



# THE MEMPHIS DEPOT TENNESSEE

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## ADMINISTRATIVE RECORD COVER SHEET

AR File Number 1026



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET, S.W.  
ATLANTA, GEORGIA 30303

March 15, 2010

Mr. Michael A. Dobbs  
Environmental Program Manager  
Defense Distribution Center  
S Avenue, Bldg. 1-2  
DES-DDC-EE  
New Cumberland, PA 17070-5000

Re: EPA Approval of DLA's Determination that the Remedial Action Conducted for Operable Units (OU) 2, 3, and 4, Main Installation at the Former Memphis Depot NPL Site is Operating Properly and Successfully

Dear Mr. Dobbs:

The Defense Logistics Agency (DLA) submitted the Interim Remedial Action Completion Report (IRACR), Main Installation (CERCLIS OUs 2, 3, and 4) of the Former Memphis Defense Depot (DDMT) dated February 2010. The purpose of an IRACR is to document that a long-term remedial action (Remedy) such as, in this case, ground water remediation, has been constructed and is operating in expectation of achieving remedial action objectives (RAO) established in the ROD.

Section 6.4 of the IRACR contains a determination by DLA that the Remedy is operating properly and successfully (OPS). Approval of such a determination by the U.S. Environmental Protection Agency (EPA) is required under Section 120(h)(3) of the Comprehensive Response, Compensation, and Liability Act (CERCLA) prior to any property transfer, where an ongoing remedial action has been constructed and is being operated, but has not yet achieved the RAOs. Section 6.4 of the IRACR contains the rationale, objective data and weight of evidence DLA deems sufficient to support your determination.

EPA hereby approves of the DLA's determination that the remedy at OUs 2, 3, and 4 is in place and operating properly and successfully. EPA approval is solely for the purpose of allowing property transfer to proceed while the long-term remedy is operating, and does not imply that all cleanup actions are completed. This approval is made without any independent EPA investigation or verification but rather, by taking into account case-specific circumstances presented by DLA and evaluation criteria contained in EPA's Guidance for Evaluation of Federal Agency Demonstrations that Remedial Actions are Operating Properly and Successfully Under CERCLA Section 120(h)(3). EPA expressly reserves all rights and authorities relating to information not contained in the DLA OPS submittal, whether such information is known as of this date, or discovered in the future. EPA's approval applies only to the property known as the Main Installation, which contains known releases of hazardous substances, pollutants, or contaminants.

EPA has worked closely for more than a 15 years with DLA and the Tennessee Department of Environment and Conservation (TDEC) (the FFA Parties) to ensure that appropriate response actions have been considered in cases where the DLA/DOD stored for one year or more, or released, hazardous substances.

The Main Installation was the warehousing and distribution portion of the DDMT facility. It did not contain dedicated disposal areas like those at Dunn Field (OU-1). Releases of hazardous substances, pollutants, or contaminants were the result of operations such as cleaning and degreasing, sandblasting, motor pool operations, and general "housekeeping", and were of a substantially lower magnitude than at Dunn Field.

The elements of the Remedy that are relevant to this OPS demonstration were selected in a record of decision (ROD) approved by the EPA on September 6, 2001. The Remedy includes remedial actions for soil and ground water. In addition to approval of the ROD, EPA reviewed and approved the remedial design (RD) and the remedial action work plan, conducted visits during construction and operation, and participated in regular site meetings to follow progress of the Remedy. The rationale for EPA's approval of the OPS demonstration is presented below, organized by the environmental media addressed by the Remedy.

### Soil

Land use controls (LUCs) are the primary means selected in the ROD for controlling unacceptable exposures to surface soil. A land use control implementation plan (LUCIP) was approved by EPA. This LUCIP contains enforceable measures that are currently in place, as well as additional LUCs to be implemented during transfer activities (e.g., deed restrictions to prevent residential development). These are the only measures necessary to address contaminated surface soil. DLA is implementing the LUCIP and has submitted annual reports, as required, since its approval. The LUCIP includes figures depicting the area within which specific LUCs apply. DLA/DOD is obligated to conduct periodic inspections to ensure that the LUCs remaining place are not violated, for as long as the conditions at the site do not allow for uncontrolled use and unlimited exposure.

