SUBJECT: Temporary Authorizations Request for
M417 Fuzes Removal from Agent Filled Warhead Assemblies
Assemble Chemical Weapons Alternatives (ACWA)
Activity Blue Grass Chemical Activity (BGCA)
Blue Grass Army Depot (BGAD)
EPA ID #KY8-213-820-105, AI #2805

Commonwealth of Kentucky
Department for Environmental Protection
Division of Waste Management (DWM)
Hazardous Waste Branch
ATTN: Ms. April J. Webb, PE, Manager
300 Sower Boulevard, 2nd Floor
Frankfort, KY 40601

Dear Ms. Webb:

Pursuant to Kentucky Revised Status (KRS) 224.50-130, enclosed is a Temporary
Authorizations Request (TAR) for the removal of M417 fuzes from agent fill M56
warhead assemblies.

Request to withdraw the Work Plan for removal of M417 fuzes from agent fill M56
warhead assemblies that was submitted on or around 19 March 2020. The application
is being resubmitted as a TAR for removal of M417 fuzes from agent fill M56 warhead
assemblies.

The M417 fuze removal operation will be a one-time event, and the operations will be
a short-term activity (less than 180 days). TAR are allowed to address a one-time or
short-term activity at facility for which a full permit modification process is unsuitable.

The TAR address the DWM comments provided on April 6, 2020.

The Temporary Authorizations Request address the following activities:
- Transport and monitoring of M56 Warhead Assemblies overpacked in Single
  Round Containers
- Removal of M417 Fuzes
• Placement of the warhead back into overpacks and back into permitted storage
• Shipping of fuzes to Anniston Army Depot for testing/treatability study

The Program Executive Office ACWA has directed that a government and/or contractor organization may provide support for these activities. The operations will take place within the boundaries of the chemical limited area.

If you have any questions or require additional information, please contact Mr. Allen Gilbert, BGCA Environmental Supervisor at (859) 779-6892, Mr. Todd Williams, ACWA-FO Environmental Engineer at (859) 779-7467, or Mr. Ramesh Melarkode, BGAD Environmental Chief, at (859) 779-6268

“I certify under penalty of law that this document (Temporary Authorizations for M417 Fuzes Removal for Agent Fill Warhead Assemblies) and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Sincerely,

Rodney D. McCutcheon
Lieutenant Colonel, U.S. Army
Commanding
Blue Grass Chemical Activity
Permit Operator

Enclosures

cc:
Dale Burton, DWM-KDEP
Candace Coyle, Ph.D., PEO ACWA
Tim Garrett, PEO ACWA
Todd Williams, PEO ACWA
Brian Ballard, PEO ACWA
Allen Gilbert, BGCA
Ramesh Melarkode, BGAD
Joe Elliott, BGAD
Resource Conservation and Recovery Act (RCRA)

Temporary Authorizations Request

Fuzes Removal from
Agent Filled Warhead Assemblies

for the Blue Grass Chemical Agent-Destruction Pilot Plant
Blue Grass Army Depot,
Richmond, Kentucky

Submitted to:
Energy and Environment Cabinet
Kentucky Department for Environmental Protection
Division of Waste Management
300 Sower Boulevard, 2nd
Floor Frankfort, Kentucky 40601

Submitted by:
Blue Grass Army Depot
431 Battlefield Memorial Highways,
Richmond, Kentucky 40475
EPA ID# KY8-213-820-105

and

Blue Grass Chemical Activity
431 Battlefield Memorial Highway,
Richmond, Kentucky 40475

May 2020
Revision/Submission 1
References Blue Grass Army Depot’s Resources Conservation and Recovery Act (RCRA), hazardous waste permit, EPA ID# KY8-213-820-105.

This Temporary Authorizations Request is being submitted to meet the requirement of Kentucky Revised Status (KRS) 224.50-130(5), Chemical munitions waste treatment or disposal -- Requirements for treatment or disposal permits -- Restrictions governing permits -- Reclassification of residues of demilitarization process, section 5.

