

## **CHAPTER 4 WORK PLANS**

### **4-1. Introduction.**

a. This chapter presents guidance for the PDT regarding the preparation and review of Work Plans for munitions response actions. The purpose of developing Work Plans is to ensure that project goals will be achieved in a safe, timely, and cost-effective manner.

b. A Work Plan is required for all munitions response projects. The contractor will prepare the Work Plan following the site visit. The approved Work Plan will be the basis for all contractor activities during the execution of the munitions response.

4-2. Performance Objectives. Performance Objectives of a Work Plan will describe the goals, methods, procedures, and personnel used for:

- (1) Field investigation and data gathering activities for the SI.
- (2) RI/FS.
- (3) EE/CA phase of a munitions response or other munitions related project.

(4) Field activities for all Munitions Response remedial or removal actions or other munitions related actions.

4-3. Work Plan Review. The contractor will submit the draft Work Plan to the PM and the MM DC for review and comment. Each project should be assessed individually to determine which specific areas of expertise should be involved in the review and approval process. For remedial actions executed by the MMRP Remedial Action District, the SOW will be provided to the appropriate MM DC for review. The draft Work Plan will undergo an interdisciplinary technical review by the PDT.

4-4. Work Plan Contents. The content requirements for Work plans are contingent upon the type of contracting mechanism being used. The PDT will ensure that the following components, as applicable, have been adequately presented in the Work Plan. Not all requirements will be applicable to all projects. It is the responsibility of the entity preparing the Work Plan to determine inapplicable requirements, or requirements that are not listed in this outline but that should be included in the Work Plan. These will be identified in the SOW or discussed in the government meeting. Table B-4 in Appendix B presents a checklist of general requirements for the Work Plan. Additional details on Work Plan requirements are provided in subsequent chapters of this manual. The requirements for Work Plans involving munitions response actions include, but are not limited to:

a. Introduction. This chapter will include a brief description of the project authorization, purpose and scope, Work Plan organization, project location, project property description, project property history, current and projected land use, previous investigations of the project property, initial summary of MEC risk, and the potential for presence or absence of MC.

b. Technical Management Plan. This chapter will document the technical approach and procedures to be used to execute project tasks, and will include a discussion of the following project details: objectives, organization, personnel, communication and reporting, deliverables, schedule, periodic reporting, costing and billing, public relations support, subcontractor management procedures, and field operation management procedures. Application of technical procedures to execute project tasks may vary depending on the type of contracting methodology being used to execute the work, however they should be used to the extent practicable. Data management procedures and DQOs will also be included (general information on DQOs is provided in Chapter 1).

c. Field Investigation Plan. This chapter will include the following sections:

(1) Overall Approach to Munitions Response Activities. This chapter will include the site characterization goals; DQOs; data incorporation into the SI; RI/FS; or EE/CA reports; MEC exposure analysis, MC investigation planning, use of time critical removal actions during the munitions response project; and follow-on activities.

(2) Identification of Areas of Concern.

(3) Geophysical Prove-out Plan and Report (see Chapter 8).

(4) Geophysical Investigation Plan (see Chapter 8).

(5) Location Surveys and Mapping Plan (see Chapter 5).

(6) Geographic Information System (GIS) Plan (see Chapter 5).

(7) Intrusive Investigation. This chapter will include a discussion of the overall intrusive investigation methodology; establish the procedures for MEC accountability and records management; discuss UXO personnel qualifications; identify MEC sampling locations; specify MEC sampling procedures; identify the Munition with the Greatest Fragmentation Distance (MGFD); identify the Minimum Separation Distances (MSDs) to be used; discuss MEC identification, removal, storage, disposal procedures (including general and specific procedures for MEC, Material Potentially Presenting an Explosive Hazard (MPPEH), munition debris, etc.); and identify disposal alternatives.

(8) Geospatial information and electronic submittals (see Chapter 5).

