

DATA ITEM DESCRIPTION

Title: Conventional Explosives Safety Submission (ESS)

Number: OE-060.01

Approval Date: 20021001

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 Ordnance and Explosives (OE) removal action safety criteria for approval by an appropriate DOD Element. This Data Item Description (DID) incorporates guidance contained in DDESB Memorandum, Subject: Guidance for Clearance Plans, 27 Jan 98, which can be found at the website <http://www.dac.army.mil/es/documents/esslist.pdf>.

Requirements:

1. The Contractor shall, when required by the Government, submit a conventional ESS, which describes the safety criteria to be employed during OE removal 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 OE. Provide a brief description of why OE exists in the specific area(s) covered by the submission.

1.3 Amount and Type of OE. Provide the expected amount(s) and type(s) of OE based on historical research or data generated from surface or intrusive investigation.

a. Most Probable Munition. For Quantity-Distance (Q-D) purposes, the most probable munition (MPM) shall be established for each OE area. The MPM is the round with the greatest fragment distance that can reasonably be expected to exist in any particular OE area. The MPM can be selected from historical data or site investigation data; site investigation data is best.

b. If, during the course of actual removal, a round with a greater fragment distance is encountered, then Q-D arcs shall be adjusted and an amendment to the ESS shall be submitted for approval. Until the amendment is approved, the distances specified in table C5.T1 or C5.T2, DOD 6055.9-STD or DDESB approved engineering controls shall be used to preclude work stoppage at the project site.

c. For explosives contaminated soil, select a Maximum Credible Event (MCE). 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.

d. 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 OE removal 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 OE is above the frost line, yet located below the removal depth, address the potential for migration of OE 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 OE. Also, address the need for continued surveillance and whether or not Long Term Management (Recurring Reviews) can meet the need, if any.

1.6 Clearance Techniques. Describe the techniques to be used to detect, recover, and destroy OE. These techniques can be described using excerpts from the Work Plan for the removal action.

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a. Identify each detection technology to be employed in each area and state its capabilities and limitations.

(1) Describe the selection criteria for the detection technology based on local geology and topography of the explosives remediation areas.

(2) State the depth of detection for each item expected in each OE area covered by the ESS.

(3) Address limitations imposed by terrain, soil type, etc.

(4) Address the method to be employed to dispose of recovered OE.

b. Describe the quality assurance/quality control (QA/QC) standards and pass/fail criteria for QA/QC audits. **QA standards and pass/fail criteria shall be furnished by the Government for inclusion in the document.**

c. Describe the process that will be used to determine that ordnance scrap presents no explosion hazards.

d. Describe the procedures for disposition of ordnance scrap removed from the site or generated during the clearance.

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

1.8 Off-Site Destruction. If recovered OE 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 removal 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. **The 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 clearance action. **The 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 site showing the following:

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

(2) OE removal depth for each OE area. Explain any reason for removal at depths less than DOD's default removal depths.

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

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

(5) Existing or planned use of each OE area after the clearance. Describe in terms of these categories:

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

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- (b) Farming, agriculture, surface recreation, vehicle parking, or surface supply storage.
- (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 OE area being cleared under the submission.
- (2) Location of magazines for the storage of demolition explosives and any recovered OE awaiting destruction.
- (3) Areas planned or established for intentional detonation or burning of OE shall have an exclusion zone associated with them. The exclusion zone will be defined by a public withdrawal distance. 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 OE areas 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. OE Area(s). Minimum Separation Distance (MSD) applies from OE areas to non-essential personnel while surface or intrusive removals are taking place. MSD is the maximum fragment distance for the MPM for the area. Use the distances for fragmentation protection given in paragraph C5.5.4, Chapter 5, DOD 6055.0-STD when the type of OE is unknown. When the type of OE is known use the calculated distance provided by the USACE Project Manager. Preliminary site work such as surveying, laying search lanes, and detecting anomalies do not require an exclusion zone for Q-D purposes.

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

(1) Inhabited Building Distance (IBD) applies from magazines to non-project personnel. Use IBD in DOD 6055.9-STD unless a sound rationale for other distances is provided.

(2) Describe the types of magazines used: commercial portable type, aboveground, shed, earth-covered, etc.

(3) Provide a tabulated list of the explosives showing the Hazard Division (HD), Storage Compatibility Group, and total Net Explosives Weight (NEW) for each magazine. Generally, recovered OE is considered HD 1.1 unless there are obvious reasons it is not.

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

(1) An exclusion zone shall be provided around each planned or established demolition area. The size of the exclusion zone may be based on one of the following:

- (a) Distances in DOD 6055.9-STD, Chapter 5, Paragraph C5.5.4.

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(b) Distances other than the above defaults may be used, if technically supportable rationale for the distances is included in the safety submission. Such rationale shall address primary fragments, blast, and crater ejecta.

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. The exclusion zone shall be determined using the same rules as for an established demolition area.

(2) Collection Points. These areas are used to temporarily accumulate OE within a search grid pending transport to another area for storage or destruction. Collection points shall have the same exclusion zone as the MPM for the area being worked. For this reason, Q-D arcs from collection points shall never be any larger than those already in the ESS as drawn around the OE area containing the collection point. Since on an actual project site only small portions of the overall OE area are being worked on a given day, the Q-D arcs from the collection points shall have actual use in establishing the daily exclusion zones.

(3) In-Grid Consolidated Shots. Consolidated shots occur within a search grid rather than at a demolition area. Consolidated shots shall use the same Q-D as established demolition areas.

2. End of DID OE-060.01.