(5) In addition to the definition of the term as defined in this chapter, the term "treatment," as used in this section, shall include the manual or mechanical handling of the chemical compounds listed in subsection (2) of this section and of any munitions containing the compounds during the processing of munitions to remove the compounds, to separate munitions components, and to otherwise prepare the components and compounds for destruction, neutralization, dismantling, or decommissioning. The term "treatment" shall not include the handling, movement, or overpacking of containers or munitions containing a compound listed in subsection (2) of this section within the fenced boundaries of an area used for the storage of those munitions if:

(a) A plan for the handling, movement, or overpacking is submitted and approved by the cabinet, after public notice and opportunity to be heard, before the handling, movement, or overpacking occurs; or

(b) An emergency has occurred and the handling, movement, or overpacking is necessary to protect human health, safety, or the environment, if a report describing the handling, movement, or overpacking is submitted to the cabinet as soon as possible after the emergency is abated.

The Temporary Authorizations request are useful (1) to address a one-time or short-term activity at facility for which a full permit modification process is inappropriate; or (2) to allow a facility to initiate a necessary activity while its permit modification request is undergoing the Class 2 or 3 review process, (37920 Federal Register, September 28, 1988).

This Temporary Authorizations request is being submitted under conditions (1). The fuzes removal operations will be a one-time event, and the operations will be a short-term activity (less than 180 days).
This request is being submitted to support the Program Executive Office, Assembled Chemical Weapons Alternatives (PEO ACWA) chemical demilitarization mission. PEO ACWA is the Blue Grass Army Depot (BGAD) tenant responsible for the safe destruction of chemical weapons. Blue Grass Chemical Activity (BGCA) is the BGAD tenant responsible for the safe storage of chemical weapons.

The request addresses the transport and monitoring of up to 34 GB and up to 8 VX M56 Warhead Assemblies (hereafter referred to as warheads) overpacked in Single Round Containers (SRC) (Figure 1), removal of M417 Fuzes (hereafter referred to as fuzes), placement of the warhead back into overpacks and back into storage waiting demilitarization, and shipping of fuzes to Anniston Army Depot for testing/treatability study. Figure 2 is a drawing of a M55 chemical rocket assembly depicting the M56 warhead and the M417 fuze.

Air monitoring required for this operation will be conducted using Real-time Analytical Platform (RTAP) equipped with Miniature Continuous Air Monitoring Systems (MINICAMS) IAW Blue Grass Army Depot Hazardous Waste Facility Permit RCRA Hazardous Waste Storage Permit Application for Chemical Munition Related Items (Module III).

For this operation/document, air monitoring identified at 1 VSL will have an action/alarm level of 0.25 STEL. At the action level, operators will mask and exit the HWSU. Operators will re-enter the HWSU in appropriate PPE to evaluate conditions, overpack the warhead into an SRC, and/or decontaminate any items that came in contact with chemical agent liquid or aerosol.

Monitoring to or below the WPL will be conducted using the Depot Area Air Monitoring Systems (DAAMS) tubes or via RTAP.

In the event of an agent emergency, the Contingency Plan in the Blue Grass Army Depot Hazardous Waste Facility Permit RCRA Hazardous Waste Storage Permit Application for Chemical Munition Related Items will be implemented.

**Transport, Monitoring and Storage of the Warheads, and Removal and Shipping of the Fuzes**

The typical step to remove the fuze from the warhead includes but is not limited to the following:
1. Setup/operation

a. Figure 3 provides a typical layout of the operation.

b. Install equipment that will be used during fuze removal.

c. Install required monitoring, filtering and utilities (air, electric, etc.).

2. Transport of the Overpacked Warhead

a. The fuze removal operation will take place in Hazardous Waste Storage Unit (HWSU) CD. Prior to the operation, HWSU CD will be empty of all items not related to the operation. Only items required for the operation will be in the igloo during the operation.