- (9) Investigation Derived Waste (IDW) Plan (see EP 75-1-3).
- (10) Risk Characterization and Analysis (see Chapter 12, for RCWM see EP 75-1-3).
- (11) Analysis of Land Use Controls (see EP 75-1-4).
- (12) Preparation of the Five-year Review Plan (see EP 1110-1-24).

d. Quality Control (QC) Plan. This chapter will discuss QC procedures for all elements of the project. It shall include audit procedures, and corrective/preventive action procedures for: data management, digital geophysical operations, anomaly acquisition and reacquisition, field operations, equipment maintenance/calibration, air monitoring and personal protective equipment and contract submittals. The QC Plan shall document pass/fail criteria for quality audits and the records generated (i.e., logs, minutes, forms etc.) and the process for capturing and submitting lessons learned to the government. The QC plan shall also address site-specific and routine training requirements for contractor personnel and site visitors. If applicable the QC Plan shall contain a Chemical Data Quality Management sub plan in accordance with ER 1110-1-263. QC requirements for MC sampling may be documented in the QC Plan or in the MC Sampling and Analysis Plan (SAP).

e. Explosives Management Plan. This chapter will describe how demolition explosives will be managed, planned, and implemented during munitions response operations using appropriately qualified personnel, equipment, and procedures. This plan should also describe management of recovered MEC.

f. Explosives Siting Plan. This chapter will describe the safety criteria for siting explosives operations at the project property. This will include a description of explosives storage magazines including the Net Explosive Weight (NEW) and Quantity-Distance (Q-D) criteria, Munitions Response Sites (MRSs) (including separation distances), and planned or established demolitions areas. These demolitions areas will be identified on a site map. The Explosives Siting Plan will also address footprint areas for blow-in-place, collection points, and in-grid consolidated shots, although these footprint areas do not need to be shown on the site map. When a project requires an ESS, the data from the Explosives Siting Plan will be incorporated into the Q-D section of the ESS. Additional details are provided in Chapter 11 of this manual.

g. Environmental Protection Plan (EPP). This chapter will describe the procedures and methods to be implemented during the project's activities to minimize pollution, protect and conserve natural resources (wetlands, threatened and endangered species, coastal zones), cultural resources, archaeological resources, water resources, restore damage, and control noise and dust within reasonable limits. An EPP review checklist is included in Table B-4 in Appendix B.

h. Property Management Plan. This chapter will detail procedures for the management of government property IAW Federal Acquisition Regulations (FAR) Part 45.5 and its supplements.

i. Interim Holding Facility (IHF) Siting Plan for RCWM Projects (see EP 75-1-3). This chapter will describe siting and security measures for the IHF.

j. Physical Security Plan for RCWM Sites (see EP 75-1-3). This chapter will describe the areas of security interest related to the project property and specify the equipment, forces, and devices used to protect RCWM.

k. References. This chapter will provide references used throughout the Work Plan.

l. Appendices. The Work Plan will include the following information as appendices and will reference and integrate all appendices throughout the Work Plan:

(1) Appendix A: SOW.

(2) Appendix B: Site Maps.

(3) Appendix C: Points of Contact.

(4) Appendix D: Accident Prevention Plan (APP). (see EM 385-1-1)

(5) Appendix E: MC Sampling and Analysis Plan (see Chapter 7).

(6) Appendix F: Contractor Forms.

(7) Appendix G: MSD Calculation Sheets.

(8) Appendix H: Resumes (when required). These will include resumes of key personnel or personnel in other core labor categories not listed in the U.S. Army Engineering and Support Center, Huntsville (USAESCH) database.

(9) Appendix I: TPP Work Sheets.

4-5. Work Plan Acceptance. The Work Plan acceptance process is applicable to all Work Plans prepared for munitions response actions. Acceptance is dependent on the type of work and the contract mechanism being used. Performance based criteria for deliverables such as draft and final work plans are dependent on quality of product submitted and are evaluated based on reviews by the PDT. Following the review of the draft Work Plan, the PDT will provide comments to the MM DC for incorporation into the final Work Plan. Following the final acceptance of the Work Plan from the PDT and CO, a Notice-to-Proceed will be issued.

If any proposed changes occur to the accepted Work Plan, the PDT will review them prior to implementation. If the PDT accepts the changes, the modifications will be forwarded to the CO for acceptance. The CO will then issue the modification to the contractor. The work plan acceptance process is defined in ER 1110-1-8153.

EM 1110-1-4009  
15 Jun 07

This page intentionally left blank