for a statutory review is the initiation of the RA at the first OU at which substances will remain above levels that allow for unlimited use and unrestricted exposure after completion of the RA. In cases where separate five-year review reports are written for different OUs, the trigger appropriate to that OU should be used.

c. **Prioritization.** If an EPA Region has a backlog of uncompleted reviews the region should prioritize them. The first priority should be for all statutory five-year reviews, the second priority should be policy five-year reviews at sites where the lead agency has completed the RA and is no longer onsite, and third priority should be all remaining policy sites.

d. **Discontinuation.** CERCLA does not provide for the discontinuation of statutory reviews. Sites are subject to statutory reviews if hazardous substances, pollutants or contaminants will remain at the site above levels that allow for unlimited use and unrestricted exposure after the completion of RA. In other words, if the remedy upon completion will not meet health-based standards such as chemical-specific ARARs, five-year reviews cannot be discontinued. EPA may discontinue policy five-year reviews when no hazardous substances, pollutants or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure. Upon determination that a five-year policy review is no longer necessary, a cover letter from the Regional Administrator to EPA Headquarters should accompany the five-year review report, stating that the region has decided to discontinue reviewing the site. The report should document that contaminants of concern are below appropriate levels and that the remedy meets ARARs.

e. **Deletion of Sites From the NPL.** Deletion of a site from the NPL has no bearing on whether or not five-year reviews can be discontinued. It is EPA's policy to delete sites from the NPL when applicable NPL deletion criteria have been satisfied. EPA will not retain sites on the NPL solely because they are subject to five-year review. The five-year review requirement is separate from, and unaffected by, the deletion process. Sites requiring a five-year review must have that review regardless of whether they are still on the NPL.

f. **Responsibility for Five-Year Reviews.** EPA is responsible for the conduct of all five-year reviews of NPL sites, except those sites under the responsibility of DOD, DOE, or the Coast Guard. For other Federal facilities where EPA and the pertinent agency or department has entered into a site-specific Federal Facility Agreement (FFA), EPA may delegate the conduct of

five-year reviews to that agency or department. Federal agencies are responsible for planning and funding the costs of five-year reviews at Federal facilities under their jurisdiction, custody, and control. When EPA incurs substantial expenses (e.g., for data review and analysis, or oversight) in connection with a five-year review being conducted pursuant to a FFA, that agreement may require or otherwise set forth, the procedure for the other Federal agency to reimburse EPA for those expenses. EPA has the final responsibility to review and comment on any Federal agency recommendations contained in the five-year review to ensure protectiveness consistent with its statutory and regulatory duties. Thus, even if EPA has delegated its conduct of a five-year review to a Federal facility, EPA remains responsible for ensuring the remedy is protective of human health and the environment. In most cases, EPA will maintain a limited oversight and concurrence role where it is not the lead Federal agency. In the absence of an agreement specifying which agency should perform the review, the responsibility for conducting the review rests with the EPA.

g. Overview of the Five-Year Review Process. The five-year review process is summarized in the following steps: (1) planning for the review which includes assembling the five-year review team, establishing a schedule, notifying the site manager/local authorities, and obtaining site documents; (2) as part of a five-year review, a number of documents are typically reviewed. These include the examination of ROD or equivalent remedial and enforcement documents, O&M documents, legal and regulatory standards, toxicology databases, and other scientific data; (3) interviews conducted with individuals and groups such as the O&M Site Manager, O&M staff, local authorities and response agencies, community action groups, and other stakeholders. The interviews should address any problems or successes with the implementation of the remedy and provide suggestions for future reference; (4) a site visit to observe site conditions and review documents at the site; (5) evaluation of findings - information gathered through document reviews, interviews, site visits and other review activities are used to develop conclusions supporting the protectiveness determination, identify deficiencies, and develop recommendations; (6) a report is prepared for each five-year review. The report documents whether the remedy remains protective of human health and environment and what actions are needed to achieve or continue to assure protectiveness; (7) follow-up on recommendations - the five-year report includes recommended actions necessary to achieve or continue to assure protectiveness and a timetable for implementing them. The EPA regions follow-up on the implementation of recommended actions, and report progress to EPA HQ within one year of the signature date of the five-year review report; and (8) involving the community - EPA informs the public when a five-year review is to be performed and initiates community involvement in the five-year review process.

## SECTION 9

### CONTRACT TYPES

**9-1 Introduction.** The very nature of HTRW remediation not only creates the need for more innovative methods for cleaning up hazardous sites, but also requires innovative types of contracts to accomplish cleanup missions. This section summarizes the various contracts used by the USACE for remediation services and presents an overview of their advantages over traditional contracting methods. It is the policy of the USACE to maximize use of sealed bid procedures for execution of its contracts. The policy is in accordance with 10 U.S.C. 2304 (a) and FAR 36.103. Most construction contracts follow the typical sequence of completion of design before initiation of construction. Most of these same contracts are executed by sealed bid procedures and awarded as a firm-fixed price (FFP) contract. However, remediation activities typically include many unknowns, and do not always involve construction. Most criteria are performance based and involve subsurface conditions, quantities, and concentrations that are difficult to define. These uncertainties make it impossible, in many cases, for technical planners and the contracting community to accurately define the remediation requirements. Characterization of sites presents special contracting problems, as does the need for continuity of the entire work effort. Federal, state, and local regulatory agencies significantly impact the contracting strategy as does the potential threat to life and property. Therefore, when developing contracting strategies, project objectives, client organization, and external influences/pressures should be considered. Contracting strategies should also consider the number of contracts, criteria for award, and type of contract to be utilized. The contract delivery strategy should include a review of the contract options available by comparing all project requirements with the contracting methods available. For this reason, contract forms other than Invitation for Bid (IFB) are commonly used to achieve environmental restoration. Any contract type other than an IFB negotiated. Negotiated contracts can be either cost-reimbursable or firm fixed price. Some contracts are specific to the job, others are indefinite delivery/indefinite quantity (ID/IQ) with the flexibility to issue task orders specific to the job. These features are described in the following paragraphs.

**9-2 Contract Methods.** Negotiation is one of two major methods of arriving at a price for a project. The other method is "sealed bidding" which requires contracts be awarded to responsive and responsible offerors only on the basis of price and price-related factors. Negotiation can be utilized with competitive or other-than competitive proposals. Any contract awarded without the use of sealed bidding is a negotiated contract. The key benefit of the negotiated contract is that it is a flexible, but orderly, procedure that includes the receipt of proposals from offerors, permits bargaining, and usually affords offerors an opportunity to revise their offers before the award of a contract. Negotiation is used for both fixed price and cost-reimbursable contracts.