The following steps will be performed.

b. Perform first entry monitoring of HWSU where the items are stored.

c. If first entry monitoring is non-detect, select and tag one or more crates (Figure 4) containing warheads.

d. Stage the selected crate(s) for transport.

e. Position transport vehicle at designated HWSU.

f. Move one crate at a time to the transport vehicle. The crate will be secured to the transport vehicle. Up to four crates containing SRCs with warheads will be on the transport vehicle at any one time. Only one agent type will be moved at any one time IAW safe and efficient operations.

g. Operators will carefully and slowly move transport vehicle to HWSU CD. At no time will the vehicle exceed 20 MPH. The respective traffic route within the CLA will be restricted during movement.

h. Operators will position the transport vehicle at HWSU CD.

i. The operators will carefully remove one crate at a time from the transport vehicle and move the crate into the staging/storage area of HWSU CD. No more than 34 SRCs with the same agent will be staged
within HWSU CD during the fuze removal operations.

j. Once the fuze has been removed from the warhead or it is determined the fuze cannot be removed, the warhead will be placed in an SRC and returned to a crate. Banded crate(s) will be secured on a transfer vehicle for return to the HWSU.

k. Carefully and slowly transport the crate(s) to a permitted storage location within the CLA.

l. HWSU receiving the crates will be air monitored for two consecutive days after movement occurs. Once the two days of monitoring is completed, the HWSU will be returned to its normal monitoring schedule.

3. Monitoring of the HWSU and the SRC

a. A mobile filter system will be attached to the HWSU CD during the fuze removal operation. The mobile filter system will be continuously operated during the fuze removal operation. In the event of a confirmed agent reading in the HWSU, the air flow between the filter banks will be monitored. In the event the filter system shuts down due to some type of failure, operations will be halted until the backup system can be activated.

b. In the event of an agent reading within the HWSU is greater than or equal to 1 VSL, with an action level of greater than or equal to 0.25 STEL, the leaking warhead will be identified and the SRC closed. When the atmosphere within the HWSU is non-detect for agent, operations will continue.

c. Each SRC will be monitored either while in the crate or after being removed from the crate. Only one item at a time will be moved or monitored.

d. Open the sampling port or loosen the bolts of the cover on the closure end of the SRC. Place monitoring wand inside the SRC and monitor for one cycle (if reading is greater than or equal to 0.25 STEL then a second MINICAM will do a second cycle). In the event of an agent reading greater than or equal to 1 VSL, with an action level of greater than or equal to 0.25 STEL, the sampling port and/or bolts of the SRC will be secured.

e. If monitoring results of an SRC are less than 1 VSL at below 0.25 STEL, remove the closure end of the SRC and inspect the inside of the SRC for signs of liquid agent.
4. Removal of Fuze From the Warhead

a. The HWSU will be monitored continuously when warheads are present. In the event of a confirmed agent reading equal to or greater than 1 VSL, the leaking warhead will be identified and the SRC will be closed. When non-detect (less than 1 VSL with an action level of greater than or equal to 0.25 STEL), operations will continue.

b. Entirely remove the warhead from the SRC, secure the warhead on an Ammunition Peculiar Equipment (APE) Rocket Restraining Device (RRD) or similar equipment and unthread the fuze with a fuze spinner.

c. Once removed, monitor the fuzes to the Worker Protection Level (WPL). Fuzes that monitor at or above WPL will be either decontaminated, placed back on the warhead assemblies, and/or placed into an approved DOD container for onsite disposal. The fuzes that monitor below WPL will be placed in a DOT package for transporting. Up to 42 fuzes that have been cleared by either an evaluation (operator/generator knowledge (non-agent contaminated)) or monitoring may be stored in HWSU CD or KP until operations are complete. Once a fuze or fuzes are evaluated (generator knowledge) or monitored, the fuze or fuzes may be moved to HWSU KP at any time during the operation.

