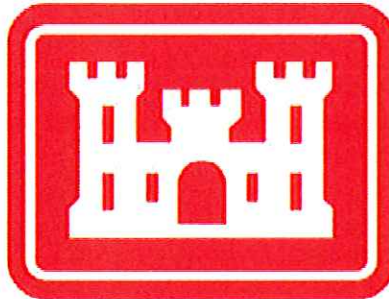


ADDENDUM 2
TO THE
APPROVED ACTION MEMORANDUM
NON-TIME-CRITICAL REMOVAL ACTION
BURNING FIELD (SOP-M) AND
INCENDIARY FUEL DISPOSAL AREA (SOP-Z)
FORMER SCIOTO ORDANCE PLANT
MARION, OHIO
(FUDS NO. G05OH0980)



December 2013

STATEMENT OF INDEPENDENT TECHNICAL REVIEW

ADDENDUM 2

to

**NON-TIME-CRITICAL APPROVED ACTION MEMORANDUM
BURNING FIELD (SOP-M) AND INCENDIARY FUEL DISPOSAL AREA (SOP-Z)
FORMER SCIOTO ORDNANCE PLANT
MARION, OHIO**

Cape Environmental Management Inc. has completed *Addendum 2 to the Non-Time-Critical Approved Action Memorandum* at the Former Scioto Ordnance Plant, Marion, Ohio. Notice is hereby given that an independent technical review has been conducted. During the independent technical review, compliance with established policy principles and procedures was verified.

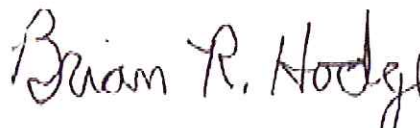
Prepared By:



Benjamin J. Shivar, P.G.
Project Manager

Date: 12/10/13

Reviewed By:



Brian Hodge
MEC Operations Manager

Date: 12/10/13

Significant concerns expressed by the Cape Environmental Management Inc. independent technical reviewer and the explanations of the resolution are as follows:

No significant concerns have been identified.

As noted above, all concerns resulting from the independent technical review of the document have been considered.



David Ahlborn
Independent Technical Reviewer

12/10/13

Date

ADDENDUM 2 OVERVIEW

Addendum 2 incorporates an additional investigation area and removal work for the SOP-Z site. Based on the results of the Time Critical Removal Action (TCRA), the munitions and explosives of concern (MEC) investigation and removal area has been extended to include a 3-acre fire break area.

Addendum 2 does not alter the Action Memorandum (AM), Addendum 1 to the AM or Non-Time Critical Removal Action (NTCRA) requirements. Addendum 2 presents additional text and corresponding locations that the additional text shall be inserted in the approved AM.

ACRONYMS AND ABBREVIATIONS

AM	Action Memorandum
CAPE	Cape Environmental Management, Inc.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DGM	digital geophysical mapping
EE/CA	Engineering Evaluation/Cost Analysis
EPA	Environmental Protection Agency
FUDS	Formerly Used Defense Sites
MEC	munitions and explosives of concern
NCP	National Contingency Plan
NTCRA	Non-Time Critical Removal Action
RC	Response Complete
TCRA	Time Critical Removal Action
USACE	United States Corps of Engineers
UXO	Unexploded Ordnance
WP	white phosphorus

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Figure 5: MEC Clearance Area

1.0 INTRODUCTION

Addendum 2 adds the following to this section.

This addendum is supplemental to Addendum 1 to the Action Memorandum (AM) dated June 2011 and the original AM dated August 2010.

2.0 PURPOSE

2.1 Site Description

Addendum 2 adds the following to this section.

After the Time Critical Removal Action (TCRA), it was determined by United States Army Corps of Engineers (USACE) and Ohio Environmental Protection Agency (EPA) that munitions and explosives of concern (MEC) may extend beyond the Engineering Evaluation/Cost Analysis (EE/CA) (Area 1/Area 2) boundary that require further investigation and removal (refer to Figure 5, MEC Clearance Areas).

2.2 Other Actions to Date

Addendum 2 adds the following to this section.

The Incendiary Fuel Disposal Area (SOP-Z) is within the Formerly Used Defense Site (FUDS) property, former Scioto Ordnance Plant, north of Likens Road and west of New Road. The SOP-Z area shown on Figure 5, which is a 1955 photograph, covers the location of the lagoon incendiary fuel contaminated soils.

A TCRA was performed to remove MEC, specifically M-74 10lb incendiary bombs, at SOP-Z, Area 2. A cache of six shell casings of the M-74s as well as components of the M-74s were identified during the removal of monitoring well MW-1, in a trench 30 feet east of MW-01. The M-74s are known to contain up to six ounces of white phosphorus (WP).

