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## THE MEMPHIS DEPOT TENNESSEE

## ADMINISTRATIVE RECORD COVER SHEET

AR File Number <u>496</u>



Action Memorandum

## Removal of Chemical Warfare Materiel, Parcel 36 Former Defense Distribution Depot Memphis, Tennessee

Defense Logistics Agency Defense Distribution Depot Susquehanna Pennsylvania Memphis Depot Caretaker Division Memphis, TN 38114-5210



April 2000

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#### ACTION MEMORANDUM

#### **Removal of Chemical Warfare Materiel**

#### Parcel 36

#### Former Defense Distribution Depot Memphis, Tennessee

Site Status: Closed Industrial Area Category of Removal: Non-Time-Critical Removal Action CERCLIS ID: TN4 201 002 0570 Site ID: Sites 1, 9, 24, 86

#### I. Purpose

The purpose of this Engineering Evaluation and Cost Analysis (EE/CA) Action Memorandum is to document approval of the proposed removal action described herein for Sites 1, 24A, and 24B Areas A and B of Dunn Field at the former Defense Distribution Depot Memphis, Tennessee (Memphis Depot or Depot) located at 2163 Airways Boulevard, Memphis, Tennessee 38114. The Depot is in Shelby County. The action is required by and is being taken pursuant to the Department of Defense Ammunition and Explosive Standard (DoD 6055.9) Chapter 12, paragraph 3.2 regarding Land Disposal. This parcel is subject to future transfer from the federal government per the Base Realignment and Closure Act, 1995.

The United States Army Corps of Engineers (USACE) is the lead respondent under the Defense Environmental Restoration Program and the Defense Logistics Agency is the lead agency under the USEPA Federal Facilities Agreement. Based on the results of the completed EE/CA, the excavation and removal alternative is recommended for the sites identified as potentially containing chemical agent. Excavation and removal of chemical warfare materiel (CWM) will eliminate the possibility of exposure and hazards to the public and the environment from CWM at the suspected burial pits and trenches. It is the only alternative that fully meets the remedial objective: to ensure that exposure to any level of CWM does not occur in the future. The EE/CA was prepared to document the potential alternatives that were analyzed and to recommend the appropriate alternative for the site. *The State of Tennessee and USEPA have participated and are in agreement with the selected remedy.* 

The administrative record for this site is located at the Memphis Depot. Additional information repositories that include copies of the administrative record are: the Memphis/Shelby County Health Department in Memphis, TN; the Memphis/Shelby County Public Library, Main and Cherokee Branches, and in the Memphis Depot Community Outreach Room.

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#### II. Site Conditions and Background

#### A. Site Description

#### 1. Removal Site Evaluation

The Memphis Depot is a former Defense Department supply depot. The Depot operated from World War II until its closure in 1997. Since closure, the Depot has been operated by the Memphis Depot Caretaker, a division of the Defense Distribution Depot Susquehanna, Pennsylvania. As part of Base Realignment and Closure (BRAC) activities, the Depot was divided into 36 parcels to assess the environmental condition of each parcel and to determine if it can be transferred from government ownership to private or public-sector uses. Dunn Field is parcel number 36.

The history of CWM disposal at Dunn Field began in July 1946 when 29 mustard-filled German bomb casings were destroyed and buried. Most likely these bomb casings were filled with sulfur mustard. These bomb casings were part of a railroad shipment en route from Mobile, Alabama to Pine Bluff, Arkansas. Records indicate that some of the bomb casings were leaking and had resulted in the contamination of the rail lines and freight cars that contained the munitions. Prior to reaching Pine Bluff, three railcars were identified as containing leaking munitions and these cars were transferred to the Memphis Depot for proper handling. These railcars were staged in the Main Installation area for unloading and decontamination. As the bomb casings were unloaded from the railcars, those found to be leaking were taken to a pit, containing a bleach (chloride of lime) solution, that was constructed at Dunn Field for draining of the mustard. Reports indicate the drained bomb casings were then destroyed and buried in a shallow trench in case any of the bomb casings contained a burster charge. A total of twenty-four 500 kilogram and five 250 kilogram bombs were destroyed. These two sites are in Area A.