In addition to the LUCs, the 2001 ROD for the MI selected excavation, transportation, and disposal for lead-contaminated soil adjacent to building 949. This action was accomplished as a non-time-critical removal action prior to ROD signature, and an explanation of significant differences to that effect was included in the ROD. There are no ongoing actions related to this element of the Remedy.

In order to evaluate the potential for previously undiscovered sources of contamination to ground water, DLA implemented a rigorous source investigation in 2008, focusing on the clay-rich loess deposits in the top 30 feet of soil. The study identified a small total volume of residual chlorinated volatile organic chemicals (CVOC), but not to a degree that would prompt active remediation. Natural flushing over time is considered adequate to address this issue. EPA concurred with the findings and recommendations of the study. The study and its results are discussed in the IRACR. There are no additional actions from the ROD that relate to subsurface soils.

### Ground Water

The MI remedial investigation report (RI) identified several areas of low to medium concentration CVOC contamination in ground water, primarily trichloroethene and perchloroethene (TCE and PCE). The MI ROD called for treatment in two areas containing the highest concentrations, which were still less than 500 ug/L total CVOCs. Remaining areas of ground water with low-concentration contamination were to be watched via long-term monitoring (LTM) to ensure that the ground water did not migrate off-site at concentrations greater than the cleanup levels established in the ROD. Institutional controls were put in place to prevent consumptive use of ground water on the facility.

Ground water treatment consisted of establishing a series of well points and injecting carbon-based substrate to create anaerobic conditions in the treatment area and enhance the activity of bacteria known to metabolize the contaminants of concern (COCs). Remedial design studies identified sodium lactate as the preferred substrate to promote enhanced bioremediation treatment (EBT) under local aquifer conditions. DLA constructed the treatment system in 2006 and carried out treatment operations until March 2009. Lactate was distributed throughout the treatment areas and anaerobic conditions were created. Average PCE concentrations over all areas decreased 94% in injection wells and 67% in down-gradient performance monitoring wells, while average TCE concentrations decreased 85% in injection wells and 69% in performance monitoring wells. Treatment was most effective in areas with the highest COC concentrations. Although not fully effective at all treatment locations, the remedy overall was successfully reducing COC concentrations in the treatment areas. During the operational period, DLA made several efforts to optimize treatment and was successful in those efforts.

When COC concentrations in the treatment areas reached levels consistent with those in areas identified by the FFA Parties for LTM only, EPA, TDEC, and DLA agreed to cease injections and transition all ground water operations to long-term monitoring. It is estimated that cleanup levels established in the ROD will be met by 2038. Should LTM identify a need for subsequent treatment, the infrastructure is in place such that operations could be readily resumed.

Based on review of the relevant documents, site visits, and long-term participation by EPA personnel, the Agency hereby agrees with DLA's determination that the Remedy on the Main Installation is operating properly and successfully within the meaning of CERCLA section 120(h)(3).

Sincerely yours,

**Wm. Turpin Ballard**  
Digitally signed by Wm. Turpin Ballard  
 DN: cn=Wm. Turpin Ballard, o=US,  
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Wm. Turpin Ballard, RPM  
 Federal Facilities Branch  
 Superfund Division  
 U.S. EPA, Region 4

Cc: Jamie Woods, DOR/TDEC/Memphis

## References

1. Defense Logistics Agency (e2m Report), February 2010 – *Main Installation Interim Remedial Action Completion Report, Rev. 1*
2. Defense Logistics Agency (CH2M Hill Report), July 2004 – *Memphis Depot Main Installation Remedial Design Rev. 1*
3. Defense Logistics Agency (CH2M Hill Report), September 2001 – *Memphis Depot Main Installation Record of Decision*
4. U.S. Environmental Protection Agency, Guidance, 1996 – *Interim Guidance for Evaluation of Federal Agency Demonstrations that Remedial Actions are Operating Properly and Successfully under CERCLA Section 120 (h)(3)*

**FINAL PAGE**

**ADMINISTRATIVE RECORD**

**FINAL PAGE**