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	Water Resources Policies and Authorities HAZARDOUS, TOXIC AND RADIOACTIVE WASTE (HTRW) GUIDANCE FOR CIVIL WORKS PROJECTS	
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DEPARTMENT OF THE ARMY
U. S. Army Corps of Engineers
Washington, DC 20314-1000

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Water Resource Policies and Authorities
HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW) GUIDANCE
FOR CIVIL WORKS PROJECTS

1. Purpose. The purpose of this document is to provide guidance for consideration of issues and problems associated with hazardous, toxic, and radioactive wastes (HTRW) which may be located within project boundaries or may affect or be affected by Corps Civil Works projects. The guidance is intended to provide information on how these considerations are to be factored into project planning and implementation.

2. Applicability. This regulation applies to HQUSACE/OCE elements, major subordinate commands, districts, laboratories, and field operating activities (FOA) having Civil Works responsibilities.

3. References. See Appendix A.

4. Definitions.

a. Hazardous, toxic and radioactive wastes (HTRW).

(1) Except for dredged material and sediments beneath navigable waters proposed for dredging, for purposes of this guidance, HTRW includes any material listed as a "hazardous substance" under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9601 et seq (CERCLA). (See 42 U.S.C. 9601(14).) Hazardous substances regulated under CERCLA include "hazardous wastes" under Sec. 3001 of the Resource Conservation and Recovery Act, 42 U.S.C. 6921 et seq; "hazardous substances" identified under Section 311 of the Clean Air Act, 33 U.S.C. 1321, "toxic pollutants" designated under Section 307 of the Clean Water Act, 33 U.S.C. 1317, "hazardous air pollutants" designated under Section 112 of the Clean Air Act, 42 U.S.C. 7412; and "imminently hazardous chemical substances or mixtures" on which EPA has taken action under Section 7 of the Toxic Substance Control Act, 15 U.S.C. 2606; these do not include petroleum or natural gas unless already included in the above categories. (See 42 U.S.C. 9601(14).)

(2) Dredged material and sediments beneath navigable waters proposed for dredging qualify as HTRW only if they are within the boundaries of a site designated by the EPA or a state for a response action (either a removal action or a remedial action) under CERCLA, or

if they are a part of a National Priority List (NPL) site under CERCLA. Dredged material and sediments beneath the navigable waters proposed for dredging shall be tested and evaluated for their suitability for disposal in accordance with the appropriate guidelines and criteria adopted pursuant to Section 404 of the Clean Water Act and/or Section 103 of the Marine Protection Research and Sanctuaries Act (MPRSA) and supplemented by the Corps of Engineers Management Strategy for Disposal of Dredged Material: Containment Testing and Controls (or its appropriate updated version) as cited in Title 33 Code of Federal Regulations, Section 336.1.

b. Response action. The term response or respond generally means both removal and remediation activities.

c. Non-Federal cost. For purposes of this guidance non-Federal cost means non-Army Corps of Engineers Civil Works project cost.

d. HTRW site. Any area containing HTRW.

e. Study area. The total area being considered in a Civil Works project study. It includes the problem areas as well as any potential project sites and areas of project impact.

f. Project site. The specific area required for any potential Civil Works water resource project.

5. Objective.

a. The objective of this guidance is to outline procedures to facilitate early identification and appropriate consideration of HTRW problems in reconnaissance; feasibility; preconstruction engineering and design (PED); land acquisition; construction; and operations, maintenance, repair, replacement, and rehabilitation (OMRRR) phases of a water resources study or project. Information developed during each phase should provide the rationale for proceeding with the next phase of reporting or project implementation. Specific goals of this guidance are to:

(1) identify the level of detail for HTRW investigations and reporting for each phase of the project from reconnaissance through construction and OMRRR;

(2) assure that appropriate safety and health considerations are included in field investigations;

(3) assure that qualified and experienced personnel are utilized in all consideration of HTRW;

(4) promote early detection and response by the appropriate responsible parties;

(5) determine viable options to avoid HTRW problems;

(6) establish a procedure for resolution of HTRW concerns, issues or problems;

(7) record HTRW activity expenditures for each project stage to document any reimbursable costs or expenditures to be recovered from any potentially responsible party (PRP). Recovery of costs from a PRP would be accomplished by the project sponsor, or by the Federal government for non-cost shared projects;

(8) budget for HTRW activities as part of funding requested for the appropriate phase for each study or project.

b. Due to the site specific nature of most HTRW problems, detailed information on waste types/sites, assessment procedures, or testing/treatment/disposal techniques is not included herein. U. S. Environmental Protection Agency (EPA) superfund sites or other HTRW sites undergoing removal and/or remediation should be handled in accordance with applicable Federal and state requirements.

6. Policy.

a. Civil Works project funds are not to be employed for HTRW-related activities except as provided herein, or otherwise specifically provided in law.

b. Construction of Civil Works projects in HTRW-contaminated areas should be avoided where practicable. This can be accomplished by early identification of potential problems in reconnaissance, feasibility, and PED phases before any land acquisition begins. Costs of environmental investigations to identify any existence of HTRW and studies required for formulation of the National Economic Development (NED) plan, recognizing the existence and extent of any HTRW, and studies required to evaluate alternatives to avoid HTRW will be cost shared the same as cost sharing for the phase the project is in (i.e., feasibility, PED, or construction). Where HTRW contaminated areas or impacts cannot be avoided, response actions must be acceptable to EPA and applicable

state regulatory agencies. Table 1 provides the policy on cost sharing of activities for HTRW.

(1) For cost-shared projects, the local sponsor shall be responsible for ensuring that the development and execution of Federal, state, and/or locally required HTRW response actions are accomplished at 100 percent non-project cost. No cost sharing credit will be given for the cost of response actions.

(2) For non-cost-shared projects where Federal funds are spent for HTRW response actions, the cost of response actions will be a project cost to be borne by the Department of the Army except when another Federal agency is responsible for the HTRW, in which case the response action costs should be borne by the responsible agency. A district should not proceed with any response action for which another Federal agency is responsible until appropriate agreements have been reached with that agency regarding funding for the response.

(3) Funding arrangements and responsibilities for HTRW response actions involving Federally owned lands, including those administered by the Department of the Army, will be approved on an individual basis.