**9-3 Contract Pricing.** Contract pricing arrangements can either be "fixed price" or "cost-reimbursable." If the nature and quantity of unknowns is such that a fixed price contract can not be defined, the contractor's accounting system is adequate for the determination of costs applicable to the contract, and the government surveillance during performance will be such to provide reasonable assurance that efficient methods and cost controls are used, then a cost-reimbursable contract can be used. For information on USACE procedures for administration of cost contracts refer to the following web site:  
<http://hq.environmental.usace.army.mil/tools/reimburse/reimburse.html>

**9-4 Indefinite Delivery/Indefinite Quantity Contracts.** Indefinite delivery/indefinite quantity (ID/IQ) contracts are basic contracts against which task orders are issued. The task orders are issued and treated as separate projects. Basic contract management procedures or advance agreements may govern matters related to all task orders under the basic contract. Dollar ceilings are established for the total value of all task orders to be issued and can be established for individual task orders.

**9-5 Service Versus Construction Contracts.** Many procurements for remediation actions are actually "service" not "construction" contracts. It is fairly common for task orders of contracts, or full contracts, to be issued as "service" with separable "construction" items within the broader service contract. The impact is, that a portion of the workers on site will be covered by the Service Contract Act wage determination and others will be covered by the Davis Bacon Act, construction wage determination. In addition, there is no requirement for a performance bond on a service contract. There is also no requirement for a performance bond on a cost reimbursable construction contract except for the portion of the contract that comprises a fixed price subcontract greater than \$100,000. Finally, the warrants held by most area/resident/project engineers are for construction contract actions and are not applicable to service contract actions. Incineration, disposal, and operations and maintenance contracts have been appropriately classified as service contracts.

**9-6 Major HTRW and OE Contracts.** USACE utilizes many different contract strategies to execute its HTRW and OE missions. Table 9-1 compares and contrasts several contracting methods for remediation services which have proved to be especially effective in dealing with the uncertainties of HTRW and OE work:

<b>Table 9-1 Major HTRW and OE Contract Tools</b>					
<b>Contract Tool</b>	<b>ID/IQ or project specific</b>	<b>Ceilings</b>	<b>Typical Use</b>	<b>Contract Pricing</b>	<b>Authority Delegated to Field</b>
Invitation for Bid	Project Specific	None – determined by bid	Construction/ Service	Firm Fixed Price	ACO
Request for Proposal	Project Specific	None – determined by bid	Construction/ Service	Firm Fixed Price/Cost-Reimbursable	ACO/COR
Preplaced Remedial Action Contract (P-RAC)	ID/IQ	Typically \$50 M ceiling  Typically no task order limit  One year base contract with four 1-yr options	Construction/ Service (only incidental A-E services)	Cost-Reimbursable - with - Fixed Fee Award Fee or Incentive Fee  - or - Fixed Price	ACO, unless service, then COR only
Total Environmental Restoration Contract ( TERC)	ID/IQ	Typically greater than \$200 M  Typically no task order limit  One four year base contract with two 3-yr options	Cradle to Grave Investigation, Design, Construction/ Service	Cost-Reimbursable - with - Fixed Fee Award Fee or Incentive Fee	COR
Multiple Award Remediation Contract (MARC)	ID/IQ	Collective ceiling is established for multiple contracts. i.e., One award could be \$100 M for four contracts. One contractor could get the bulk of that.	Construction/ Service (only incidental A-E services)	Cost-Reimbursable - with - Fixed Fee Award Fee or Incentive Fee  - or - Fixed Price	ACO, unless Service, then COR only

<b>Table 9-1 Major HTRW and OE Contract Tools (Continued)</b>					
<b>Contract Tool</b>	<b>ID/IQ or project specific</b>	<b>Ceilings</b>	<b>Typical Use</b>	<b>Contract Pricing</b>	<b>Authority Delegated to Field</b>
Small Action Remedial Tool Contract (SmART)	ID/IQ	Less than \$3M contract ceiling  \$500,000 or no task order limit  One two year base with one three year option	Construction/ Service (only incidental A-E services)	Firm Fixed Price	ACO, unless Service, then COR only
Rapid Response	ID/IQ	Typically \$50M  Typically no task order limit  One base year with four one-yr options.	Emergency or Time Critical Construction/ Service	Cost Reimbursable with Fixed Fee/ Fixed Price	None, retained in Omaha
Miscellaneous	ID/IQ	Varies extensively	Drilling, Analytical Services, Sampling, Geophysical Services, Tank Removal, Long Term O & M, Asbestos/Lead Removal	Typically Fixed price/Cost Reimbursable	COR
Time and Materials	ID/IQ	Varies by contract	Typically has been used for ordnance removal or emergency situations	Reimbursement of labor at fixed hourly rates (which include profit) and cost only for material	ACO, unless service, then COR only

## SECTION 10

### ORDNANCE AND EXPLOSIVES (OE)

#### 10-1. Background.

a. In conjunction with its other missions, the USACE is responsible for managing environmental restoration projects in the specialized field of OE at Formerly Used Defense Sites (FUDS) and for providing OE services to other customers (e.g., BRAC, IR, etc.) as requested.

b. The U.S. Army Engineering and Support Center, Huntsville (CEHNC) is designated, in ER 1110-1-8158, as the USACE OE Mandatory Center of Expertise (MCX) for OE and is also an OE Design Center. Current MCX guidance documents can be found on the OE Homepage: <http://www.hnd.usace.army.mil/>

c. Typically, the OE Design Center designs the OE project and then conducts the OE Removal through existing contracts. The district is the Project Manager (PM) during removal actions and coordinates all project activities with engineering, safety and contract expertise provided by the OE Design Center through project completion.

d. Districts may execute final removal actions when approved by the MSC Commander after receiving written concurrence from the OE MCX. This process is described in ER 1110-1-8153 and the FUDS Program Manual (for FUDS projects).

