

DATA ITEM DESCRIPTION

Title: Conventional Explosives Safety Submission (ESS)

Number: MR-060

Approval Date: 20031201

AMSC Number:

Limitation:

DTIC Applicable: No

GIDEP Applicable: No

Office of Primary Responsibility: CEHNC-OE-CX

Applicable Forms:

Use/Relationship: The Explosives Safety Submission (ESS) will be used to provide Munitions Response action safety criteria for approval by an appropriate Department of Defense (DoD) element. This Data Item Description (DID) incorporates requirements from EP 385-1-95b, which can be found at the website <http://www.usace.army.mil/inet/usace-docs/eng-pamphlets/ep385-1-95b/toc.htm>.

Requirements:

1. The Contractor shall, when required by the Government, submit a conventional ESS, which describes the safety criteria to be employed during Munitions Response operations. The ESS shall be a separate document and shall be prepared using the following format:
 - 1.1 Introduction. Provide a short introduction concerning site history and any other pertinent details.
 - 1.2 Reason for Munitions and Explosives of Concern (MEC). Provide a brief description of why MEC exists in the specific area(s) covered by the submission.
 - 1.3 Amount and Type of MEC. Provide the expected amount(s) and type(s) of MEC based on historical research or data generated from surface or intrusive investigation.
 - a. Munition with the Greatest Fragmentation Distance (MGFD). For Quantity-Distance (Q-D) purposes, the MGFD shall be established for each Munitions Response site (MRS). The MGFD is the round with the greatest fragment distance that can reasonably be expected to exist in any particular MRS. The MGFD can be selected from historical data or site investigation data; site investigation data is best.
 - b. For explosives contaminated soil, a Maximum Credible Event (MCE) shall be established. For soil, the MCE is the concentration of explosives times the weight of the mix. When the concentration varies within the area, weighted averages or any other valid mathematical technique can be used, as long as the technique is explained and technically supported in the ESS.
 - c. MCE's for explosives contaminated buildings slated for cleanup or dismantlement shall be estimated on a case-by-case basis and the rationale for the estimation must be included in the ESS.
 - 1.4 Start Date. State when the Munitions Response action is scheduled to start. This is the date that intrusive or surface removal operations are scheduled to begin.
 - 1.5 Frost Line. State the depth of the frost line for the area. Where MEC is above the frost line, yet located below the removal depth, address the potential for migration of MEC due to frost heave. Discuss the depth at which a significant number of frost cycles are expected, frost susceptibility, and availability of moisture since all three are required to produce frost-related migration of MEC. Also, address the need for continued surveillance and whether or not Long Term Management (Recurring Reviews) can meet the need, if any.
 - 1.6 Removal Techniques. Describe the techniques to be used to detect, recover, and destroy MEC. These techniques can be described using excerpts from the work plan for the Munitions Response action.

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- a. Identify each detection technology to be employed in each area and state its capabilities and limitations. Describe the selection criteria for the detection technology based on local geology and topography of the removal areas.
- b. State the depth of detection for each item expected in each MRS covered by the ESS.
- c. Address limitations imposed by terrain, soil type, etc.
- d. Address the method to be employed to dispose of recovered MEC.
- e. Describe the quality assurance/quality control (QA/QC) standards and pass/fail criteria for QA/QC audits. **QA standards and pass/fail criteria will be furnished by the Government for inclusion in the document.**
- f. Describe the process that will be used to determine that munitions debris presents no explosion hazards.
- g. Describe the procedures for disposition of munitions debris removed from the site or generated during the Munitions Response action.

1.7 Alternate Techniques. If the on-site method to destroy MEC is something other than detonation, provide a brief description of the method.

1.8 Off-Site Destruction. If recovered MEC cannot be destroyed on-site, explain how explosives safety requirements will be met during transportation and off-site destruction. Discuss the environmental restrictions and legal aspects that influence this process.

1.9 Technical Support. Summarize Explosive Ordnance Disposal (EOD), Technical Escort Unit (TEU), and/or contractor support required for the Munitions Response action.

1.10 Land Use Restrictions. For real property being released outside DoD, summarize any land use restrictions or other institutional controls to be placed on the property. **This information will be provided by the Government for inclusion in the document.**

1.11 Public Involvement. Briefly discuss the public planning document(s) that ensure involvement of public and local officials where there is a risk to the public as a result of the Munitions Response action. **This information will be provided by the Government for inclusion in the document.**

1.12 Maps: Furnish the following maps:

a. Regional Map. Provide a map showing the regional location of the site.

b. Site Map. Furnish an overall map of the area showing the following:

(1) MRSs covered by the submission. Show other sites not covered and explain them (i.e., covered in previous ESS, or will be covered in future ESS).

(2) MEC removal depth for each MRS.

(3) Location of any magazines used for storage of demolition explosives and/or recovered MEC.

(4) Location of any planned or established demolition areas to be used to destroy recovered MEC.

(5) Existing or planned use of each MRS after the Munitions Response. Describe in terms of these categories:

(a) Construction activity, whether commercial, residential, recreational, utility, or other.

(b) Farming, agriculture, surface recreation, vehicle parking, or surface supply storage.

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- (c) Livestock grazing or wildlife preserves.
- (d) Other (explain).

c. Q-D Maps: Q-D maps should be scaled at 1 inch equals 400 feet. A larger scale may be used, if available, and the map can be logistically included in the ESS. Smaller scale is acceptable if distances can be accurately shown. If unscaled maps are used, the maps must label distances. The Q-D map and site map may be shown on the same map. The Q-D maps shall show the following areas:

- (1) Each MRS being cleared under the submission.
- (2) Location of magazines for the storage of demolition explosives and any recovered MEC awaiting destruction.
- (3) Areas planned or established for intentional detonation or burning of MEC shall have an exclusion zone associated with them. Show each area and exclusion zone around it. Identify every inhabited building, occupied area, and public exposure inside the exclusion zone. Describe measures to be taken to eliminate/minimize risk for exposures within the exclusion zone.

d. Soil Sampling Maps. For MRSs involving explosives in soil, provide a map outlining the area sampled and the location and depth of sampling points. Identify field screening methods used and concentration of explosives for each sampling point. Address methods to be used to reduce explosives concentrations to below explosion hazard levels, and methods that will be used to reduce explosives hazards. Identify environmental or legal considerations that may be important.

1.13 Quantity-Distance. The following activities shall be sited and shown on the Q-D maps in the ESS:

a. MRS(s). Minimum Separation Distance (MSD) applies from MRSs to non-essential personnel while surface or intrusive removals are taking place.

b. Magazines. Magazines used to store demolition explosives and recovered MEC shall be sited and their location shown on the Q-D maps.

- (1) Describe the types of magazines used.

- (2) Provide a tabulated list of the explosives showing the Hazard Division (HD), Storage Compatibility Group, and total Net Explosives Weight (NEW) for each magazine.

c. Planned or Established Demolition Areas. These areas shall be sited and shown on the Q-D maps.

d. Footprint Areas. The ESS does not have to show the locations for the following footprint areas, but the ESS shall state the size of the MSD arc or exclusion zone that will apply around the areas.

- (1) Blow-in-Place.
- (2) Collection Points.
- (3) In-Grid Consolidated Shots.

2. End of DID MR-060.