(4) Only where the cost of the response action is a project cost will it be a part of the economic evaluation.

c. Costs for necessary special handling or remediation of wastes, pollutants and other contaminants which are not regulated under CERCLA will be treated as project costs if the requirement is the result of a validly promulgated Federal, state or local regulation. In such cases, land value included in the economic analysis will be the fair market value of the land considering the contamination, and the cost of the required treatment will be a construction cost. The land value to be credited to the sponsor will be the fair market value of the land in the condition acquired. Credit will not be allowed for both costs of the treatment or remediation and for the value of the land as if clean.

d. The plan for and execution of each Civil Works project will routinely include a phased and documented review to provide for early identification of HTRW potential at Civil Works project sites.

TABLE 1

COST SHARING OF HTRW ACTIVITIES WITH
CIVIL WORKS PROJECTS AND STUDIES
ON NON-FEDERAL LANDS

HTRW ACTIVITY	PROJECT PHASE	COST SHARING
1. Environmental investigation to identify any existence of HTRW.	Reconnaissance	Reconnaissance
	Feasibility	Feasibility
	PED	Construction
	Construction	Construction
	OMRRR	OMRRR
2. Studies required for recognizing existence and extent of any HTRW, and studies required to evaluate alternative project plans.	Reconnaissance	Reconnaissance
	Feasibility	Feasibility
	PED	Construction
	Construction	Construction
	OMRRR	OMRRR
3. Development of a response plan for dealing with the HTRW. Includes studies and determine the appropriate response.	Any	100% Non-Federal (including responsible parties)
4. Response measures to relocate HTRW or to treat the HTRW in place.	Any	100% Non-Federal (including responsible parties)

NOTE: The costs for studing and remediating HTRW on Federally-owned lands will be assigned on a case-by-case basis.

e. On projects in "transition," where no HTRW investigation was conducted and where a Local Cooperation Agreement (LCA) for construction has not been executed, the district may conduct studies to determine the existence and extent of HTRW as part of PED. After a LCA is executed HTRW investigations must be performed by the sponsor or the sponsor must provide funds up front to pay for the district's performance of the studies. Costs of studies will be shared based on the project purpose and the project stage.

f. Response actions, involving HTRW discovered on lands where the Government has been an owner and/or the Corps of Engineers has been an operator, will be handled on an individual basis.

7. Reconnaissance Phase. Due to the many potential adverse impacts of HTRW, an initial assessment will be conducted as early as practical during the reconnaissance phase and included in the reconnaissance report. The assessment will address the existence of, or potential for, HTRW contamination on lands, including structures and submerged lands in the study area, or external HTRW contamination which could impact, or be impacted by, a project. HTRW contamination should be considered in determining whether to proceed to the feasibility phase. The assessment will help identify and develop the level of effort to be undertaken in the feasibility phase.

a. Level of effort. Consideration of HTRW in the reconnaissance phase should involve the same level of detail given to other engineering, economic, real estate, and environmental aspects of the project. The initial HTRW assessment should rely primarily on existing documents, interviews, and observations gathered during the conduct of a site visit.

b. Procedures. Existing and past land uses should be evaluated to determine the potential presence of HTRW. The potential impact of known HTRW sites from adjacent or nearby lands should also be considered. Current and historical aerial photographs should be studied and compared to assist in identifying potentially contaminated sites/structures. Land use histories of potential project sites should be researched. Other appropriate records, such as community-right-to-know records, should be reviewed. The extent to which records should be searched depends on the historical/industrial activities of the area and should extend as far as records are available. To obtain additional

information long-time local residents, workers, and current property owners should be interviewed about past land uses, potential contamination, and any history of HTRW problems.

(1) EPA, state, and local regulatory or response agencies should be consulted for license/permit actions, for any violation, enforcement, and/or litigation against property owners, and for general information about local HTRW problems such as illegal dumping and past contamination.

(2) A visual survey of potential project sites should be made to determine the potential for HTRW. Evidence of contamination could include surface or partially buried containers, discolored soil, seeping liquids, films on water, abnormal or dead vegetation or animals, suspect odors, dead-end pipes, abnormal grading, fills, or depressions.

(3) An experienced and qualified person should be part of the team doing field visits and should make record searches, interviews, and on-site visual evaluation for possible HTRW contamination.

c. Results. The HTRW initial assessment for the reconnaissance report should include a statement explaining what was done. If the assessment concludes there is no potential for HTRW problems, it should be so stated. If it concludes there is a potential for HTRW problems which could impact or be impacted by potential project features, the assessment should include the following information, as applicable.

(1) Identification and location of known, reported, or suspected HTRW sites.

(2) Characterization of each HTRW site to include potential contaminants of concern (within limits of available information).

(3) Description of assessment techniques utilized.

(4) Information sources. Details may be listed in an appendix to the assessment.

(5) Proposed composition and estimated cost of potential or known HTRW site investigations and an assessment effort during the feasibility phase. Estimated cost for this effort should include appropriate

contingencies based on preliminary investigations and findings.

(6) Other information relevant in determining whether to proceed to feasibility phase.

d. Documentation. All information and data gathered from the above steps, as well as the methods used, should be documented in the reconnaissance report. If it is determined that there is no suspected HTRW problem, the investigations and findings to support this determination should be clearly indicated. If further HTRW study is warranted and the project site is still under consideration, any recommendation to conduct additional HTRW investigations during the feasibility phase and their costs should be included in the reconnaissance report, feasibility cost sharing agreement (FCSA), and initial project management plan.

e. Resolution of HTRW issues. HTRW issues will be addressed with other issues at the Reconnaissance Review Conference.

f. Sponsor's commitment. The FCSA will state that the development of a response plan for dealing with any HTRW discovered is a 100 percent non-Federal cost (See Table 1).

8. Feasibility Phase.

a. HTRW assessments during the feasibility phase will determine the type and extent of HTRW contamination, if any, and how HTRW considerations will impact on the alternative project plans. A preliminary cost estimate of required HTRW response actions will be needed for each project alternative in order to be able to make a reasoned choice among alternative project plans. Alternative project plans may consider avoidance of HTRW as well as possible responses. At least one alternative plan should be formulated to avoid HTRW sites to the maximum extent possible, consistent with project objectives. These assessments, conducted during the feasibility stage, are shared with the local sponsor for cost-shared studies. For non-cost-shared studies, HTRW assessments are 100 percent Federal cost.

b. Cost sharing. (See Table 1 for cost sharing policy.)