#### 10-2. General.

a. The OE Response process is defined in ER 1110-1-8153, EP 1110-1-18 (Chapter 5), and the FUDS Program Manual (for FUDS projects).

b. For projects under the management of an active or transferring installation, the installation may want to retain some degree of management control. In such cases, the PM will hire the appropriate OE Design Center to provide USACE assistance in a manner that is transparent to the customer, but the PM will remain the interface with the installation.

c. Districts preparing to work on a project (FUDS, BRAC, IR, SFO, etc.) with known or suspected OE (including Civil Works) will coordinate the project with the OE Design Center and the OE MCX as defined in ER 1110-1-8153. Once notified, safety issues will be addressed and a determination will be made concerning the appropriate actions to be taken.

d. OE concerns will be addressed before initiating any work on a project. The type of OE action required (i.e., OE removal, anomaly avoidance, OE support during construction, etc.) will be determined on a case-by-case basis. The district is responsible for preparing the scope of work and work plans for ordnance/anomaly avoidance and OE support during construction. These documents require OE MCX review. The OE MCX will provide written concurrence or non-concurrence.

### **10-3. Definitions.**

a. Ordnance and Explosives (OE). OE consists of either (1) ammunition, ammunition components, chemical or biological warfare material or explosives that have been abandoned, expelled from demolition pits or burning pads, lost, discarded, buried, or fired. Such ammunition, ammunition components, and explosives are no longer under accountable record control of any DOD organization or activity, or (2) explosive soil (see below).

b. Explosive Soil. Explosive soil refers to mixtures of explosives in soil, sand, clay, or other solid media at concentrations such that the mixture itself is explosive. Typically, this means in concentrations of 10% or more by weight. This is not defined for all types of explosives. See ER 1110-1-8153 for a complete definition and contact the OE MCX for current guidance on this issue.

c. Ordnance/Anomaly Avoidance. This refers to techniques employed by Explosive Ordnance (EOD) or Unexploded Ordnance (UXO) personnel at sites with known or suspected OE to avoid any potential surface UXO and any subsurface anomalies. This usually occurs at mixed hazard sites when HTRW investigations must occur prior to execution of an OE removal action. Intrusive anomaly investigation **is not authorized** during ordnance avoidance operations.

d. OE Support During Construction. This is support provided by qualified UXO personnel during construction activities at potential OE sites to ensure the safety of construction personnel. Coordination with the OE MCX to determine the type of support is required. See ER 1110-1-8153 for complete definition.

e. Unexploded Ordnance (UXO). UXO refers to military munitions that have been primed, fuzed, armed, or otherwise prepared for action, and have been fired, dropped, launched, projected or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material and remain unexploded either by malfunction, design, or any other cause.

f. Chemical Warfare Materiel (CWM). This refers to items configured as a munition containing a chemical substance that is intended to kill, seriously injure, or incapacitate a person through its physiological effects. It also includes V- and G- series nerve agent, H- series blister

agent and lewisite in other-than-munition configurations. Due to their hazards, prevalence, and military-unique application, chemical agent identification sets (CAIS) are also considered CWM. CWM does not include: riot control agents, chemical herbicides, smoke and flame producing agents, or soil, water, debris or other media contaminated with chemical agent.

g. Removal Action (RA). A RA is the actual cleanup or removal of OE from the environment to include the disposal of removed material. The term includes, in addition, without being limited to, security fencing or other measures to prevent, minimize, or mitigate damage to the public health or welfare or to the environment.

**10-4. Unplanned Discovery of OE.** The OE Design Center typically performs removals when OE is known, or suspected to be present, during the planning stage. In cases when OE, or suspected OE, is unexpectedly discovered during construction or everyday operations at any USACE project site, the following steps will be taken:

- Cease all operations;
- Contact the local EOD unit (for BRAC, IR etc.) or local law enforcement officials for FUDS projects) who will respond and dispose of the item(s); and
- Notify the OE MCX to determine the conditions under which work may be resumed.

**10-5. OE Safety.**

a. Explosive safety requirements are contained in DOD 6055.9-STD, AR 385-64, and AR 385-61. Projects involving OE will not begin field work until the appropriate plans and explosive safety submissions are reviewed and approved by the proper authority.

b. OE Safety and Occupational Health requirements are found in ER 385-1-92. These requirements will be covered in (ER 385-1-95) which will be published in the near future.

c. OE activities will be conducted by qualified UXO contractor personnel or USACE OE Safety Specialists. Qualifications and work standards for conducting UXO work may be obtained from the OE MCX. Some work practices are peculiar to UXO work such as number of hours that may be worked while conducting UXO activities. Currently there is a limit of 40 hours per week with two consecutive days' rest between work weeks.

d. The OE MCX may conduct spot checks of field operations at project sites where OE is a concern.

e. Specific training requirements for OE project personnel are contained in Section 5 of this pamphlet.

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f. Personnel without appropriate training, and non-essential personnel, will not be allowed into an exclusion zone during UXO operations.

g. Points of contact for OE concerns and questions are located on the OE homepage.

## SECTION 11

### OVERVIEW OF SPECIFIC REGULATED ACTIVITIES

**11-1. General.** This section describes common HTRW issues such as regulatory concerns, worker safety, and disposal practices that arise during the demolition of facilities.

**11-2. UST Removals.** Underground Storage Tank (UST) removals must comply with applicable Federal, state, and local regulations. The Federal Government has delegated the authority to regulate UST's to the states that in turn may delegate control to local governments that have more stringent regulations than the state. However, many states do not yet have EPA approved state programs and project personnel should check the most current volume of 40 CFR 282 to check the status of EPA's approval for the state UST program in which the project is located. Regulations vary by location and the responsible implementing agency (IA). Multiple agencies are often involved in different aspects of a single project. The appropriate agency approvals must be obtained for UST closures. Typically, the IA will provide regulatory and closure information to anyone closing a UST. The RE must also keep the IA informed of unforeseen contamination or other problems encountered during UST removal and closure activities. Under no circumstances should a project be stopped and contamination left in the ground without consulting with the IA.

a. References and Information. The following USACE references, in addition to the appropriate IA regulations and guidelines, provide information concerning removal and closure of UST's:

(1) RE's involved in UST projects should reference EM 1110-1-4006, "Removal of Underground Storage Tanks." This document contains USACE guidance on all phases of UST work;

(2) The HTRW lessons learned database, described in Section 13, provides lessons learned from USACE UST projects;

(3) USACE Personnel. USACE has extensive UST and drum handling experience. This experience may be found in other construction offices, the designated HTRW design district, the HTRW CX, and the OE MCX. See the list of HTRW projects/POCs in Appendix D;

(4) CEGS 01351, "Safety, Health, and Emergency Response (HTRW/UST)" and CEGS 01450, "Chemical Data Quality Control," should be used for all UST removal projects; and

(5) CEGS 02115, "Underground Storage Tank Removal," should be used for all UST removal projects.