The focus will be at a trench east of MW-1; but will also expand further into a 3-acre area based on geophysical screening. The geophysical screening will encompass the 3-acre area that most likely contains the burial of the material located in the northeast area (disturbed area) of the 1955 aerial photograph (see Figure 5).

3.0 PROJECT JUSTIFICATION

3.1 Threats to Public Health and Welfare

3.1.1 SOP-M

Addendum makes no additions to this section.

3.1.2 SOP-Z

Addendum 2 adds the following to this section.

To achieve Response Complete (RC), MEC removal is required in a 3-acre fire break area.

3.2 Threats to the Environment

Addendum makes no additions to this section.

3.3 Endangerment Determination

Addendum makes no additions to this section.

4.0 ALTERNATIVES CONSIDERED

Addendum 2 adds the following to this section.

Prior to completion of Alternative 1 (as described in the original AM) at SOP-Z, there will be a MEC clearance of the M-74s within the 3-acre fire break area. Digital geophysical mapping (DGM) will be performed within the entire 3-acre area prior to the MEC clearance operation. Geophysical anomaly targets will be identified after data processing and then subsequently intrusively investigated.

If necessary, based on geophysical mapping, up to 6,400 cubic yards of soil may be excavated and sifted within the 3-acre area footprint. The sifting will cause WP flakes to self-ignite and deactivate. Cape Environmental Management, Inc. (CAPE) will utilize a high capacity vibratory sifter, as such a Powerscreen® Chiefton 1400 or a McCloskey S130 to accomplish this task. The Unexploded Ordnance (UXO) Team will excavate the trench with an excavator and stage recovered soils in one-foot lifts. The staged soil will then be visually scanned by UXO-qualified personnel to remove large items, including MEC and munitions debris, from the staged soils. Once the lift has been cleared of large debris items the remaining soil will be loaded into the mechanical sifter with a wheel loader and processed through the sifter to allow for any WP to burn off and to sift out any remaining metallic debris potentially coated with WP residue as well as, any full or partial M-74s remaining in the soil. UXO Technicians will observe the material coming out of the sifter from behind shields made of steel with a 24-by-24-by-½-inch-thick Plexiglas window view port. All recovered metallic material will be run through a flash unit to ensure that WP residue is expended. Recovered M-74s will be rendered safe by detonation.

5.0 COMMUNITY PARTICIPATION

Addendum makes no additions to this section.

6.0 REGULATORY RESPONSIBILITIES

Addendum makes no additions to this section.

7.0 NTCRA SELECTION CRITERIA

Addendum makes no additions to this section.

8.0 DESCRIPTION OF SELECTED ALTERNATIVE

8.1 Proposed Action

Addendum 2 adds the following to this section.

The study/remedial effort will be performed in the 3-acre fire break area of SOP-Z to address MEC items found during the Non-Time Critical Removal Action (NTCRA). The following response actions will be conducted to mitigate threats posed by the presence of MEC at SOP-Z:

1. The MEC removal will be performed in accordance with Addendum 4 of the Final Removal Action Work Plan and Amendment 3 of the Explosives Safety Submission.
2. Close coordination with USACE and Ohio EPA will be maintained throughout the MEC removal action;
3. Spent M-74s that are corroded leaving the WP encased will be vented using detonation cord. The M-74s will not be in an aggregate pile for more than 5 days, allowing the demolition operations to occur on Fridays. The venting of these M-74s will occur with detonation cord at a weight limit that does not cause seismographic and/or air-shock disturbances to neighboring residential or business structures.

8.2 Compliance with ARARs

Addendum makes no additions to this section.

8.3 Estimated Cost to Implement

Addendum 2 adds the following to this section.

Additional estimated costs to conduct MEC clearance and disposal at SOP-Z is \$677,098.14 (not including optional tasks).

9.0 COMPARATIVE ANALYSIS

Addendum makes no additions to this section.

10.0 EXPECTED CHANGE IN SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Addendum makes no additions to this section.

11.0 RESPONSIVENESS SUMMARY

Addendum makes no additions to this section.

12.0 RECOMMENDATION

This document has been developed in accordance with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, and is consistent with National Contingency Plan (NCP). This decision is based on the imminent threat from MEC uncovered during the remedial work at SOP-Z. Upon completion of the removal action, appropriate Decision Documents will be amended, issued and implemented.

Approved:



Luke T. Leonard
Colonel, Corps of Engineers
District Commander

Date: 23 Dec 13

Concurred:



Cynthia A. Hafner, Chief
Division of Emergency and Remedial Response
Ohio Environmental Protection Agency

Date: 12/30/13

FIGURE 5 (*newly added*)