(1) Projects with non-Federal sponsors. The sponsor (not the Government) will bear the responsibility for response of HTRW. The cost of the response will be a non-Federal expense for which the sponsor will receive no credit. However, the presence of HTRW may be a significant factor in developing overall project decisions. HTRW information developed in the feasibility study will be given to the sponsor for use in preparing land acquisition or potential response plans. The sponsor may pursue detailed planning for response, or may initiate procedures to require the responsible parties to respond. Any delay in project implementation due to an HTRW response action will be considered in alternative plan selection.

(2) Projects without a non-Federal sponsor. For fully Federally-funded projects involving land that is not Federally owned, the study may recommend pursuit of response by the PRP before any project is initiated. In that case, cost of response would be at non-Federal expense. The cost of delay in implementation and the risk of non-collection will be considered when deciding whether to collect up front payment or seek reimbursement. If, however, it is recommended to go ahead with the project without waiting for the PRP to respond, or if the land is already Federally owned, the cost of response action will be 100 percent Federal expense although the Federal Government may seek a contribution through appropriate legal proceedings at a later date. A recommendation for Federal response followed by collection is not a preferred course of action because it commits to the response action Civil Works appropriations which are not replaced by the collection. Revenues recovered through litigation return to the U.S. Treasury, not to the Corps Civil Works accounts.

c. Project alternatives, response options, and project plan formulation.

(1) Investigation. As needed, the HTRW portion of the feasibility phase will include 1) a determination of the nature and extent of contamination and 2) a qualitative analysis of the impacts of any contamination in the absence of response action. This phase should include a preliminary identification of potential source areas, contaminant release mechanisms, exposure routes, potentially exposed populations, as well as a determination of the non-numerical risk or potential adverse health effects for the identified potential receptors. Investigation activities may include topographic setting, underlying geology, surface and groundwater flow, building and utility layouts,

the condition of all structures above and below ground, and characterization of chemical constituents of HTRW contaminants. The level of detail should be sufficient to determine the extent of HTRW contaminants in relation to alternative Civil Works project features and adjacent lands potentially impacted by these features.

(2) Project plan alternative and HTRW response alternatives analysis. This analysis shall identify and evaluate alternatives to respond toverified HTRW problems which cannot be avoided by project design. Activities conducted may include additional sampling and analysis if needed, identification of alternative response measures, alternative screening, cost analysis of alternatives and adherence to environmental standards and criteria. The analysis of proposed response alternatives should include a comparative evaluation of 1) the effectiveness of the alternative or to what degree baseline risks are reduced or minimized by the response, and if residuals/action comply with regulatory standards; 2) implementability, or technical feasibility of the response action alternative; and, finally, 3) costs associated with each response alternative. Level of detail for HTRW response actions not included in project cost should only be to the extent needed to determine an appropriate response plan and an order of magnitude cost estimate.

(3) Design cost estimates and response cost estimates for resolving HTRW and other regulated contaminant problems which are a part of project cost will be developed to the same level of detail as other project features. The recommended response action will be selected based on a balance of evaluation criteria, developed in full coordination with the appropriate Federal and state regulatory agencies. The evaluation will be included as an appendix to the feasibility report. The plan will document criteria used in selecting the recommended response action, including degree of reduction or mitigation of potential risks to human health and the environment, compliance with regulatory requirements, long and short term effectiveness, implementability, and cost of the recommended response action.

d. Impacts on plan formulation and plan selection.

(1) Avoidance of HTRW sites. Civil Works plan formulation and plan selection may be substantially influenced by the presence of HTRW in the project area. HTRW sites will be avoided whenever practicable. They

may be a significant factor in project alternative design even though cost may be greater than a plan which provides for HTRW response action. Consideration may be given to designating an HTRW avoidance alternative as the NED plan when costs and risks of response actions are uncertain.

(2) Projects costs. The cost of HTRW remediation will not be considered as a project cost nor in determining economic feasibility of the Civil Works project unless the project is without a local sponsor and immediate HTRW remediation without the project is not required. The cost of remediation action may, however, be an important factor for a sponsor making decisions concerning the project, and thus should be estimated during the feasibility phase.

e. Resolution of HTRW issues. If an HTRW issue which may impact on the orderly progress of the study or preparation of the report arises prior to the Feasibility Review Conference, an Issue Resolution Conference should be convened. Otherwise, HTRW issues will be addressed with other issues at the Feasibility Review Conference and methods to resolve them will be made a part of the Project Management Plan.

f. Sponsor commitment. Should there be a known HTRW problem, the letter of intent to cost share in the project shall state either that the local sponsor has accepted responsibility for required response, or that the sponsor has initiated procedures requiring the responsible parties to respond. The project authorization document and the Project Management Plan should include language describing how response actions will be coordinated with project construction. Construction shall not be undertaken until response actions have been completed on impacted lands.

g. Documentation. The feasibility report will fully document the HTRW impact or potential. The report will either conclude that there is no known HTRW, or that HTRW has been identified. If HTRW is identified, the report will also describe what actions are being taken toward avoidance or response, and what non-Federal interest is responsible for the response, if applicable. Documents for innocent landowner defense will be retained.

9. Preconstruction, Engineering and Design (PED) Phase.

a. Projects with no prior HTRW consideration. For projects at which the potential for HTRW problems has not been considered, an HTRW initial assessment as appropriate for a reconnaissance study should

be conducted as a first priority. If the initial assessment indicates the potential for HTRW, testing, as warranted and analysis similar to a feasibility study should be conducted prior to proceeding with the project design.

b. For projects with known HTRW sites where avoidance is not practical.

(1) The HTRW objective during PED is development of detailed engineering and design of response work in consultation with EPA, state, and local authorities. Detailed engineering and design of response action are the responsibility of the local sponsor for cost shared projects. HTRW issues shall continue to be addressed during PED. Any decisions will be recorded in the appropriate design memoranda.

(2) The design memorandum (DM) will include, but not be limited to, information regarding the HTRW impacts on the project to include the location, type, scope, costs to cleanup versus costs to design the project around the HTRW; and the results of detailed design of response work necessary to proceed to a safe and an economically feasible project. On a cost shared project, the design of response action will be provided by the project sponsor. It is, therefore, important that the sponsor and Corps work together to ensure a coordinated schedule for project implementation.

(3) Feasibility reports for continuing authority projects that are deemed sufficient to proceed to plans and specifications must include the same data normally required in a DM.

c. Discovery of HTRW during design.