During the early to mid 1950s, Chemical Agent Identification Sets (CAIS) were buried in Dunn Field. These sets were used by the military to train soldiers to identify chemical agents in the field and were probably K951/K952 sets that contained small glass ampoules of mustard, lewisite, and chloropicrin, mixed with chloroform. Set K951/K952 also included an ampoule of concentrated phosgene. At least six sets were buried at Dunn Field. CAIS stocks found to be leaking or broken during periodic inspection were reportedly buried in Dunn Field. The chloroform was included in the ampoules as a solvent. Each of the ampoules, with the exception of phosgene, contained anywhere from 0% to 50% chloroform. This site is in Area B.

The investigation at Dunn Field included an archives and literature search, interviews with former Memphis Depot employees, aerial photograph study, geophysical investigations, soil borings and sampling, groundwater well installation and sampling, sampling data analysis, and a streamlined risk evaluation (both human health and ecological). Three locations in Areas A and B were identified as potential CWM burial pits and trenches. CWM was not found in any of the soil or groundwater samples collected around the geophysical anomalies that are the burial sites. The results of the risk evaluation indicated that no adverse effects to human or ecological receptors are expected from exposure to environmental media outside of the burial pits or trenches. However, it is assumed that

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chemical agents are present in the pits/trenches and that exposure to these materials would, by definition, present an unacceptable risk to receptors.

#### 2. Physical Location

The Memphis Depot is a 642-acre area in the central section of Memphis, Tennessee, approximately 5 miles east of the Mississippi River, 4 miles from the central business district of Memphis, and approximately 1 mile north of the Memphis International Airport. Airways Boulevard borders the Depot on the east and is the primary access to the Main Installation. Dunn Road, Ball Road, and Perry Road serve as northern, southern, and western boundaries, respectively, of the Main Installation. Figure 1 shows the general location of the Depot within the Memphis area. Figure 2 shows the configuration of the Depot and its location with respect to the surrounding streets.

The Depot is located in an area of widely varying uses. Most of the land surrounding the Depot is intensely developed. The area immediately east of Dunn Field bounded by Hayes Road, Dunn Road, Castalia Road, and Persons Avenue is residential. The area north of Dunn Road and between Dunn Field and Dunn Elementary School is part residential and part industrial. To the north of the Depot are rail lines of the Frisco Railroad and Illinois Central Gulf Railroad. Large industrial and warehousing operations are located along the rail lines in this area. A triangular area immediately to the north of the Depot, bounded by Dunn Road, Castalia Road, and Frisco Avenue, also contains several industrial facilities. Formerly a residential neighborhood, the area is characterized by small commercial and manufacturing uses with some single-family residences remaining.

Airways Boulevard is the most heavily traveled thoroughfare in the vicinity and is developed with numerous small commercial establishments. Businesses along Airways Boulevard are typical of highway commercial districts. Other commercial establishments are located to the north, south, and west of the Depot. Most are small grocery or convenience stores that serve their immediate neighborhoods. The Depot is surrounded by residential development, including single- and multiple-family residences. Numerous schools and small church buildings are located throughout the area.

#### 3. Site Characteristics

Dunn Field is located to the north of the Main Installation (north of Dunn Avenue) and was used in the past for bulk mineral storage and waste disposal. It was divided into four areas for the purpose of the EE/CA (Area A, B, C, and D [Figure 3]). Areas A and B are the only areas where CWM disposal was documented in the past. The majority of Areas A and B are covered with grass that is mowed regularly. Areas A and B are approximately 19 acres in size and the topography is characterized by flat to gently rolling slopes and hills.

The Depot is currently under the ownership Department of Army and is operated by the Defense Logistics Agency. Dunn Field will be transferred to the ownership of the Depot Redevelopment Corporation or sold through public sale for reuse.

#### Figure 1 Site Location Map Memphis Depot Memphis, Tennessee

**Regional Map** 

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## 4. Release or Threatened Release into the Environment of a Hazardous Substance, Pollutant, or Contaminant

Soil and groundwater samples were collected during the EE/CA for Dunn Field. Soil samples were collected between 0 and 15 foot depths. Groundwater samples were collected from six new wells installed directly downgradient of the suspected burial pits and two existing wells. 45 soil samples and eight groundwater samples were collected and analyzed. The following paragraphs describe the laboratory results from these samples.