b. Construction. Care needs to be exercised during tank excavation so that contaminated material is not mixed with clean material. Keep surface water out of excavations to avoid additional disposal costs. The RE should be familiar with all confined space safety requirements and require strict compliance with current procedures. Plan with the contractor how your partnership will react to the potential unknowns including notification requirements for leakage/spills.

c. Regulatory Concerns. When removing underground storage tanks, the following potential regulatory issues must be taken into consideration:

(1) The tank contents and any rinsate generated in the process of cleaning the tank may be hazardous waste and/or Department of Transportation (DOT) regulated hazardous material. However, any product in the tank, which can still be used for its original intended purpose, for example, fuel would not be a hazardous waste. All wastes should be characterized per 40 CFR 261 or corresponding state regulations. All shipments, whether products or waste, should be evaluated to determine whether they are DOT regulated hazardous materials;

(2) The tank, if transported offsite intact and containing residue of a hazardous material, may be subject to DOT packaging, marking, labeling, and/or placarding requirements as well as shipping papers. It may be beneficial to clean and cut up the tank not only to render it non-regulated, but also to ensure it is not put back into service at another location;

(3) Tanks exhibiting hazardous characteristics D018 - D043 may be able to take advantage of an exclusion from hazardous waste regulations found in 40 CFR 261.4(b)(10). This is a limited exclusion, however, and would not apply to tanks exhibiting an ignitability characteristic or failing TCLP for lead;

(4) Tanks constituting hazardous waste, which do not qualify for an exclusion, can be rendered non-hazardous via debris treatment standards in 40 CFR 268.45. However, treatment may be subject to permit requirements unless cleaning takes place prior to the point of generation of the waste; and

(5) Tank coatings sometimes contain regulated substances such as PCBs or asbestos. This can impact disposal requirements.

**11-3. Drum Removals.** There are a number of unique safety and environmental hazards associated with drum handling at hazardous waste sites. The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 established a national program for the cleanup of hazardous waste sites. When large numbers of buried drums are encountered, it may be cost effective to perform compatibility testing and bulk drum contents on-site. The bulk drums are subsequently shipped off-site for disposal. Information on drum handling can be

found in EPA publication EPA/600/2-86/013, "Drum Handling Practices at Hazardous Waste Sites."

**11-4. Asbestos.** Asbestos-containing materials (ACM) must be identified and quantified prior to renovation or demolition of any structure. ACM are defined as materials containing more than one percent (1%) asbestos. Suspect materials installed prior to 1980 must be assumed to contain asbestos unless inspected and analyzed using Asbestos Hazard Emergency Response Act (AHERA) protocol (refer to references below).

a. Types of Asbestos. ACM are divided into two broad categories: friable and non-friable. Friable is defined as ACM that can be crumbled in the hand. Friable asbestos is far more dangerous since virtually any action including wind can stir up breathable fibers. Usually all friable asbestos materials must be removed from a building prior to demolition. Friable materials must be disposed of in a landfill approved by either the state or EPA and which is in compliance with the requirements of 40 CFR 61.154 or an EPA approved site that converts asbestos-containing waste materials into non-asbestos containing materials according to 40 CFR 61.155. Materials that often contain asbestos include the following: pipe and boiler insulation; sprayed-on or troweled-on fireproofing, plaster and stucco; caulks and mastics; floor tile and linoleum; and cement asbestos (transite) pipe, sheets, and shingles. Roofing materials have relaxed requirements, but should be tested prior to disposal. Previously unidentified materials found once demolition/renovation has begun usually result in a contract modification.

b. Asbestos Surveys. If no asbestos survey exists for the building(s) to be demolished or renovated, one must be conducted by a certified asbestos inspector so that correct specifications can be developed. If a survey exists, but was done more than 3 to 4 years ago, a confirmatory inspection is required.

c. Regulations. The following paragraphs briefly describe some of the Federal regulations which pertain to ACM. Local regulations must also be checked because they may contain more stringent criteria than Federal requirements.

(1) NESHAP 40 CFR Part 61, Subpart M, requires the owner or operator of a facility to determine the presence or non-presence of ACM prior to conducting renovation or demolition activities. It also specifies requirements for the handling, shipping and disposal of regulated ACM.

(2) OSHA standard 29 CFR 1926.1101 pertains to asbestos exposure in construction, renovation, and building maintenance work places. Building owners are required to notify employees, tenants, and prospective employers (e.g., bidding contractors) of the descriptions, locations, and quantities of ACM at their facilities.

(3) The AHERA contains rules and regulations (40 CFR Part 763) addressing issues of identifying, evaluating, and controlling asbestos containing materials in schools. The AHERA

inspections must be conducted by certified individuals using specific guidelines which include analysis of a minimum number of samples per material type to prove that a suspect material does not contain asbestos. The majority of requirements found in 40 CFR Part 763 do not apply to work being conducted at non-school structures. The requirements of the Model Accreditation Plan (MAP) found in Appendix C to Subpart E of 40 CFR 763 apply to work done in public or commercial buildings as well as to work done in schools.

d. **Quality Assurance Personnel Responsibilities for Asbestos Abatement.** It is USACE construction policy that construction QA personnel enter the asbestos abatement areas and fully QA the work performed. Two USACE documents, the newly revised CEGS 13280, "Asbestos Abatement" and EP 1110-1-11, "Asbestos Abatement Guideline Detail Sheets," provide comprehensive guidance for asbestos abatement activities. The CEGS requires that, upon completion of the final cleaning, the contractor and the USACE authorized representative conduct a visual inspection of the cleaned area and document the results of the final cleaning and visual inspection as specified in the Setup Detail Sheet 19. Training is required before a person enters an area where regulated asbestos abatement activities are taking place. Refer to paragraph 5-4 for training requirements. In addition, requirements for medical surveillance, personnel protective equipment, respirators, and heat stress prevention must be observed. EP 1110-1-11 complements the guide specification and contains detail sheets pertaining to the asbestos abatement process.