(1) By using procedures described earlier, discovery of HTRW sites during PED phase of the project should be minimized. When an HTRW problem is discovered during the PED phase, all work on that portion of the project shall be appropriately delayed until the local sponsor, EPA, state and local authorities, as appropriate, are consulted and the extent of the problem is defined. Measures to avoid the HTRW site can then be considered, if necessary, or possible required design changes can be accomplished after the problem and response have been determined. Discovery of HTRW and required actions should be reported through the Programs and Project Management system for consideration and

review by major subordinate command and HQUSACE Project Review Boards (PRBs). The stage of PED does not relieve the obligation to assess HTRW and other regulated contaminant impacts and possible project alternatives to avoid the contaminated area as outlined in previous phases.

(2) During evaluation, special care and attention must be given to changes that must be reflected in the project schedule, cost estimate and NEPA documentation. The use of In-Progress Reviews and Issue Resolution Conferences are highly recommended. Should the discovered HTRW site result in significant impacts for the recommended project, preparation of a reformulation document and/or a post-authorization change report may be required.

(3) The local sponsor will be responsible for planning and accomplishing any HTRW response measures, and will not receive credit for the costs incurred.

10. Local Cooperation Agreement (LCA) Phase.

a. If an HTRW problem is encountered prior to execution of a LCA, the non-Federal sponsor shall be advised during LCA negotiations that,

(1) where practical, the project has or will be designed to avoid HTRW;

(2) as between the Government and the sponsor, the sponsor will be solely responsible for ensuring that required HTRW response actions are accomplished in accordance with applicable requirements of Federal, state and local regulations, including site safety and health requirements of 29 CFR 1910.120 prior to execution of the LCA;

(3) all HTRW response costs shall be a responsibility of the sponsor; and

(4) any HTRW costs shall not be credited toward the sponsor's share of total project cost.

NOTE: This does not limit any rights the sponsor may have to recover such costs from PRP or responsible third parties or to work through state agencies to compel cleanup by PRP or responsible third parties prior to sponsor's acquisition of land.

b. LCA clauses. Even though extreme care is exercised throughout the planning and design process to ensure HTRW problems are detected and resolved, there is still a possibility that HTRW will be discovered after execution of the LCA, during the real estate acquisition process, during construction, or during operation and maintenance of the project. Therefore, it is imperative that the responsibilities of the parties regarding HTRW be clearly identified in all LCAs.

(1) All LCAs, except for deviations approved for specific model LCAs, must contain the following provisions a through e, below:

"Article XX - Hazardous Substances

"a. After execution of this Agreement and upon direction by the Contracting Officer, the Local Sponsor shall perform, or cause to be performed, such environmental investigations as are determined necessary by the Government or the Local Sponsor to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USC 9601-9675, on lands necessary for project construction, operation, and maintenance. All actual costs incurred by the Local Sponsor which are properly allowable and allocable to performance of any such environmental investigations shall be included in total project costs and cost shared as a construction cost in accordance with (applicable section) of Public Law 99-662.

"b. In the event it is discovered through an environmental investigation or other means that any lands, easements, rights-of-way, or disposal areas to be acquired or provided for the project contain any hazardous substances regulated under CERCLA, the Local Sponsor and the Government shall provide prompt notice to each other, and the Local Sponsor shall not proceed with the acquisition of lands, easements, rights-of-way, or disposal areas until mutually agreed.

"c. The Government and the Local Sponsor shall determine whether to initiate construction of the Project, or if already in construction, to continue with construction of the Project, or to terminate construction of the Project for the convenience of the Government in any case where hazardous substances regulated under CERCLA are found to exist on any lands necessary for the Project. Should the Government and the Local Sponsor determine to proceed or continue with construction after

considering any liability that may arise under CERCLA, as between the Government and the Local Sponsor, the Local Sponsor shall be responsible for any and all necessary cleanup and response costs, to include the costs of any studies and investigations necessary to determine an appropriate response to the contamination. Such costs shall not be considered a part of total project costs as defined in this Agreement. In the event the Local Sponsor fails to provide any funds necessary to pay for cleanup and response costs or to otherwise discharge its responsibilities under this paragraph upon direction by the Government, the Government may either terminate or suspend work on the Project or proceed with further work as provided in Article (cite to Termination or Suspension Article of Local Cooperation Agreement).

"d. The Local Sponsor and the Government shall consult with each other under the Construction Phasing and Management Article of this agreement to assure that responsible parties bear any necessary cleanup and response costs as defined in CERCLA. Any decision made pursuant to paragraph c of this Article shall not relieve any party from any liability that may arise under CERCLA.

"e. The local sponsor shall operate, maintain, repair, replace, and rehabilitate the project in a manner so that liability will not arise under CERCLA."

(2) The following provision will be substituted for e above in LCAs for navigation projects:

"e. The local sponsor shall perform its responsibilities under this agreement, including the dredging of berthing areas or access channels, and operation and maintenance of any required disposal facilities, in a manner so that liability will not arise under CERCLA."

11. Real Estate Acquisition.

a. General. One of the keys to success in dealing with HTRW problems is early identification and assessment of all project lands which could be contaminated prior to sponsor acquisition for project purposes. Assessment of all project lands includes adjacent properties from which contamination could migrate, structures and submerged land. As discussed in the preceding paragraphs, procedures exist in the planning phases to determine whether there are potential HTRWs on any land needed for project purposes. However, if HTRW is suspected or

first encountered during the land acquisition process, the following procedures apply.

b. Cost-shared projects. Since the local sponsor does not acquire any land until after the signing of a LCA, the discovery of HTRW during land acquisition is controlled by the provisions of the LCA. Briefly summarized, these actions include:

(1) Prompt notice by the local sponsor to the Government and cessation of all lands, easements, rights-of-way, relocations, and dredgedmaterial disposal areas (LERRD) acquisitions and/or actions until mutual agreement is reached by the Government and the local sponsor.

(2) Prompt reporting by the Government of the HTRW discovery and subsequent required actions through the Program and Project Management System to HQUSACE.

(3) Performance by the local sponsor of such environmental investigations as are determined necessary by the Government or the local sponsor to identify the existence and extent of HTRW. Reasonable, allocable costs of these investigations will be included in total project costs and shared as project costs.

(4) Consultation between the Government and local sponsor to determine whether to initiate construction of the project or, if already in construction, to continue with the construction of the project, or to terminate construction of the project at the convenience of the Government.

(5) Performance of response actions by the local sponsor for any HTRW found on land needed for project purposes. These costs will not be a part of project costs and will not be cost-shared.