Twenty-two metals were detected in site surface soil samples. Thallium was the only metal not detected out of those for which analysis was conducted. These detections are comparable to natural background conditions. Three explosive compounds were detected at trace levels in surface soils. These included 2,4,6-trinitrotoluene, HMX (octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazorine), and RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine). These compounds were detected in two samples. No CWM or breakdown products were detected in any surface soil samples.

Twenty metals were detected in subsurface soil samples. These detections are comparable to natural background conditions. Of those metals analyzed, cadmium, silver, and thallium were the only metals not detected. Two explosive compounds were detected at trace levels in subsurface soils. These included 2,4,6-trinitrotoluene and RDX. The compound 2,4,6-trinitrotoluene was detected in three samples. RDX was detected in one sample. No CWM or breakdown products were detected in any of the subsurface soil samples.

Thirteen metals were detected in site groundwater samples collected from wells MW-56 to MW-61. These included: aluminum, antimony, arsenic, barium, chromium, cobalt, copper, iron, lead, manganese, nickel, vanadium, and zinc. These detections are comparable to natural background conditions. Due to the conservative nature of the data validation process, fourteen explosive compounds were estimated at the reporting limit in the sample from MW-56. These explosives may or may not have been present in the sample, but were certainly no higher than the reporting limit. These compounds were not detected in any other groundwater sample. No other constituents were detected in groundwater.

#### 5. NPL Status

The Memphis Depot was placed on the National Priorities List (NPL) in October 1992, and must fulfill requirements under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Contingency Plan (NCP). The Depot is under the jurisdiction of the Tennessee Department of Environment and Conservation (TDEC) and EPA Region IV.

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#### FIGURE 2. MEMPHIS DEPOT AREA





Figure 3. Site Map

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A site wide Remedial Investigation and Feasibility Study (RI/FS) is currently being prepared for the Depot in accordance with CERCLA and NCP to evaluate human health and environmental risk, and to screen for potential remedial actions.

The proposed removal action outlined in this Action Memorandum, however, is proposed voluntarily by the Defense Logistics Agency to remove suspected CWM at Dunn Field to eliminate potential risks to human health and the environment and to facilitate property transfer. Further remedial action requirements for other sites on Dunn Field and other potential contaminants, if any, will be determined by a record of decision following the RI/FS. The proposed removal action will not preclude remedial actions, if any are required, for other environmental media or sites.

#### B. Other Actions

#### 1. Previous Actions

No previous actions have been undertaken to address the suspected CWM at Dunn Field.

#### 2. Current Actions

Currently, a Remedial Investigation at Dunn Field is in progress and a groundwater recovery system is in operation along the western and northern edges of Area B. However, these actions are unrelated to the CWM investigation.

#### III. Threats to Public Health, Welfare, or the Environment

#### A. Threats to Public Health or Welfare

A streamlined risk evaluation was conducted for the areas directly adjacent to suspected CWM burial pits. The risk evaluation included a human health risk evaluation (HHRE) and an ecological preliminary risk evaluation (PRE). Potential exposure for both current and future human receptors to groundwater and soil at Dunn Field was evaluated in the HHRE. Chemicals that were found in soil and groundwater samples were evaluated as potential risks to these human and ecological receptors. Constituents of Concern (COCs) identified from the HHRE included lead in surface soil (0-1 foot); lead, chromium, and iron in mixed surface and subsurface soil (0-11 feet); and nitrobenzene, aluminum, iron, and manganese in groundwater. Based on the risk analysis that indicated safe levels and the fact that these COCs are not CWM related, none were identified as COCs to be removed. Therefore, adverse effects to current and future human receptors resulting from exposure to site media are not expected to occur in the areas directly adjacent to the suspected CWM burial pits.

#### B. Threats to the Environment

An ecological PRE, including a site walk, a visual inspection, and soil screening, was conducted at Dunn Field. Chemical compounds in surface soil (0-1 foot) and mixed surface and subsurface soil (0-11 feet) were evaluated and the ecological site characterization indicated it is highly unlikely that wildlife populations would be sustained at Dunn Field or in the surrounding area. No significant impacts to ecological populations are expected from CWM or CWM byproducts in the areas directly adjacent to the suspected CWM burial pits.

#### **IV. Endangerment Determination**

Although soil or groundwater samples were not collected directly beneath or within the suspected CWM burial pits, it is assumed that CWM exists in these areas and they are, by definition, toxic to human and ecological receptors. These wastes will result in an unacceptable risk if left in place. Therefore, removal actions are necessary to reduce or eliminate the potential CWM risk posed by these wastes. The locations of the removal areas are shown on Figure 4.