**11-5. Lead-Based Paint (LBP).** LBP should be identified prior to renovation or demolition primarily for worker protection. Buildings that were built prior to 1978 are particularly suspect. LBP is defined by the EPA and Housing and Urban Development (HUD) at  $\geq 0.5$  percent by weight or  $\geq 1.0$  mg/cm<sup>2</sup> by area. Paint should be sampled and tested prior to renovation or demolition, either with a direct-reading instrument (X-ray fluorescence) or by lab analysis of a bulk sample.

a. **LBP Removal.** Generally, LBP need not be removed prior to demolition of a structure. If the paint is peeling or flaking, it may require removal for worker protection. However, there is no environmental regulatory requirement (EPA or TSCA) for paint removal prior to demolition. The decision to remove LBP prior to demolition should be carefully considered, as the unnecessary removal of LBP prior to demolition can be costly. If the decision to remove LBP prior to demolition is made, it can be done by either pressure washing and wet scraping to remove the paint that is not intact, or by spraying the structure with an encapsulate. LBP becomes particularly hazardous whenever heated, sanded, or abraded. Coated items should be stripped before applying heat, such as in cutting and soldering. Debris containing intact paint can currently be disposed of as general construction debris. On 18 December 1998, EPA proposed new regulations for the management and disposal of LBP debris. Final regulations were not available at the time of the finalization of this guide; therefore, project personnel should check with an environmental regulatory specialist prior to disposal of LBP debris to ensure current regulatory requirements are being met. Paint that is removed by pressure washing or

scraping could potentially be classified as a RCRA hazardous waste. Proper waste characterization should be conducted prior to the disposal of paint related wastes. Soils that have been contaminated from peeling lead-based paint should be handled according to HUD guidelines for housing and EPA guidelines for non-housing projects.

b. Worker Safety. Generally, workers not exposed to lead paint demolition debris for more than 30 days annually require only LBP orientation. A contractor specializing in demolition (greater than 30 days/year) will likely need to have workers trained in lead hazards and placed in a medical surveillance program. LBP abatement should be done only by contractors who are properly trained and certified.

c. Regulations. The following paragraphs briefly describe some of the Federal regulations that pertain to LBP.

(1) The OSHA Lead Exposure in Construction Standard, 29 CFR 1926.62, applies to employers of persons potentially exposed to lead from construction operations. Where the lead exposure resultant from a given work activity is not known, the use of personal protective equipment and engineered controls, coupled with exposure monitoring are generally required until the exposure level is established. OSHA has stated that any detectable concentration of lead may trigger certain provisions of 29 CFR 1926.62.

(2) HUD ACCN-5646, (1990; Rev May 1991) Lead-Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing may also apply when LBP is present during demolition activities.

(3) Toxic Substances Control Act Regulations, 40 CFR 745, Lead-Based Paint Poisoning Prevention in Certain Residential Structures. These regulations contain training and certification requirements for LBP abatement activities in target housing and child-occupied facilities.

(4) RCRA regulations for the Identification and Listing of Hazardous Wastes (40 CFR 261) and Standards Applicable to Generators of Hazardous Waste (40 CFR 262). These regulations contain requirements for generators of waste to determine whether or not the waste is a RCRA hazardous waste and establish required disposal requirements.

**11-6. Bird, Bat, and Rodent Droppings.** Bird, bat, and rodent droppings accumulate in and on structures and machinery, creating an environment favorable to the development of disease organisms. Infections from droppings typically occur by inhaling the pathogenic spores. Droppings are most dangerous when they are dry and subject to becoming airborne as a fine dust, such as when disturbed by sweeping or scraping.

a. Safety. Demolition of buildings containing droppings may cause pathogens to become airborne in the breathing zone. When entering a building where excessive droppings have accumulated, disposable shoe covers and protective gloves should be worn. Hands should be

washed thoroughly after removal of the gloves. U. S. Army Environmental Hygiene Agency, TG 142, Managing Health Hazards Associated With Bird and Bat Excrement provides additional information on applicable safety procedures when dealing with droppings.

b. Cleanup. Safe cleanup of droppings is based on protection from spore inhalation and minimization of spore dispersal. Although droppings are usually easier to remove when they are dry, saturating them with water prior to removal is recommended to prevent the debris and any pathogens from becoming airborne. This should be done with a low-velocity mist spray. Using high pressure and/or a concentrated stream may scatter the droppings before they can be adequately wetted. A portable, hand pressurized sprayer is satisfactory for applying limited amounts of water. A vacuum with a high efficiency particulate air (HEPA) filter can be used to pick up the accumulated debris. Disposal can be accomplished in a Class III landfill.

**11-7. Incidental Radioactive Sources.** The following paragraphs provide examples of incidental radioactive sources that may be encountered during demolition activities. Regulatory requirements for protection, monitoring, storage, and disposal of incidental radioactive sources are described in 10 CFR 20, "Standards for Protection Against Radiation."

a. Gauges and Instruments. The military used radium in gauges and instruments in vehicles and aircraft. Radium was also occasionally used in compasses and radar devices. Residue can be found in instrument shops and motor pools. Gauges typically contained between 1 and 15 microcuries of radium-226 per device. The average dose rate on contact with a radium gauge may range from 50 microR/hr to 2 milliR/hour. The exposure to a worker's extremity (such as the hand) cannot exceed 50,000 millirem/year (assume 1 millirem = 1 milliR).

b. Smoke Detectors. Many smoke detectors use a radioactive element to screen for smoke. If crushed or disposed of improperly, these smoke detectors can release dangerous amounts of contamination. Disposal should be in accordance with the manufacturer's recommendations.

**11-8. Mercury.** Mercury may be encountered during building demolition and may require special handling and disposal. Mercury is commonly found in fluorescent light tubes, thermostats, circuit boards, rectifiers, manometers, thermometers, and batteries. It is also likely to be found wherever mercury has been routinely used such as in dental clinics using mercury amalgams or in laboratories. Mercury is found in laboratories not only in equipment, but also as a result of analysis. For example, a mercury compound is used in some test methods for analyzing phosphorous and total kjeldahl nitrogen.

a. Regulations. Mercury is one of the hazardous constituents on the toxicity characteristic leaching procedure (TCLP) table, 40 CFR 261.24, which may cause a waste to exhibit a hazardous characteristic. Therefore, mercury-containing wastes are potentially subject to requirements for generators of hazardous waste (40 CFR 262) and land disposal restriction

treatment requirements (40 CFR 268). Mercury containing hazardous wastes have different treatment requirements depending upon whether it is classified as high concentration or low concentration mercury.

b. **Regulatory Exceptions.** Some mercury containing wastes may be excluded from hazardous waste regulation. 40 CFR 261.9 allows mercury thermostats and fluorescent light tubes to be managed as “universal waste” in accordance with regulations in 40 CFR 273. Many states have adopted similar requirements. Through the universal waste program, they can be collected and recycled in lieu of being managed as hazardous waste. Certain batteries may also be managed as universal waste rather than hazardous wastes as stipulated by the Mercury-Containing and Rechargeable Battery Management Act, Public Law 104-142.