If the local sponsor acquires land before the signing of the LCA, and, where applicable, the formal notification to the sponsor to acquire LERD, it does so at its own risk. This risk includes the acquisition of potentially or actually HTRW contaminated lands. If the land acquired in advance of the LCA and/or notification to acquire LERD ultimately becomes part of the project, the sponsor would be eligible for cost-sharing and credit for the costs of any environmental investigations, to the extent that the investigations are appropriate to determine the location and extent of HTRW.

c. Non-cost shared projects. Land acquisition for non-cost shared projects cannot begin until a Real Estate Design Memorandum (REDM) or other real estate planning document has been approved by the major subordinate command or HQUSACE. The REDM or other real estate planning document should address HTRW potential of the lands to be acquired. The document should reference the appropriate HTRW reconnaissance, feasibility or PED studies and summarize the results. If there is or has been a known HTRW problem, it should be remediated by the PRP prior to acquisition of the land. If the PRP cannot remediate before acquisition or in a timely manner, the decision to proceed should be approved by ASA(CW) prior to acquisition of any land by the Federal Government. If remediation has been performed by the PRP or other entity, the REDM or other real estate planning document should reference documentation which states that measures satisfactory to the Government have been taken to verify that the site is free from HTRW before acquisition. Measures may include review of the remediation plan, results of verification testing and, in some cases, limited testing, to verify the absence of HTRW. Despite the actions above, or even at sites with no known HTRW problems, HTRW or the potential for HTRW may be discovered at any time during the land acquisition process (title work, appraisals, negotiations, closings, etc.). If HTRW is found during the land acquisition process, the following actions should occur:

(1) cessation of all land acquisition and/or acquisition activities;

(2) prompt reporting of the HTRW discovery and subsequent required actions through the Programs and Project Management System to HQUSACE;

(3) performance of such environmental investigations as are determined necessary;

(4) reanalysis of plan formulation if the response costs are deemed a project cost; and

(5) performance of response actions for any HTRW found on land needed for project purposes.

d. Innocent landowner defense. CERCLA provides for an innocent landowner defense to liability if certain steps are taken by an owner prior to acquisition of land. Briefly stated, if an owner, prior to acquisition, makes all appropriate inquiry into the previous ownership

and uses of the property consistent with good commercial and customary practice in an effort to determine if an HTRW problem exists on the property, then that owner may be able to avail itself of the innocent landowner defense. This defense may apply to the Government on full Federally funded projects and to the local sponsor on cost-shared projects. Since remediation is a non-Federal responsibility, the local sponsor should be advised to seek his/her Counsel's opinion on the advisability of taking such action and the applicability of this defense.

e. Demolition activities. HTRW concerns shall be addressed prior to demolition activities. If an HTRW problem exists on a cost-shared project, the local sponsor must remove and dispose of any materials. The cost of removing any HTRW materials will not be included in total project costs nor credited towards the local sponsors share of project costs. For projects with no cost sharing, demolition would be a responsibility of the Government and would be a part of the project cost.

12. Construction Phase.

a. Projects with no prior HTRW consideration. Projects should be examined appropriately to determine whether there is an HTRW problem. This should be done prior to proceeding with construction.

b. Projects with known HTRW. Delays or problems as a result of HTRW should be minimized through early identification, avoidance, and management of HTRW issues during planning and design phases of the projects. Where sponsors have undertaken response actions, the sponsor must provide a letter prior to construction on impacted lands from the appropriate regulatory agency(s) confirming that response actions complied with regulatory guidelines and statutes.

c. Projects where HTRW are encountered during construction. This can cause significant increases in project costs or delays in completion of construction. For this reason it is very important that the potential for HTRW be assessed in advance of construction. Refer to paragraph 10b for procedures when there is a discovery of HTRW during construction where the LCA covers HTRW issues. For projects which do not have the HTRW clause in the LCA, the issue should be addressed on a case-by-case basis. Legal and policy assistance should be sought from

HQUSACE through the Programs and Project Management System for consideration and review at HQUSACE.

d. Contract consideration. Procedures for dealing with HTRW issues encountered during construction may involve activities and constraints not found during normal construction and may require specialized assistance from knowledgeable sources or specialty contractors. Where standard contract administration and inspection procedures do not have the flexibility to effectively incorporate and address unexpected HTRW requirements, new, separate contracts may be required. Legal and contractual issues should be carefully considered. EPA, state and local agencies should be consulted as appropriate.

e. Oversight of contractual obligation. When plans and specifications include compliance requirements (i.e., Federal, state and local safety, health and environmental criteria such as 29 CFR 1910.120 and ER 385-1-92) for handling, treatment, storage disposal or transportation of hazardous waste, oversight should be the same as any other contract requirement. Inspections of construction projects should include coverage as determined appropriate in accordance with the construction monitoring program. The monitoring plan should assure that regulatory requirements are being met. If complex and unique materials are involved, specialized assistance may be needed to assure compliance with safety and health, and quality assurance of response requirements.

f. Documentation. Any discovery of HTRW or response action taken during construction should be documented in the project's HTRW Documentation Report for future reference. This report is a new requirement to be established in an upcoming Engineering Regulation. (ER 1110-1-264, HTRW Documentation Report). These reports will preserve the HTRW related construction information (project history, site conditions, and activities) in a summarized and accessible form. Each report will provide historical documentation of materials handling (quantities, procedures, and disposition); wells, borings, and instrumentation installed: sample locations and analytical results; materials and equipment used; cleanup levels and criteria; dewatering operations; actual geotechnical conditions encountered; project modifications; and changed conditions. Information may identify possible future concerns, maintenance needs, and provide baseline information for the design of future repairs and modifications. The report will also serve as an account of lessons learned, providing

valuable insight for future projects.

13. Project Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRRR) Phase.

a. Projects operated and maintained by sponsors. The Government will bear no responsibility for any costs associated with HTRW cleanup after the project has been turned over to the local sponsor for OMRRR.

b. Projects operated and maintained by the Corps of Engineers.

(1) HTRW considerations of appropriate post-response monitoring will be included in the project O&M manual for projects operated and maintained by the Corps of Engineers.

(2) HTRW materials encountered during OMRRR activities on project lands are generally anticipated to be of a localized nature. Examples of HTRW problems expected would include, but are not limited to, unanticipated discovery of HTRW sites, contaminated discharges, and illegal disposal of HTRW materials on project lands.

