

22L – E-HTRW ASSESSMENTS

The objective of this activity is to identify, investigate, and assess potential environmental-hazardous, toxic, radioactive waste (E-HTRW) sites impacts in the Indian River Lagoon North Feasibility Study area. The results of the E-HTRW assessment conducted during the feasibility study phase will be used for the formulation of project alternatives, and screening and selection of preferred alternatives.

Civil works project funds are not employed for E-HTRW related activities except as provided in ER 1165-2-132, Hazardous, Toxic and Radioactive Waste (HTRW) Guidance for Civil Works Projects, or otherwise specially provided in law.

Alternative plans may consider avoidance of E-HTRW sites as a possible response. At least one alternative plan should be formulated to avoid E-HTRW sites to the maximum extent possible, consistent with the project objectives. A preliminary cost estimate of required E-HTRW response actions will be needed for each alternative plan in order to make a reasoned choice among alternative plans.

In general, E-HTRW assessment involves the following components: (1) archive research and site reconnaissance to identify E-HTRW sites in the study area which could potentially impact project alternatives, (2) water quality and site characterization to assess the nature and extent of E-HTRW contamination to the degree necessary to determine the potential water quality and E-HTRW impacts on project alternatives, (3) qualitative risk assessment of potential impacts to human health and the environment in the absence of environmental response action, to the degree necessary to determine potential impacts to project alternatives, (4) E-HTRW response alternatives analysis, (5) E-HTRW response cost estimate, (6) coordination with the Sponsor, and (7) preparation of the E-HTRW appendix to the Feasibility Report. The following paragraphs describe each of these components in more detail.

Archive Research & Site Reconnaissance - Identification of E-HTRW sites in the study area will require archival research and site reconnaissance. This may involve database searches or interviews with Federal agencies (U.S. Environmental Protection Agency (USEPA)), U.S. Army Corps of Engineers (USACE)), State agencies (Florida Department of Environmental Protection (FDEP)), or local regulatory agencies (St. Johns River Water Management District (SJRWMD)), County Environmental and Health Departments, etc.). This may also involve analysis of aerial photographs, field reconnaissance, site inspections, and analysis of building and utility layouts. Example of E-HTRW sites include: sites which generate E-HTRW contamination subject to the Resource Conservation and Recovery Act; E-HTRW contaminated sites listed on USEPA's National Priority List (Comprehensive Environmental Response, Compensation and Liability Act sites); Defense Environmental Restoration Program for

Formerly used Defense Sites contaminated with E-HTRW or ordnance; USEPA Brownsfields sites; petroleum-contaminated sites subject to FDEP's Petroleum Cleanup Program; E-HTRW Treatment, Storage and Disposal facilities; landfills; fire protection training areas; agricultural areas (e.g. Cattle Dip Vats) with potential arsenic/pesticide/herbicide contamination; mining areas; transformer storage areas; bulk product facilities; marine fueling facilities; wood treatment/preserving facilities; dredge disposal sites; dry cleaning facilities subject to FDEP's Dry Cleaning Solvent Cleanup Program; and land or water bodies adjacent to the above-listed sites. Please note that this list is not necessarily comprehensive.

Once E-HTRW sites within the study area have been identified as those sites which could potentially impact project alternatives, some of the factors which should be taken into consideration include: location of the E-HTRW site within the study area (close in proximity to land associated with project alternatives or critical project areas, or remote location), status of the E-HTRW site (has the site been previously investigated, characterized, remediated, etc), and the degree of risk that the E-HTRW site may pose to human health and the environment.

Site Characterization – Site characterization will include review of available site documentation (environmental impact statements, environmental assessment reports, etc.), study of the site's physical characteristics (topography, geology, hydrology, hydrogeology), sampling and analysis (soil, groundwater, sediment, surface water), and identification of source areas. The level of detail of the site characterization should be sufficient to determine the vertical and horizontal extent of E-HTRW contaminants in relation to alternative plan features and adjacent lands potentially impacted by the features.

Qualitative Risk Analysis - Components of the qualitative risk analysis include: determination of contaminant release mechanisms, mobility of contaminants, pathways and exposure routes, toxicity of contaminants, potentially exposed populations, as well as a determination of the non-numerical risk or potential adverse health effects for the identified potential receptors.

E-HTRW Response Alternatives Analysis - Activities conducted will include but are not limited to additional sampling and analysis to further characterize a site if needed, identification of potential response alternatives, screening of response alternatives, and cost analysis of response alternatives. Examples of response alternatives are; “no further action”, monitoring only, institutional/engineering controls, source removal, on-site containment or immobilization of E-HTRW, treatment of E-HTRW, or obtaining a waiver of environmental standards. During screening and analysis of the proposed response alternatives, a comparative evaluation should be conducted using the following criteria: (1) technical feasibility. (2) public health effects, (3) environmental effects, (4) institutional effects (e.g. effects of Federal, State and local standards), and (5) cost.

The recommended response action for a given E-HTRW site in the study area will be selected by determining which response alternative best meets each of the five evaluation criteria. The response action will be selected with full coordination with the appropriate Federal, State, and local regulatory agencies. The evaluation and selection of the response action will be documented as an appendix to the Feasibility Report. The appendix will document how each alternative weighs against the evaluation criteria, and how the selected response action best meets the evaluation criteria.

E-HTRW Response (RD, RA, O &M) Cost Estimate – A cost estimate will be developed for performing remedial design (RD), remedial action (RA), and Operation and Maintenance (O & M) for the response action(s) selected during the E-HTRW Response Alternative phase. RD, RA and O & M cost estimates shall be developed to the same level of detail as other project features, utilizing existing site data to the degree possible.

Coordination with the Sponsor – The scoping, execution, and findings of the E-HTRW assessments conducted during the feasibility phase are to be coordinated with the local sponsor. Should there be a known E-HTRW problem, the letter of intent to fund the sampling program and/or response, or that procedures have been initiated requiring the responsible parties to respond. The project authorization document and the post-feasibility phase Project Management Plan should include language describing how response actions will be coordinated with project construction. Construction should not be undertaken until response actions have been completed on lands impacted by E-HTRW.

E-HTRW Appendix – Results of the E-HTRW assessment will be fully documented in the E-HTRW Appendix to the Feasibility Report. This includes documentation of: (1) E-HTRW characterization and assessment, (2) E-HTRW risk analysis, (3) E-HTRW response alternative analysis, and (4) E-HTRW cost estimate. If E-HTRW is identified, the Feasibility Report will describe actions taken toward avoidance or response, and what non-Federal landowner is named as the “responsible party”, if applicable. Documents for innocent landowner defense will be retained.