#### V. Proposed Actions and Estimated Costs

#### A. Proposed Actions

Four alternatives were evaluated for the removal action at Dunn Field. These alternatives include:

- Alternative 1 No further action;
- Alternative 2 Institutional controls;
- Alternative 3 Capping; and
- Alternative 4 Excavation and Removal of CWM.

Alternatives were evaluated in terms of effectiveness, implementability, cost, and the following removal action goals and objectives:

- Reduce or eliminate any chemical risk posed by CWM that remains at Sites 1, 24A, and 24B in Dunn Field;
- Remove any OE found in the suspected CWM burial pits;
- Recommend a response that is consistent with the intended future land use of the site;
- Have a reasonable and acceptable cost; and
- Be implemented in an expedited manner to meet BRAC parcel transfer and leasing schedules.

Alternative 4 is the only alternative that fully meets the removal action goals and objectives, including the Department of Defense Ammunition and Explosive Standard (DoD 6055.9).

#### 1. Description of Proposed Action

The proposed action (Alternative 4) includes the following elements:

- Excavating and off-site disposal of the material contained in the three areas shown on Figure 4; and
- Confirmatory soil sampling.



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#### 2. Contribution to Remedial Performance

The proposed removal action will remove the source of contamination (e.g., pit contents and contaminated soil) to the extent necessary to facilitate transfer of the property for further industrial or commercial reuse. It will also remove the potential risk of exposure to subsurface contamination in the areas of concern where such soils could present a hazard for future development or a potential source of groundwater contamination. Removal of the suspected CWM will support a No Further Action determination for Installation Restoration Program sites 1, 24A, and 24B.

#### 3. Description of Alternative Technologies

On-site treatment of CWM contaminated soils was not evaluated due to the nature of the suspected contaminants and community issues. The objective of the removal action is to eliminate any potential exposure to CWM in the future. The proposed removal action, excavation and off-site disposal, may include either landfilling or treatment of contaminated soil at a regulator approved facility.

#### 4. Engineering Evaluation/Cost Analysis (EE/CA)

The proposed removal action is based on removal action requirements and an alternatives evaluation documented in the *Engineering Evaluation/Cost Analysis (EE/CA), for the Removal of Chemical Warfare Materiel, Former Defense Distribution Depot, Memphis Tennessee*, dated June 1999, and information and decisions made subsequent to publication of that document. An information session/media day was held on September 19, 1998 in which the public and media were invited to a forum describing the findings of the field activities performed at Dunn Field and other areas of Memphis Depot. Approximately 40 citizens attended and concerns were mainly about the danger posed by CWM. A public notice/comment period on the EE/CA and the proposed removal action took place from June 10 to August 9, 1999. A public meeting to receive comments and a community information session were held on June 17, 1999. Approximately ten citizens attended this event. Appendix A, Responsiveness Summary, lists all comments made by the public during the 60-day public comment period and provides the agency's responses.

#### 5. Applicable or Relevant and Appropriate Requirements (ARARs)

The following list of ARARs was developed on the basis of the proposed scope of work for the removal action and known or suspected conditions at the site:

- Contaminated soil and debris will be screened to determine if they are characterized as hazardous waste. Waste will be characterized as hazardous if the appropriate analysis determines that the wastes are reactive, ignitable, corrosive, or toxic as described in 40 CFR 261 Subpart D.
- Applicable Occupational Safety and Health Administration (OSHA) health and safety regulations will be followed during the removal operations. Workers performing the removal will be properly trained and under appropriate medical supervision. Appropriate personal protective equipment will be used and safe work practices will be followed.

- Water pollution control requirements of the federal Clean Water Act and National Pollutant Discharge Elimination System (NPDES) and applicable state and county requirements will be followed during all construction and decontamination operations.
- Applicable NCP requirements, including public comment period provisions, have been followed.

#### 6. Project Schedule

The U.S. Army Engineering Support Center, Huntsville, has procured a contractor for CWM cleanup actions at Sites 1, 24A, and 24B. Current projections indicate that the work will begin during the spring of 2000. It is estimated that three to six months will be required to complete the removal action once the contractor is on-site.