(3) When HTRW sites are discovered during OMRRR, the affected area should be secured and protected until the contaminants are identified and site safety and health programs and plans in accordance with 29 CFR 1910.120 and ER 385-1-92 are put into effect. A thorough record should be kept of all circumstances and actions taken to deal with the problem.

(4) Procedures for dealing with HTRW encountered during OMRRR may involve activities which may require specialized assistance from knowledgeable sources or specialty contractors. Existing operational procedures have the flexibility to effectively incorporate and address HTRW requirements. Legal and contractual issues should be carefully considered. EPA, State and local agencies should be consulted as appropriate.

(5) ER 1130-2-434 provides guidance for developing contingency and action plans to respond to hazardous substance incidents on Corps operated projects.

(6) Conducting assessments in accordance with the Environmental Review Guide for Operations (ERGO) is a proactive approach to hazardous materials management. The ERGO is a comprehensive evaluation tool

for achieving, maintaining and monitoring compliance with environmental laws and regulations at Corps-operated facilities. Section III of ERGO is a Hazardous Materials Management protocol. The section deals with the generic requirements and good management practices associated with the proper storage and handling of chemicals and with the spill contingency and response requirements related to hazardous materials. Oil, pesticides and asbestos are hazardous materials which require special management practices at Corps facilities, and are covered in separate sections. ERGO assessments provide feedback to supervisors for organizing, directing, and controlling environmental compliance and protection activities.

c. Outgrants on projects operated and maintained by the Corps of Engineers. Those parts of Corps projects where the right to use the real property has been granted to another Federal agency, state or local government, or private person (outgrants) will have as a condition of their outgrant that the grantee shall comply with all relevant Federal, state, and local laws and regulations. The inspections to assure compliance with the terms of the outgrant shall take cognizance of the grantee's adherence to the environmental laws including those concerning the release, disposal, and storage of hazardous substances. The grantee, or other responsible party, will be responsible for compliance with HTRW laws and regulations.

(1) The outgranted areas will also be considered in the contingency and action plans discussed in ER 1130-2-434. Such plans will be developed and implemented taking into consideration the views and any special needs of the grantees.

(2) The grantee, project manager, district element issuing the grant, and cognizant regulatory agency shall be notified of any release or threatened release of HTRWs.

14. Responsibilities

a. The district responsible for construction of the project retains project management responsibilities regardless of the study or project phase. Such district will utilize HTRW expertise, assistance and contracting capability from an HTRW design district. The major subordinate commander shall assure the appropriate expertise from an HQUSACE approved HTRW design district is used, or the HTRW district will aid the managing Civil Works project district in contracting with firms

capable of providing such assistance. The HTRW design district has available indefinite delivery architect-engineer contracts specifically scoped to address HTRW work. Where local sponsors are responsible for the design and response, the sponsors are free to obtain help where they deem appropriate.

b. Appendix A provides a tabular display of general tasks for HTRW input for each phase of a Civil Works project, and shows the element responsible for the work, as well as for review. Work undertaken by a HTRW design district will be funded from project funds transferred from the geographic district. The review by the Mandatory Center of Expertise (MCX) will be funded as part of executive direction and management from the General Expenses appropriation. In preparing a scope of work or a work plan for any phase of a project, the effort needed for the HTRW input should be coordinated with the HTRW design district, and must be included in the cost of the appropriate phase and budgeted accordingly. It is the responsibility of the geographic district to initiate coordination with the HTRW design district as early as possible, in order to allow for timely input from that district. It is the responsibility of the HTRW design district to seek appropriate review from the MCX.

15. Site Specific Safety and Health Plans (SSHP). Safety and health conditions can vary from little or no hazards present to multiple safety hazards with the presence of toxic chemicals, explosive ordnance, and/or physical hazards. Specific site safety and health procedures to be employed during all phases of planning and implementation of Civil Works projects are developed by the Safety and Occupational Health Office in the responsible district. During the reconnaissance phase field activities, a limited SSHP will be developed as needed based on known or suspected hazards and the need to provide for the safety and health of persons conducting the field reconnaissance. Based on information gathered during initial study area visits by local sponsors and Corps study team members, decisions will be made whether further HTRW assessment is needed and, if so, a SSHP will be developed. The development and implementation of appropriate SSHP for HTRW site operations are mandated by the Occupational Safety and Health Administration (OSHA), 29 CFR 1910.120. This regulation, as well as the implementing ER 385-1-92, are applicable to all USACE and contractor personnel engaged in on-site activities associated with all aspects of

HTRW activities, a thorough record shall be kept of all circumstances and actions taken, including coordination with authorities, worker/ public safety and health actions, and development of step-by-step response measures to deal with the problem.

FOR THE COMMANDER:

MILTON HUNTER
Colonel, Corps of Engineers
Chief of Staff

3 Appendices
APP A - References
APP B - Assignment of Responsibilities
APP C - Table of Acronyms

APPENDIX A

REFERENCES

1. Public Law 88-206, as amended, (33 U.S.C.A. 1321 et seq.) Clean Air Act.

2. Public Law 92-500, as amended, (33 U.S.C.A. 1317 et seq) Clean Water Act.

3. Public Law 92-532, as amended, (33 U.S.C.A. 1401 et seq.) Marine Protection, Research and Santuaries Act of 1972.

4. Public Law 94-469, as amended, (15 U.S.C. 2606 et seq.) Toxic Substances Control Act.

5. Public Law 94-580, as amended, (42 U.S.C. 6921 et seq.) Resource Conservation and Recovery Act.

6. Public Law 96-510, as amended, (42 U.S.C.A. 9601 et seq.) Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

7. Public Law 99-662, (33 U.S.C.A. 2211) Water Resources Development Act of 1986.

8. 29 CFR 1910.120.

9. 33 CFR 336.1, Management Strategy for Disposal of Dredged Material: Containment Testing and Controls.

10. ER 385-1-92, Safety and Occupational Health Document Requirements for Hazardous, Toxic, and Radioactive Waste (HTRW) Activities.

11. ER 1110-1-263, Chemical Data Quality Management for Hazardous Waste Remedial Activities.

12. ER 1130-2-434, Response to Oil and Hazardous Substance Incidents.

APPENDIX B

ASSIGNMENT OF RESPONSIBILITIES

1. PURPOSE. The purpose of this appendix is to illustrate the general tasks in the HTRW analysis during each phase of a Civil Works project, and to assign general responsibility for these tasks.

