



**US Army Corps
of Engineers ®**

BALTIMORE DISTRICT

EXPLANATION OF SIGNIFICANT DIFFERENCES

FOR

4825 Glenbrook Road
Spring Valley Formerly Used Defense Site
FUDS Property No. C03DC091801
Washington, D.C.

August 2014

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Approved by:



Signature

15 AUG 2014

Date

J. Richard Jordan, III
Colonel, Corps of
Engineers District
Engineer

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4825 Glenbrook Road Spring Valley Formerly Used Defense Site Washington, D.C.

Introduction

This Explanation of Significant Differences (ESD) is for the site at 4825 Glenbrook Road, which is located in the south-central portion of the Spring Valley Formerly Used Defense Site (SVFUDS) in northwest Washington, D.C. The 4825 Glenbrook Road site is a residential parcel of approximately 0.4 acres that included a single family dwelling owned by American University. This ESD addresses a change in disposal procedures for experimental munitions not addressed in the Final Decision Document for the 4825 Glenbrook Road site, which is dated June 2012.

The U.S. Army Corps of Engineers (USACE), Baltimore District (CENAB) is the agency carrying out response actions for contaminants that were originally disposed as a result of Department of Defense (DoD) operations and activities at the time the site was under the jurisdiction of the DoD. The U.S. Environmental Protection Agency Region III (EPA) and the District of Columbia Department of the Environment (DDOE) are the regulatory agencies for the SVFUDS.

Requirements for addressing and documenting changes to the selected remedy that occur after the Decision Document was signed are provided under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and its regulations, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP); CERCLA §117(c); 42 U.S.C. §9617(c); NCP, 40 C.F.R. §300.435(c)(2). For significant changes to a Decision Document, CERCLA and the NCP provide that an ESD will be issued, and this document complies with those requirements.

This ESD will become part of the Administrative Record for 4825 Glenbrook Road, as required by 40 C.F.R. §300.825(a)(2), and is available to the public at the following information repositories:

Administrative Record:

U.S. Army Corps of Engineers,
Baltimore District (10200-C)
10 South Howard Street
Baltimore, MD 21201
Attn: Spring Valley Outreach Team
410-962-0157

Information Repository:

D.C. Public Library, Reference Desk
Tenley-Friendship Library Branch
4450 Wisconsin Ave. N.W.
Washington, DC 20016
202-727-1488

Internet Website:

<http://www.nab.usace.army.mil/Home/SpringValley.aspx>

Summary of Site History, Contamination Problems, and Selected Remedy

During the World War I era, the 4825 Glenbrook Road property was part of a larger area known as the American University Experiment Station (AUES), where the U.S. government researched and tested chemical agents, equipment and munitions. AUES-related waste, including more than 500 munitions items, 400 pounds of laboratory glassware and 100 tons of contaminated soil, have been recovered and safely removed from this property during investigations from 2000-2002, and then again, from 2007-2010. In August 2010, the U.S. Army/USACE, with concurrence from parties including our regulatory partners EPA and DDOE, among others, separated the 4825 Glenbrook Road property from the Spring Valley main site in order to expedite the cleanup process. This decision was based on the nature and extent of the AUES-related items found on the property, and the determination that these items were distributed across the property during the construction of the house in the early 1990s. The CERCLA process guides the selection and implementation of the remaining cleanup activities to achieve closure at the 4825 Glenbrook Road site.

The “Final Decision Document for 4825 Glenbrook Road,” dated June 2012, selected the remedy for the 4825 Glenbrook Road site as: remove the house and remediate (cleanup) to residential standards, providing for unrestricted future use of the property. The remedial action selected is focused on removing AUES-related material. Most of the substances expected to be removed from 4825 Glenbrook Road consist of primarily soil and contaminated media (i.e., glassware). In accordance with the Decision Document, these items will be excavated, segregated and transported off-site to an appropriate disposal facility.