d. After fuze is removed or if fuze cannot be removed, manually place the warheads into an SRC. SRCs used will be subjected to a helium leak test as part of the acceptance process before use. Place a dummy fuze, a spacer, or other inert item inside the SRC to compensate for the removed fuze, close and bolt the SRC and place the SRC in a crate.

e. Band the crate of SRCs once the desired number SRCs have been placed on the crate. Monitor crate to 1 VSL, below 0.25 STEL, prior to returning to the HWSU.

f. SRCs will be labeled with a hazardous waste label and marked with respective Kentucky hazardous waste code N001 for GB or N002 for VX. Empty SRCs that contained warheads will be evaluated and reused or will be disposed of in accordance with RCRA and permit requirements. Marking and labels will be removed from empty SRCs.

g. Repeat steps a through f until the desired number of fuzes have been removed, monitored and packaged.
5. Shipment of Fuzes for Testing.

a. Department of Transportation (DOT) requirements for packaging, marking, labeling and placarding will be followed.

b. Under analytical-sample exemption, the fuzes (samples) will be shipped under a bill of lading and chain of custody.

c. Once analysis and/or evaluation is/are completed, the remaining components of the fuzes will be destroyed at the receiving facility.

End State of Structure, Equipment, and Secondary Waste

The end state of the structure (HWSU CD) and equipment will be to return to pre-operations conditions. Improvements such as lighting, grounding, and sound board made to HWSU CD could be left in place. Once the operation is completed, and the warheads have been returned to their designated HWSU, the equipment and structure will be evaluated and air monitored to worker population limit (WPL). Equipment that is contaminated with liquid agent will be decontaminated with an appropriate decontamination solution and monitored individually or collectively. Equipment that cannot be decontaminated to an acceptable level will be disposed as secondary waste.

Spent decontamination solutions (SDS) that is generated during the decontamination process is tested for agent to verify the suitability for disposal and when satisfactory results are obtained, containerized for appropriate disposal action.

If the evaluations indicates no agent contamination, the equipment and structure maybe monitored concurrently. If the structure or equipment is greater than WPL, it will be decontaminated and re-monitored. Secondary waste generated during the operations will be managed and disposed of in accordance with RCRA and permit requirements.
FIGURE 1
Typical 5.4 X 36 INCH
Single Round Container (SRC)

1. THIS DRAWING SHALL BE INTERPRETED IN ACCORDANCE WITH APPLICABLE STANDARDS LISTED IN ASME Y14.100.
   ASME Y14.5 DATED 1984 APPLIES.

2. MODIFIED ITEM FROM DRAWING/PART AC2000000955.

3. O-RING REQUIRED, VITON OR BUTYL, 75 DUROMETER 5.279 +/- .042 INNER DIAMETER X .187 +/- .005 CROSS SECTION.

4. COAT ALL UNPAINTED SURFACES WITH A NON-PETROLEUM (PREFERABLY SILICONE) BASED CORROSION PREVENTATIVE.

5. TIGHTEN BOLTS FINGER TIGHT IN A CROSSWISE PATTERN. TIGHTEN TO 30 LB-FT. FOLLOW CROSSWISE UP TO 60 LB-FT.
M55 115-mm Chemical Rocket Assembly

Figure 2

Note: All dimensions are nominal.
FIGURE 3
Typical Layout: Fuze Removal Operation
FIGURE 4
Crate with SRCs containing WHs Typical
SIGNATURES [401 KAR 39:060 Section 5; 40 CFR 124 and 270)

I certify under penalty of law that this document (Temporary Authorizations Request Fuzes Removal dated May 2020) and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Lieutenant Colonel Rodney D. McCutcheon
Commander
Blue Grass Chemical Activity
Permit Operator

Colonel Joseph R. Kurz
Commander
Blue Grass Army Depot
Permit Owner