2. RESPONSIBILITIES:

a. The district responsible for construction of the Civil Works project retains project management responsibilities regardless of the study or project phase. Review of the overall Civil Works project will be provided by the geographic major subordinate command, and at the Washington level in accordance with established review procedures. Review of the HTRW effort will be provided by the Mandatory Center of Expertise (MCX) at MRD and the HTRW design district, as appropriate. Work by the HTRW design district will be funded out of project funds transferred by the geographic district. Review by the MCX will be funded as part of executive direction and management from the General Expense appropriation. Where local sponsors are responsible for the design and response, the sponsors are free to obtain help where they deem appropriate. The tabulation which follows shows the general assognment of responsibilities for HTRW activities in Civil Works projects.

b. Response activities must be acceptable to U.S. Environmental Protection Agency (EPA) and applicable state regulatory agencies as appropriate. Project sponsors will be responsible for assuring compliance. Depending upon the nature of the project and the district's knowledge of the sponsor's cleanup, the district may wish to independently verify the completeness of the remediation prior to proceeding with the Civil Works project. The verification process would consist of limited field work and laboratory analysis.

3. PROCEDURES:

a. When environmental requirements are applicable, they must be considered and coordinated with the appropriate Federal and state regulators throughout the investigation, evaluation, and remedial processes. Specific scopes of work for each phase must be carefully coordinated among the managing district, the sponsor, and the HTRW design district to ensure that the minimum amount of work is accomplished to meet the needs of the Civil Works project,

while still complying with procedures concerning health and safety and data quality criteria.

b. For all projects, whether conducted within the requirements of a specific environmental regulatory program or not, applicable sections of USACE regulations and guidance shall be applied in order to assure that human and environmental health and safety is protected and that appropriate data quality is obtained. The procedures, documentation and technical requirements of ER 385-1-92 concerning safety and occupational health requirements for (HTRW) activities, ER 1110-1-263 Chemistry Data Quality Management for Hazardous Waste Remedial Activities, and Draft EM 1110-7-XX(FR) Monitor Well Installation at Hazardous and Toxic Waste Sites (EC 1110-7-1(FR)), are specifically applicable for the appropriate level of investigation.

RESPONSIBILITIES FOR HTRW ACTIVITIES IN CIVIL WORKS PROJECTS (COST SHARED)

ACTIVITY	DIST	DIV	HTRW DESIGN DISTRICT	MCX(1)	HQ	SPONSOR
RECONNAISSANCE PHASE						
Review existing info	E		C			C
Prepare limited SSHP	E		C			C
Initial study area visit	E		C			C
Visit potential project areas	E		C			C
Evaluation and report input	E		R	C		P
Develop scope of work for any needed analysis in feasibility phase, incl SSHP	M		E	R		P
Total Reconnaissance Report	E	R	I	I	A	P
FEASIBILITY PHASE						
Execute SSHP	M		E	R		C
Data Collection	M		E			C
Investigate contamination & assess threat	M		E	R		C
Develop project alternatives	E		C			P
Develop preliminary HTRW response alternatives	M		E	R		P
Formulation & project plan selection	E		C			P
Preliminary HTRW response for recommended plan	I		I	I		E
Prepare HTRW Appendix	M		E	R		C
Total Feasibility Report	E	R	I	I	A	P
PED PHASE						
1. Project w/no prior HTRW consideration						
a. Evaluate project site as in recon & issue report as part of DM-not as Recon Report.	(Responsibilities noted in RECON above)					
(1) If no HTRW potential, explain in DM.	E	R	I	I	A	
(2) If HTRW potential, evaluate project site as in Feasibility & issue report in DM, not as Feasibility Report.	(Responsibilities noted in FEASIBILITY)					
(a) If no HTRW issues, explain in DM.	E	R	I	I	A	P
(b) If HTRW issues remain, evaluate stopping or modify project vs conducting remedial response. Issue report in DM.	E	R	I	I	A	P
(c) Sponsor develop remedial response, incl SSHP in DM & PS	M	I	I	I	I	E
2. Projects w/prior HTRW consideration						
a. No HTRW issues						
b. HRTW avoidance not practical. Project continues, sponsor develops remedial response, incl SSHP	M	I	I	I	I	E
3. Unanticipated HTRW discovery duting PED, proceed from 1a(2) to 1a(2)(c), as appropriate.	(Responsibilities noted above starting at 1a(2)).					

RESPONSIBILITIES FOR HTRW ACTIVITIES IN CIVIL WORKS PROJECTS (COST SHARED)

ACTIVITY	DIST	DIV	HTRW DESIGN DISTRICT	MCX	HQ	SPONSOR
CONSTRUCTION PHASE						
1. Project w/no prior HTRW consideration						
a. Evaluate project site as in Recon & issue report as part of HTRW documentation report *(2)* (HDR) not as Recon Report.	(Responsibilities noted in RECON above)					
(1) If no HTRW issue, explain in HDR	E	R	I	I	A	P
(2) If HTRW potential, evaluate as in Feasibility & issue report as part of HDR.	(Responsibilities noted in FEASIBILITY above)					
(a) If no HTRW issues,explain in HDR.	E	R	I	I	A	P
(b) If HTRW issues remain, evaluate stopping, modifying project vs. conducting remedial response. Report in HDR.	E	R	C	I	A	P
(c) If project continues, sponsor develops remedial response, incl SSHP	C	I	I	I	I	E
(d) Sponsor executes response. Include action in HDR, Construction Foundation Report, and as-built drawing as appropriate.	M	I	I	I	I	E
2. Project w/prior HTRW consideration. HTRW avoidance not practical. Sponsor executes response.	M	I	C	I	I	E
3. Unanticipated potential HTRW discovery during construction						
a. Execute SSHP	E,A	R	C	I	I	P
b. Gather data to evaluate nature of contamination, worker and environment risks, extent/location, reporting requirements, project impact.	M	R	R	I	I	E
c. Evaluate situation & recommend plan of action.	E	R	R	R	A	P
d. Execute plan.	I	I	I	I	I	E
e. Document situation & response in HDR.	E	R	R	I	A	P
OMRRR PHASE						
In cost shared projects, the sponsor is responsible for all aspects of OMRRR, to include execution and funding.						