However, given the SVFUDS’ history, the selected remedy for 4825 Glenbrook Road also incorporates by reference the selected removal action for munitions items addressed in the February 2010 Action Memorandum (AM) for the SVFUDS main site, which is titled: “Disposal of Discarded Military Munitions (DMM), including Recovered Chemical Warfare Materiel (RCWM), Conventional DMM, and Material Documented as an Explosive Hazard (MDEH)” with regard to the disposal of DMM, RCWM, and material for which the explosive safety status is documented as MDEH.

Pursuant to the 2010 Action Memorandum, all munitions and explosives of concern (MEC), including RCWM, and other AUES-related material recovered are inspected to determine its explosive or chemical agent (CA) safety status and disposed of in accordance with the February 2010 Action Memorandum. The selected response action for RCWM in the February 2010 Action Memorandum is on-site demilitarization using the Explosive Destruction System (EDS) at the federal property located within the SVFUDS. The selected response action for conventional DMM and MDEH is on-site demilitarization using contained destruction technologies at the federal property located within the SVFUDS.

Description of Significant Differences and the Basis for these Differences

On January 14, 2014, an item identified as a suspect chemical 75mm artillery projectile was recovered at the 4825 Glenbrook Road property during remedial activities. The item was assessed with X-ray and the Portable Isotopic Neutron Spectroscopy (PINS) Chemical Assay System: a field non-destructive evaluation tool used to identify the contents of munitions and chemical storage containers without the need to open or touch the item being tested. The radiographs (X-rays) showed that this item is the shrapnel version of the 75mm projectile, but it did not contain any explosive or lead shrapnel. On January 15, 2014, the Materiel Assessment Review Board (MARB),

representatives from several Army organizations who evaluate various types of information on recovered suspect munitions and recommends methods for disposal, met to evaluate the assessed data. A review of the X-rays determined the item contained a 100% solid fill with no fuze or energetic materials present. Analysis of the PINS spectra revealed that the item contains a possible magnesium arsenide fill. This appears to have been an experimental type of munitions. Although this type of fill is not a recognized chemical warfare agent, it is considered a hazardous chemical and must be handled and disposed of appropriately.

This unusual, experimental type of munitions item does not clearly fit under any of the following categories: conventional DMM, MDEH, or RCWM. Therefore the Decision Document for 4825 Glenbrook Road and the Action Memorandum it incorporates (which concerns the disposal of conventional DMM, MDEH, and RCWM) do not clearly apply to this item. This ESD proposes a remedy change from on-site disposal to off-site disposal at an appropriate disposal facility with respect to this munitions item and future munitions items recovered at 4825 Glenbrook Road, which contain or are reasonably suspected of containing a magnesium arsenide fill, as well as munitions items that are not approved for treatment in the EDS or other contained destruction technologies.

Significant Differences

1. The EDS and other contained destruction technologies are not certified to treat magnesium arsenide.
2. Off-site disposal remedies the need to abate any detonation hazard from donor charges, which are the charges used to detonate ammunition and/or explosives in an enclosed chamber or in open detonation.
3. Magnesium arsenide is not a recognized CWM, but in its present state could be considered a hazardous substance.
4. Transporting off-site to a disposal facility capable of treating items containing magnesium arsenide provides equivalent protection of on-site destruction without explosion hazard abatement at a much lower cost (approximate on-site destruction cost: \$1,000,000; approximate off-site disposal cost: \$100,000 including transportation cost).

Affirmation of the Statutory Determinations

The modified remedy: off-site disposal of munitions containing or suspected of containing a magnesium arsenide fill (and other munitions of a similar nature) at an appropriate disposal facility, is protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to the hazardous substances that are the subject of this response action, is cost-effective, and uses permanent solutions to the maximum extent practical.

Coordination with Support Agencies

Both the EPA and DDOE concur with this ESD.

Public Participation

Notification of Availability of this ESD in the Information Repository will be published in a major local newspaper of general circulation.