#### B. Estimated Costs

The conceptual-level cost estimate for the proposed removal action ranges from \$3.2 to \$5.9 million. These costs are high and low estimates based on the amount of soil excavated and how it is characterized (i.e., CWM contaminated or HTRW contaminated). This cost estimate includes a direct capital cost (cost for transportation, and disposal) of \$1.8 to \$4.4 million and fixed costs (fees for subcontracts, travel and per diem and labor) of \$1.4 million.

Conceptual-level cost estimates are order-of magnitude cost estimates made without detailed engineering data and include estimates of major cost components and quantities as well as typical costs from similar work. It is normally expected that estimates of this type would be accurate to within plus 50 percent to minus 30 percent. The actual cost will be determined upon the award and completion of the removal action to a contractor.

No long-term operations and maintenance costs were included in the cost estimate because contaminants will be removed and no cap systems, treatment systems, etc., will be required after the removal action is complete.

### VI. Expected Change in the Situation Should Action Be Delayed or Not Taken

As long as suspected CWM remains in place at Dunn Field, there is a potential for exposure to the CWM in the burial pits and trenches and potential for migration of subsurface contaminants via infiltration and leaching of rainwater. However, recent sampling results indicate that migration of contaminants from the burial pits is not occurring. The Defense Logistics Agency can not absolutely prevent exposure to CWM after the property is transferred if the removal is not conducted.

## VII. Outstanding Policy Issues

The work is being funded fully by the Defense Logistics Agency. No policy issues concerning cost sharing or EPA funding are involved for the removal action.

#### **VIII. Enforcement**

The proposed removal action is a non-time-critical removal action voluntarily being undertaken by the Defense Logistics Agency. It is not an enforcement action; however, review and oversight is provided by TDEC and EPA.

### IX. Decision

This Action Memorandum represents the selected removal action for Sites 1, 24A, and 24B, in Areas A and B of Dunn Field, part of the former Defense Distribution Depot Memphis, Tennessee. The United States Army Corps of Engineers is the lead respondent under the Defense Environmental Restoration Program and the Defense Logistics Agency is the lead agency for actions under the USEPA Federal Facilities Agreement. This Action Memorandum was developed in accordance with CERCLA as amended, and consistent with the NCP. The Department of Defense Ammunition and Explosive Standard (DoD 6055.9) requires the action. The decision is based on the information in the administrative record for the site.

Conditions at the site meet the NCP section 300.415(b)(2) criteria for a removal action and I approve the proposed removal action.

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Captain, SC, USN Commander

## Appendix A

## **Responsiveness Summary**

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#### **Responsiveness Summary**

Engineering Evaluation/Cost Analysis Removal of Chemical Warfare Materiel Dunn Field

Public comments on the environmental removal action proposed at the area of the Depot referred to as Dunn Field have been requested and received. The Defense Logistics Agency placed the Engineering Evaluation and Cost Analysis report that documents and recommends a cleanup alternative into the four Depot information repositories before June 10, 1999 when the 30-day public comment period began. A public meeting was held to describe the proposed action and solicit comment from the public on June 17, 1999. The comment period was eventually extended for 30 days until August 9, 1999. During that 60 day period, 15 comments were received by DLA from the public. All comments were received either verbally during the public comment meeting or in writing. There were no comments received during the 60-day period from the public through the telephone answering service set up for that purpose.

Of the 15 comments, 11 are directly applicable to the proposed action. Although the remaining 4 comments are not directly applicable to the proposed action, responses are provided in the following documentation. The comments and responses that are directly applicable are provided first, while the other general comments and responses are provided second.

DLA, as the lead agency performing this removal, requested and received assistance in developing these responses from the U.S. Army Corps of Engineers, the U.S. Army Technical Escort Unit, the Project Manager for Non-Stockpile Chemical Materiel, and UXB International. UXB is the removal contractor while the other agencies listed are U.S. Army agencies that are leaders in the field of chemical warfare materiel identification, handling, and disposal.

#### The following comments are directly applicable to the proposed action:

#### 1. I concur with the chemical warfare materiel removal as presented.

#### 2. I would like to be present when the digging starts.

Due to safety requirements, no visitors will be allowed within the containment structure when the excavation begins. The Depot will provide the public an opportunity to see the containment structure and air monitoring system before work begins. The contractor, UXB International, will use a video monitoring system to record all of the activities within the containment structure. Visitors may be able to periodically view the excavation through this video monitoring system by scheduling a visit through the Memphis Depot Caretaker Environmental Division at least 24 hours prior to the requested visit date. As UXB will tape hundreds of hours of video, the Depot will request a copy of a portion of the video that shows materiel being excavated. All video provided to the Depot will be available for public review in the Depot Community Outreach room.