**11-9. Lighting Fixtures.** Spent fluorescent light tubes and high intensity discharge (HID) lamps contain mercury which, when disposed in a municipal landfill, can leach into the soil and ground water. Spent fluorescent light tubes can be recycled, allowing for the recovery of the mercury, glass, and aluminum end caps. These lighting fixtures must be managed in one of two ways. Either they must be managed as a RCRA hazardous waste or as Universal Waste as per 40 CFR 273. 40 CFR 273 provides alternative management provisions using the more stringent RCRA generator provisions. In order to utilize the provisions in 40 CFR 273, the applicable state agency must adopt similar regulations within the generator’s state as well as the disposal state. Light ballasts may also contain PCBs that can pose potential problems when good disposal practices are not used. See paragraph 11-10 for additional information on PCBs in light ballasts.

**11-10. PCBs.** Polychlorinated biphenyl containing wastes may be encountered during building demolition and may require special handling and disposal. PCB dielectric fluid is commonly found in electrical equipment manufactured prior to 2 July 1979 including transformers, light ballasts, large and small capacitors, circuit breakers, reclosers, voltage regulators, switches, oil-filled cable, and electromagnets. It has also been found in other areas such as in household and industrial appliances, motors, and hydraulic equipment. PCBs were also widely found in manufactured products. EPA has termed these as “PCB bulk product waste.” They are PCBs in solids including but not limited to applied dried paints, sealants, caulking, adhesives, coal tar coatings on underground tanks, plastic insulation from wire or cable, furniture laminates, sound deadening or other types of insulation, and potting material within fluorescent light ballasts.

a. **Restrictions on Storage.** Once removed from service for disposal, PCB containing wastes must be disposed of within one year. During this time, storage is limited to only 30 days unless conforming storage is provided. See 40 CFR 761.65 for requirements.

b. **Disposal Options.** In lieu of disposal, PCB contaminated metal may be recycled by sending it to a scrap metal recovery oven or smelter after all free-flowing PCBs have been removed. Conditions and requirements for scrap metal recovery are specified in 40 CFR 761.72. Flushing to remove high concentration PCBs prior to recovery may be required.

(1) Disposal of PCBs is contingent primarily on concentration and leachability of the PCBs. High concentration liquids, greater than or equal to 500 ppm PCBs must be incinerated. Lower concentration PCBs liquids, greater than 50 ppm but less than 500 ppm PCB, can be incinerated or burned in a high efficiency boiler. PCBs in oil at or above 2 ppm, but less than 50 ppm PCBs can be burned as off-specification used oil in an off-specification used oil boiler or industrial furnace.

(2) Chemical waste landfills, which are TSCA approved landfills, can be used to dispose of solids such as drained equipment. Equipment formerly containing high concentrations of PCBs must usually be flushed to remove excess PCBs prior to being placed in the landfill. Equipment formerly containing lower concentrations of PCBs (less than 500 ppm) can typically be landfilled directly after draining in accordance with regulations in 40 CFR 761.60.

(3) Municipal solid waste landfills can be used to dispose of small, non-leaking capacitors (those containing less than three pounds of PCBs); drained PCB contaminated equipment formerly containing less than 500 ppm PCB; and PCB bulk product wastes (dried applied paints, sealants, caulking, adhesives, etc.). However, prior to disposing of PCB bulk product waste at a solid waste landfill, written notice must be provided to the landfill a minimum of 15 days prior to the first shipment of waste. Depending upon the type of PCB bulk product waste being disposed of, it may also be necessary to establish the leachability of the bulk product waste because leachable wastes must be segregated from organic liquids in the landfill and the landfill must be monitored for PCBs.

**11-11. Lead in Firing Ranges.** Facilities that are, or previously were, used as indoor firing ranges pose a particular problem due to lead contamination. These facilities must be cleaned prior to being used for something other than a firing range. Soil or sand that contains spent ammunition could potentially be classified as a RCRA hazardous waste. Proper waste characterization should be performed prior to disposal of firing range sands or soils. Surfaces of the facility must be cleaned and sealed with paint or wax prior to reuse for purposes other than as a firing range. Cleaning and sealing is not required for demolition.

**11-12. Bioaerosols.** Disturbance of air handling systems may cause the release of bioaerosols. Bioaerosols include viruses, bacteria, fungi, molds, algae, and protozoa and their products. Some bioaerosols cause infectious disease, and others produce toxins which may act as sensitizing agents in allergic persons. The ideal breeding ground for bacterial molds and fungi is an enclosed, dark, humid, controlled environment. Highly allergic individuals may react to extremely small concentrations.

## SECTION 12

### USACE OVERSIGHT OF RD/RA PROJECTS

**12-1. Authority.** This section covers USACE oversight of RD/RA projects on non-USACE contracts. The oversight is provided to other governmental agencies such as DOE, EPA, etc. This section will focus on specifics of oversight for the EPA (under CERCLA/SARA), although it may apply to other agencies (and programs) as well. Pertinent documents relating to this subject which may be consulted for further information are as follows:

- a. OSWER Directive 9355.5.01, Feb 1990, "Interim Final Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties;" and
- b. The site-specific IAG for oversight of RA.

**12-2. Enforcement.** When non-Federal Potentially Responsible Parties (PRP) elect to conduct the RD/RA activities at a Superfund site, they must do so in accordance with the terms of the negotiated Settlement Agreement (either as an administrative order on consent or ordered as a judicial consent decree). These serve as legally binding documents to enforce the commitment by the PRPs (or the EPA's order) to finance and perform the RD and/or RA in accordance with the provisions set forth. To fulfill these requirements PRPs develop work plans, QA/QC plans, and/or contract documents, which are reviewed and accepted (and/or approved) by EPA prior to implementation.

**12-3. Interagency Agreement (IAG).** The site-specific IAG is an agreement signed by the USACE geographical district and the EPA region. It lists specific tasks and responsibilities of the parties, and provides a proposed budget for the oversight activities. Oversight tasks may include:

- a. review and evaluation of proposed plans (work plans, QA/QC plans), contract documents, design analyses, etc.;
- b. site visits and inspections;
- c. review of proposed design/construction plan changes; and
- d. oversight of RA. The specific tasks and responsibilities should be reviewed with the EPA's RPM prior to the start of an individual task identified above. A USACE work plan is recommended to document the details of the work tasks. This should include tasking details such as reporting format and period, staffing levels, etc. The reporting requirements for RA oversight should be established before the pre-construction conference.