RESPONSIBILITIES FOR HTRW ACTIVITIES IN CIVIL WORKS PROJECTS (NON-COST SHARED)

ACTIVITY	DIST	DIV	HTRW DESIGN DISTRICT	MCX	HQ
RECONNAISSANCE PHASE					
Review existing info	E		C		
Prepare limited SSHP	E		C		
Initial study area visit	E		C		
Visit potential project areas	E		C		
Evaluation and report input	E		R	C	
Develop scope of work for any needed analysis in feasibility phase, incl SSHP	M		E	R	
Total Reconnaissance Report	E	R	I	I	A
FEASIBILITY PHASE					
Execute SSHP	M		E	R	
Data Collection	M		E		
Investigate contamination & assess threat	M		E	R	
Develop project alternatives	E		C		
Develop preliminary HTRW response alternatives	M		E	R	
Formulation & project plan selection	E		C		
Preliminary HTRW response for recommended plan	M		E	R	
Prepare HTRW Appendix	M		E	R	
Total Feasibility Report	E	R	I	I	A
PED PHASE					
1. Project w/no prior HTRW consideration					
a. Evaluate project site as in recon & issue report as part of DM, not as Recon Report.	(Responsibilities noted in RECON above)				
(1) If no HTRW potential, explain in DM.	E	R	I	I	A
(2) If HTRW potential, evaluate project site as in Feasibility & issue report in DM, not as Feasibility Report.	(Responsibilities noted in FEASIBILITY)				
(a) If no HTRW issues, explain in DM.	E	R	I	I	A
(b) If HTRW issues remain, evaluate stopping or modify project vs conducting remedial response. Report in DM.	E	R	R/C	I	A
(c) If project continues, develop remedial response including SSHP in DM and P&S.	M	I	E	R	A
2. Projects w/prior HTRW consideration.					
a. No HTRW issues, explain in Recon or Feasibility					
b. HTRW avoidance not practical. Project continues, develop SSHP & remedial response in DM and P&S	M	I	E	R	A
3. Unanticipated HTRW discovery during PED-proceed from 1a(2) to 1a(2)(c), as appropriate	(Responsibilities noted above starting at 1a(2)).				

RESPONSIBILITIES FOR
HTRW ACTIVITIES IN CIVIL WORKS PROJECTS
(NON-COST SHARED)

ACTIVITY	DIST	DIV	HTRW DESIGN DISTRICT	MCX	HQ
CONSTRUCTION					
1. Project w/no prior HTRW consideration.					
a. Evaluate project site as in Recon & issue report as part of HTRW documentation report (HDR)(2) not as Recon Report.	(Responsibilities noted in RECON above)				
(1) If no HTRW issues, explain in HDR.	E	R	I	I	A
(2) If HTRW potential, evaluate as in Feasibility & issue report as part of HDR.	(Responsibilities in FEASIBILITY above)				
(a) If no HTRW issues, explain in HDR.	E	R	I	I	A
(b) If HTRW issues remain, evaluate stopping, modifying project vs. conducting remedial response. Report in HDR.	E	R	R/C	I	A
(c) If project continues, develop remedial response including SSHP. Issue modification to P&S.	M	R	E	R	A
(d) Execute remedial response. Include action in HDR, Construction Foundation Report, and as-built drawing as appropriate	E	R	R	I	A
2. Project w/prior HTRW consideration. HTRW avoidance not practical. Execute response per P&S	E	R	C	I	A
3. Unanticipated potential HTRW discovery during construction.					
a. Execute SSHP.	E,A	R	C	I	I
b. Gather data to evaluate nature of contamination, worker and environment risks, extent/location, reporting requirements, project impact.	M	R	E	R	I
c. Evaluate situation & recommend plan of action.	E	R	R/C	R	A
d. Conduct design & develop plans & specs for approved plan of action.	M	R	E	R	I
e. Executes design of approved plan of action.	E	R	C	I	A
f. Document situation & response in HDR.	E	R	R	I	A

RESPONSIBILITIES FOR
HTRW ACTIVITIES IN CIVIL WORKS PROJECTS
(NON-COST SHARED)

ACTIVITY	DIST	DIV	HRTW DESIGN DISTRICT	MCX	HQ
OMRRR					
1. Suspected HTRW discovery during OMRRR *(3)*					
a. Initial assessment	A	I	E		
b. Execute SSHP	E,A		C		
c. Delineate contamination & assess threat	A	I	E	R	
d. Develop response alternatives	A		E		
e. Response plan selection	E	A	C		I
f. Design HTRW response plan	A	I	E	R	
g. Implement response plan	E	R	C		
h. Permanently document response *(4)*	E	A	R	I	I
i. Monitor (as required)	E	I			
j. Follow up inspections, if any	E	I	R		
2. ERGO Compliance Assessments	E		C		

LEGEND:

M - Manage (overall responsibility)

E - Execute (provide a product, have a design responsibility for technical element)

C - Consult (provide answers to questions)

A - Approve

R - Review (mandatory to do review)

I - Information (mandatory upon management to provide a copy for information)

P - Participation of Sponsor (includes coordination, input, the responsibilities of an active project participant)

FOOTNOTES:

(1) MCX is the mandatory center of expertise currently located in MRD. (pg. A-3)

(2) HTRW Documentation Report (HDR): New Report Requirement as part of this guidance. HDR is self-standing report prepared by the responsible CW District and kept in a permanent file of that district. (pg. A-4)

(3) Outgrants will be handled on a case-by-case basis with HTRW responsibility placed on the grantee or other responsible party, where applicable. (pg. A-7)

(4) The document, which is used as a permanent record of HTRW response during OMRRR, would be a new requirement initiated by this guidance. (pg. A-7)

APPENDIX C
TABLE OF ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DM	Design Memorandum
EC	Engineer Circular
EM	Engineering Manual
EPA	U.S. Environmental Protection Agency
ER	Engineer Regulation
ERGO	Environmental Review Guide for Operations
FCSA	Feasibility Cost Share Agreement
HDR	HTRW Documentation Report
HQUSACE	Headquarters U.S. Army Corps of Engineers
HTRW	Hazardous, Toxic and Radioactive Waste
LCA	Local Cooperation Agreement
LERRD	Lands, Easements, Rights-of-way, Relocations, and Dredged material disposal areas
MCX	Mandatory Center of Expertise
NED	National Economic Development
NEPA	National Environmental Policy Act
O&M	Operation and Maintenance
OMRRR	Operation, Maintenance, Repair, Replacement, and Rehabilitation
OSHA	Occupational Safety and Health Administration

P&S	Plans and Specifications
PED	Preconstruction, Engineering and Design
PRBs	Project Review Boards
PRP	Potentially Responsible Party
SSHP	Site Specific Safety and Health Plan
USACE	U.S. Army Corps of Engineers