## 3. When DLA starts excavating chemical warfare materiel, will they wear protective gear and if so, why?

Some workers will wear protective gear during the excavation of chemical warfare materiel. The Occupational Safety and Health Act (OSHA) requires that workers are protected from site hazards, for example wearing protective equipment when there is the potential for workers to come into contact with chemicals or other hazardous substances. Army regulations also require workers to wear the appropriate level of personal protective equipment according to potential site hazards. Workers inside the containment structure will wear protective gear that provides a higher level of protection than the protective gear workers immediately outside the containment structure must wear. Workers who will not be in or immediately outside the containment structure will not be required to wear the same level or type of personal protective equipment. It is anticipated that these surrounding workers will be in street clothing.

## 4. Will DLA evacuate the community or offer them protective gear to wear during excavation?

Army chemical warfare materiel experts feel there is no need to evacuate the community during this project. The Memphis/Shelby County Emergency Management Agency (EMA) is responsible for determining if, when and how to evacuate the community. The EMA current contingency plan is to notify the community via emergency sirens, public service announcements (televison and radio), and by telephone to remain in their homes, turn off all air conditioning/heating systems and close all windows. The Army experts and DLA feel that the need for the EMA to implement their contingency plan does not exist but will maintain a copy of that plan at the Depot. The EMA has been involved in the planning process and will be involved during the project to ensure the community is protected.

Army chemical warfare materiel experts have calculated that any chemical warfare materiel released would not reach the Dunn Field fenceline in the event that the vapor containment structure failed before mixing with enough air to make it non-hazardous. According to research into the chemical warfare materiel at Dunn Field, the bomb casings were used as containers for the transportation of the chemical agent mustard from Germany to the United States and were not set up to explode. Even with this information, the Depot requested that a tent-like vapor containment structure and an air filtration/monitoring system be used to contain any chemical release and provide greater assurance that the community will be protected from the excavation. Excavation activities will take place inside the vapor containment structure. Air leaving this structure will be filtered and monitored. All excavated materials that leave the site for disposal will be checked to make sure that they are not harmful and will be containerized to prevent any spills.

In the unlikely event a release is confirmed outside the containment structure, all work will stop and actions will begin to stop the source of the release. The EMA will be notified and shall determine if the contingency plan must be implemented. All work activities, processes and plans will be reevaluated before resuming work.

## 5. The community is concerned about the children. What will be the impact of this cleanup on the children?

This action will be taken to make sure that no future impacts occur to the children or adults in the neighborhood. Investigations into the chemical warfare materiel disposal locations show that none of the material has moved away from the original disposal locations. The cleanup activities will take place inside a vapor containment structure that is designed to keep any chemical warfare materiel vapors that may be released during the removal project inside the structure. All air leaving this structure will be filtered and monitored. All materials that leave the site will be checked to make sure that they are not harmful and will be containerized to prevent any spills.

## 6. In Spring Valley, was there any trouble removing the bombs? How do we know the company hired to remove these bombs will do a good job?

In May 1994, UXB International completed excavating chemical warfare materiels at Spring Valley and experienced no difficulties or problems. UXB was established in 1984 and has successfully completed more than 260 jobs involving unexploded ordnance, explosive ordnance, humanitarian demining, and the removal of chemical warfare materiel. Since 1984, UXB has maintained a record of no explosive-related incidents or accidents. Chemical warfare safety specialists from the U.S. Army Corps of Engineers Engineering and Support Center Huntsville's Ordnance and Explosives Center for Expertise will supervise UXB on this project. Several other professional agencies such as the U.S. Army Technical Escort Unit, the Edgewood Chemical Biological Center, and the Program Manager for Chemical Demilitarization/Project Manager for Non-Stockpile Chemical Materiel will assist UXB to ensure the project is completed with no problems. The most qualified, experienced organizations of their type in the world to perform these type of actions will be on site working during this action.

# 7. We should have received an emergency response plan a year ago. When will the emergency response plan be presented to the community? A plan should have been presented to the community way in advance from the time remediation starts. A clear, concise evacuation plan should be developed and the community should be able to get information on the plan from mailings, the Internet, radio and television.