**12-4. Execution.** The responsibilities of USACE officials performing oversight on behalf of EPA, on PRP enforcement projects, are very different from typical USACE contract administration. The following paragraphs outlines some of these differences:

a. The PRP is responsible for enforcement of all laws, regulations, and requirements and to meet all performance standards required by EPA. The USACE has no contractual relationship with the PRP and is limited to the role/authorities outlined in the site-specific IAG.

b. The USACE official's oversight responsibility is to provide technical support to the EPA RPM in monitoring PRP compliance with EPA requirements and report directly to the EPA RPM.

c. Construction oversight is limited to serving construction activities and comparing the work to the approved documents or applicable laws and regulations, and reporting the findings to the EPA. The necessary technical documents (i.e., IAG, plans and specifications, change orders, SSHP, etc.) must be obtained to accomplish the monitoring. The USACE representative should also attend the weekly progress meeting.

d. USACE oversight officials on PRP enforcement projects are not authorized to provide directions to the RA contractors. They only provide recommendations and evaluations to the EPA RPM. USACE oversight personnel are *not* authorized to change the contract documents or consent decree in any way; only the EPA RPM has the authority to do so.

e. Imminent safety hazards are the most controversial issue on any enforcement site. The site-specific IAG should spell out exactly what the USACE representatives should do if a safety hazard is observed. The language must be carefully crafted to ensure that a responsible PRP representative is immediately notified of the situation, and that if the representative fails to act, the EPA RPM has a contingency plan in place to provide adequate direction and to protect the USACE and EPA from potential third party liability.

f. It should be noted that the EPA RPM is not required to utilize USACE for oversight activities; the RPM may choose an A-E or an ARCS contractor for this service. For this reason, the USACE needs to "satisfy the customer" and reach agreement on what the RPM (our customer) expects.

g. Standard USACE guide specifications, the safety manual (EM 385-1-1), ERs, etc., do not apply. PRPs generally use standard commercial American Institute of Architects (AIA) contracts and are governed by OSHA and other Federal/state/local regulations. For additional guidance on compliance with SSHP requirements on PRP or technical assistance assignments,

refer to Section 4, Health and Safety.

h. Since the EPA generally seeks to recover oversight costs from PRPs, accurate and detailed records of labor and other costs are essential.

## SECTION 13

### MISCELLANEOUS

**13-1. Hazard Pay.** Hazard pay is required for duty involving unusual physical hardships, hazards, or working conditions of an unusually severe nature. Hazard pay is considered to be warranted if the following conditions exist:

a. The employee must perform duty that is subject to eligible physical hardships or hazards criteria as described in the CEHR-E/CESO-I memorandum regarding supplemental guidance on hazard pay differentials for civilian work at HTRW sites, dated 9 October 1990. A copy of this document can be found in Appendix F. This guidance specifies that workers required to wear level "A" or level "B" personal protective equipment (PPE) automatically are entitled to hazard pay. Workers who wear level "C" PPE require an assessment by the district SOHO of the hazards and the procedures to mitigate the hazard. If this review assessment concludes that adequate controls are provided so that the degree of risk to the worker is "practically eliminated," no hazard pay is authorized.

b. The duty must not affect the grade of the Federal wage system position or the classification of the position. The USACE human resources office will be responsible for determining whether the hazardous work constitutes an element in determining the grade of the position.

**13-2. Liability Concerns.**

a. Personal Liability. The Office of Counsel should be contacted immediately in all instances where a USACE employee becomes aware of, or has reason to suspect, a violation of CERCLA, RCRA, or any other law has occurred. The Office of Counsel will provide guidance to USACE employees regarding the availability of legal representation from the Department of Justice (DOJ) relating to any such violation. The DOJ is responsible for determining whether Federal employee requests for government legal representation will be approved in such matters.

b. CERCLA. Substantial civil and criminal penalties are authorized by CERCLA. Two categories of administrative civil penalties are authorized. One category (Class I) provides for penalties of up to \$25,000 per violation. The second category (Class II) provides for penalties of up to \$25,000 per day for each violation, which may be increased to \$75,000 per day for a second or subsequent violation. These administrative penalties relate, among other things, to failure to provide notice of a reportable quantity release of a hazardous substance, or destruction or alteration of records required to be maintained by CERCLA. Moreover, upon conviction for

knowing failure to report a hazardous substance release, or for destruction or alteration of records required by CERCLA under section 103, criminal penalties under the Federal Criminal Code and imprisonment of up to 3 years (5 years for subsequent convictions) can also be imposed.

c. RCRA. Civil and criminal penalties may also be imposed under RCRA. Stiff criminal enforcement provisions providing for substantial penalties (\$50,000 per day) and multi-year imprisonment terms (2 to 5 years) are possible for knowing violation of RCRA's transport, treatment, storage, disposal, export, reporting, or record requirements associated with hazardous waste. The Conference Report on the 1980 RCRA Amendments indicated congressional intent that these criminal provisions not be aimed at punishing minor or technical variations from permit regulations or conditions if the facility operator is acting responsibly. However, where a violation is committed by a person with knowledge that such action will place another person in imminent danger of death or serious bodily injury, RCRA provides for fines of not more than \$250,000, or imprisonment for not more than 15 years, or both. Civil penalties assessed through the use of administrative compliance orders are also permitted by RCRA. Violation of a compliance order may result in civil penalties of up to \$25,000 per day for non-compliance, and suspension or revocation of any permits issued to the violator. Moreover, under RCRA's citizen suit provision, any person may bring a lawsuit on his or her behalf against any other person including the U.S. based on allegations of violation of any permit, standard, regulation, condition, requirement, or order under RCRA. RCRA specifically provides that agents, employees and officers of the U.S. shall not be personally liable for any civil penalty under Federal, state, interstate, or local solid or hazardous waste law with respect to any act or omission within the scope of their official duties; but, notes that such agent, employee, and officer is subject to criminal sanctions under Federal or state solid or hazardous waste law, including but not limited to fines and imprisonment.