The Memphis/Shelby County Emergency Management Agency (EMA) has an emergency plan in place that they will use. The Depot and the Army have included the EMA in all phases of the project and have requested a copy of this emergency plan to make available to the community. The Depot, EPA and TDEC have also requested the EMA plan be included in the Site Safety Submission, which must be approved by the Department of Army and the Department of Health and Human Services. The Depot will work closely with the EMA in providing the emergency plan to the community before work begins.

## 8. What are you going to do with these bombs and are they going to another community that will be a problem to another community?

Based on the review of historical documents and interviews with former employees relating to the burial of the bomb casings, the casings were drained, cleaned with a special mixture and crushed. Intact bomb casings containing the chemical warfare materiel mustard are not expected to be found; however, the U.S. Army Corps of Engineers, UXB International, U.S. Army Technical Escort Unit and the Program Manager for Chemical Demilitarization are prepared in the event intact casings containing mustard are found. Empty metal bomb casings will be handled as hazardous waste and disposed of through commercial hazardous waste contractors. If intact casings containing mustard are found, UXB will use a safe solution to make the mustard less hazardous and to clean the casings. This waste will then be handled as hazardous waste and disposed of through commercial hazardous waste and disposed of through commercial hazardous waste and disposed of through commercial hazardous waste and

#### 9. As cleanup proceeds, will this cleanup information be available on the Memphis Depot Internet site?

Yes.

## 10. Will a flight plan for the helicopter removing the material be made available to the public?

The transportation route will be published in the transportation plan portion of the Site Safety Submission, which when approved by the Department of Army and the Department of Health and Human Services will be available to the public. A dedicated military helicopter will transport the material by the most direct route that avoids densely populated areas and minimizes disruption to normal traffic activities. The transportation will be to the nearest chemical stockpile facility with the necessary permits to receive the materiel.

#### The following comments are not applicable to the proposed action:

# 11. I don't think enough evaluation of what's really at Dunn Field, particularly the area south and the area east of the pistol range. I don't know if these areas will be evaluated later, but I think we've got to expand the scope of the evaluation.

The chemical warfare materiel investigation and Engineering Evaluation/Cost Analysis focused on four sites that are potential disposal locations of chemical warfare materiels. This investigation did not look at non-chemical warfare materiel disposal locations on Dunn Field or the Main Installation. The non-chemical warfare materiel disposal locations are being investigated as part of the remedial investigation being performed by the Corps of Engineers and CH2M Hill. The remedial investigation evaluated the potential problems and risks at the nonchemical warfare materiel disposal locations and, if necessary, will evaluate possible cleanup alternatives. The remedial investigation reports for Dunn Field and the Main Installation will be available to the public by the spring of 2000.

## 12. Let the community know about the asbestos that was extracted. Promises were made to water down the site upon removal of Building 209.

The Depot has followed Occupational Safety and Health Act, Environmental Protection Agency and Memphis/Shelby County Health Department requirements regarding notification prior to asbestos abatement. The Depot and its contractors followed these same agencies' requirements regarding removing and controlling asbestos during abatement activities. Water was used during the removal of asbestos containing materials such as boiler insulation, roofing materials and floor tiles from Building 209 before the building was demolished.

#### 13. Why is the community not informed about demolition of the buildings?

The Depot Redevelopment Corporation of Memphis and Shelby County is responsible for current and future demolition activities. Prior to the recent demolition of two buildings, an article ran in the Commercial Appeal. There is no requirement to notify the public prior to building demolition.

#### 14. What percentage of black or minority participation will UXB have in the cleanup?

UXB International, Inc. currently has 29 minorities working on other cleanup projects out of a total workforce of XXX. Participation in the Depot's project will be determined by a person's experience, skills, qualifications and training necessary to complete the project safely and successfully. All qualified applicants are invited to apply for employment with UXB International, Inc. The other agency participating in the Depot's project, the U.S. Army Technical Escort Unit, current cleanup workforce consists of approximately 30 to 40% minorities.

## 15. You shouldn't hold meetings on the Depot because people don't like to come onto the Depot.

The Depot intends to hold public information sessions regarding the chemical warfare materiel removal project at a local junior high school. The Depot also intends to attend and provide information at local neighborhood association meetings.

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