### **13-3. Community Relations.**

a. General. Community relations play a critical role at most HTRW sites. Every site has the potential for public concern about government actions and sensationalism by special interest groups, individuals, and the news media. When construction work starts, the level of public concern and media interest may rise. The level of sensitivity and public interest is not always related to the technical complexity of the problems at the site. Community opposition to government plans has led to delays, work stoppage, cost overruns, and the obstruction of technically sound remedies.

b. Public Affairs. The Public Affairs Office (PAO) from the RE's district, the local military installation, or the EPA regional office is a key player in the cleanup effort. The staff members from these offices are trained to effectively work with the public and media and can be of great assistance to the RE's staff. The PAO should be involved at the earliest time, including

pre-construction conference and partnering workshops, to aid in the preparation of community relation's plans and the assignment of responsibility for responding to queries from the media and general public. Community relation's plans are recommended for every site, but are required by CERCLA for all sites on or being considered for inclusion on the NPL. The more complex the site, the more comprehensive the plan. A site in the middle of a military installation which has never attracted concern by the public may require very little community relations effort. A FUDS project on which an elementary school has been built may require a substantial effort. The public affairs staff can also support the RE in a variety of other ways. These include:

- (1) preparing, staffing, and distributing news releases, fact sheets, project updates, and other pertinent materials for the information repository;
- (2) assisting in planning, scheduling, arranging, and conducting public meetings;
- (3) assisting with tours of the site when appropriate; and
- (4) planning, developing, and conducting workshops about environmental activities, characteristics and concerns.

c. RE Responsibilities. As a general rule, the EPA is responsible for community relations at Superfund sites. The local military public affairs office is responsible for IRP sites, and the USACE district public affairs office for FUDS and FUSRAP projects. Queries from the media and public should be directed to the appropriate public affairs office for response. However, RE's may find themselves in the position of being the only USACE representative available when members of the media or public come calling. Procedures for dealing with this must be coordinated during the early planning stages of the project. These procedures should address the day-to-day contact with the public and private property owners and should be clearly and concisely addressed with the RPM. Every attempt should be made for the RE to be responsible for the daily contact with the public for the coordination of the RA work. Special emphasis must be given to ensure that in dealing with sites where PRP negotiations are underway, under the auspices of another PRP negotiation district, no actions are taken or comments are made by the executing district which might be detrimental to the successful resolution of the PRP negotiations. When it falls to the RE to respond, listen to the question and answer it:

- (1) Honestly: Tell the truth. If you don't know the answer, say so. Talk only about what you know. Don't speculate;
- (2) Ethically: Don't play games with a reporter or a member of the public. Don't withhold significant information just because the person failed to ask exactly the right question;

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(3) Accurately: Don't speculate or guess. If you don't know the answer, try to find it and then get back to the questioner; and

(4) Responsibly: This means answering the question or explaining why the question cannot be answered. Don't be evasive.

d. Community Relations Plan (CRP). See Appendix F for an example copy of a CRP.

#### **13-4. USACE HTRW Lessons Learned System.**

a. Introduction. The HTRW CX is the home for the nationwide USACE HTRW & Environmental Lessons Learned System. The CX was mandated by HQUSACE to develop and maintain the official HTRW Lessons Learned System for the USACE. The original HTRW Lessons Learned System, developed in the early 1990s, was revamped in 1997 and changed to the HTRW & Environmental Lessons Learned Informational System. The purpose of this system is to ensure that USACE employees involved in HTRW and environmental programs such as compliance, pollution prevention and conservation are provided with the tools to enable them to document and share problems, solutions, and experience gained while performing their job related duties, improve efficiency, and enhance the cost effectiveness of USACE processes and operations.

b. Accessing the System. This system serves as a central repository for HTRW and environmental lessons learned. Individuals having access to the world wide web can access the system through the following address:

<http://hq.environmental.usace.army.mil/tools/lessons/lessons.html>

This address takes you to the USACE Environmental Division home page. From there click on "Initiatives," then "Environmental Lessons Learned Program." This screen is the home page for the HTRW & Environmental Lessons Learned Program.

c. Browsing the Web Site. Once linked to the system, individuals will have the capability to search and retrieve information, submit a lessons learned, view the lessons learned data base, link to other lessons learned systems/servers, view standard operating procedures for the system or browse the USACE organization. Individuals can also browse other news events or hot topics in the environmental arena. This site is accessible to all individuals having access to the world wide web.

d. Lessons Learned Submittals. The process of submitting lessons learned is relatively simple, and can be accomplished via the world wide web, e-mail, fax, or regular mail. If you are using the Internet, once at the appropriate address, go to the "Submitting a Lessons Learned" icon

and complete the required data in the template. Next, click on the “submit” window to review your data. If correct, click on “submit” again. Your completed submittal will then be forwarded to the program manager at the CX. Individuals who do not have access to the world wide web may e-mail, fax or mail the information to the program manager at the HTRW CX. The e-mail address is: claudia.d.wiethop@usace.army.mil. The fax number is (402) 697-2639. The mailing address is U.S. Army Corps of Engineers, HTRW CX, ATTN: CENWO-HX-T (Lessons Learned PM), 12565 West Center Road, Omaha, NE 68144.

e. Lessons Learned Review Process. All lessons learned submittals are reviewed by subject matter experts at the HTRW CX, and are also reviewed and validated by HQUSACE personnel prior to dissemination on the system. The system program manager is assigned to the Environmental, Cost and Compliance Branch at the CX, and is the point of contact for the system.

### **13-5. Where to Find the Environmental Regulations.**

<u>Environmental Act</u>	<u>Code of Federal Regulations</u>
Nuclear Regulatory Commission (NRC)	10 CFR Parts 1-199
Department of Energy (DOE)	10 CFR Parts 200-1099
Occupational Safety and Health Act (OSHA)	29 CFR Parts 1900-1999
Surface Mining Control and Reclamation Act (SMCRA)	30 CFR Parts 301-999
Department of Defense (DOD)	32 CFR Parts 1-190
Clean Air Act	40 CFR Parts 50-87
Clean Water Act (CWA)	40 CFR Parts 104-140, 401-471
Safe Drinking Water Act (SDWA)	40 CFR Part 150
Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)	40 CFR Parts 150-186

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Radiation Protection Programs (Environmental)	40 CFR Parts 190-195
RCRA - Solid Waste	40 CFR Parts 240-259
Resource Conservation and Recovery Act (RCRA) - Hazardous Waste	40 CFR Parts 260-279
Underground Storage Tanks (USTs)	40 CFR Parts 280-282
Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Superfund Amendments and Reauthorization Act (SARA)	40 CFR Parts 300-372
Emergency Planning, Community Right-To-Know Act (EPCRA)	40 CFR Parts 355-374
Toxic Substances Control Act (TSCA)	40 CFR Parts 700-799
National Environmental Policy Act (NEPA)	40 CFR Parts 1500-1508
Hazardous Materials Transportation Act (HMTA)	49 CFR Parts 100-180