FACT SHEET

An emergency permit has been prepared for the Redstone Arsenal (RSA) facility, a hazardous waste facility located in Huntsville, Madison County, Alabama. This fact sheet has been prepared to briefly advise the public of the principal permitting, legal and policy issues of the permit.

I. PERMIT PROCESS

The purpose of the permitting process is to allow the State and the public to evaluate RSA’s ability to comply with the hazardous waste management requirements of the Alabama Hazardous Wastes Management and Minimization Act (AHWMMA), as amended. RSA must comply with hazardous waste management conditions set forth in the emergency permit during its effective period, which is three weeks, from May 6, 2021 to May 27, 2021.

II. PROCEDURES FOR REACHING A FINAL DECISION

The Alabama Department of Environmental Management (ADEM or Department) has issued an emergency permit to allow for treatment of unstable compounds. ADEM Admin. Code r. 335-14-8-.08(6)(b)1. requires that the public be given a 45-day comment period for each permit. The comment period will begin on May 14, 2021, which is the date of publication of the public notice in a major local newspaper of general circulation, and will end on June 28, 2021. The public notice will also be broadcast over local radio station(s).

Any person interested in commenting on the emergency permit application or emergency permit must do so within the 45-day comment period discussed above. All persons wishing to comment on any of the permit conditions or the permit application should submit their comments in writing to the Alabama Department of Environmental Management, Permits and Services Division, 1400 Coliseum Blvd. (zip 36110-2059), P.O. Box 301463 (zip 36130-1463) Montgomery, Alabama, Attention: Mr. Russell A. Kelly.

ADEM will consider all written comments received during the comment period. After the comment period, notice will be given to the applicant and each person who has submitted written comments or requested information. All comments received within the 45-day period will be considered in the formulation of future permits of this type.

III. FACILITY DESCRIPTION

Redstone Arsenal (RSA) is a contiguous U. S. Army installation operated by the U. S. Army Aviation and Missile Command. RSA is located in Madison County, Alabama, at latitude N34° 37' 00" and longitude W86° 39' 00". RSA is bounded on the north by Interstate 565, on the east and northeast by the City of Huntsville, on the west and
northwest by the City of Madison, and on the south by the Tennessee River. RSA is approximately 6 miles wide in an east to west direction and 10 miles long in a north to south direction. The installation occupies approximately 57.4 square miles or 37,910 acres.

RSA operates a hazardous waste facility that includes storage, the operation of Subpart X (Open Burning and Open Detonation Units or OB and OD) treatment facilities, and the implementation of investigation and corrective action for solid waste management units (SWMUs) and areas of concern (AOCs). These areas are permitted under the facility’s AHWMMA Treatment, Storage and Disposal (TSD) permit. This fact sheet specifically addresses the emergency permit that has been developed to allow the open detonation or open burning of one single stage, anti-aircraft guided missile that has been stored at RSA. This item is scheduled to undergo an initial lightning strike test, and the Redstone Test Center (RTC) does not possess a method to determine if the internals are damaged following the test. Therefore, the item will be deemed unstable, too damaged for off-post travel, and unsuitable for further testing after the lightning strike test. No other viable treatment alternatives have been identified. In addition, this item exceeds the size allowed to be treated at RSA’s permitted Subpart X Open Burning (OB) treatment unit and Subpart X Open Detonation (OD) treatment unit.

IV. SUMMARY OF PROPOSED PERMIT

This emergency permit allows RSA to treat one unstable, single stage, anti-aircraft guided missile, containing approximately 103.176 pounds net explosive weight (NEW) by open detonation or open burning at Test Area 1 (TA-1).

V. TECHNICAL CONTACT

Mr. Krishna Morrissette  
Facilities Engineering Section  
Governmental Hazardous Waste Branch, Land Division  
Alabama Department of Environmental Management  
1400 Coliseum Blvd (zip 36110-2059)  
P.O. Box 301463 (zip 36130-1463)  
Montgomery, Alabama  
Phone: (334) 394-4335  
Fax: (334) 394-4335  
Email: kmorrissette@adem.alabama.gov
May 6, 2021

ELECTRONICALLY TRANSMITTED

Mr. A. Keith Cook, Chief
Environmental Management Division
US Army Garrison - Redstone Arsenal
4488 Martin Road Room A-336
Redstone Arsenal, AL 35898

RE: Emergency Permit
Redstone Arsenal (RSA)
Redstone Arsenal, Madison County, Alabama
U.S. EPA ID No. AL7 210 020 742

Dear Mr. Cook:

The Alabama Department of Environmental Management (ADEM) has made a final determination to issue an Alabama Hazardous Wastes Management and Minimization Act Emergency Permit to the U.S. Department of the Army, Redstone Arsenal. The permit is approved as of this date and a public comment period will be held from May 14, 2021 to June 28, 2021.

Enclosed is the issued emergency permit. If questions and comments arise concerning this matter, please contact Mr. Krishna Morrissette of the Facilities Engineering Section at (334) 394-4335 or via e-mail at kmorrissette@adem.alabama.gov.

Sincerely,

Stephen A. Cobb, Chief
Land Division

Enclosures

cc/via email: Jason Braxton, Redstone Arsenal
Clint Howard, Redstone Arsenal
Daniel Arthur, ADEM
Kelley Hartley, ADEM
Robert Morris, US EPA Region IV
Yolanda Negroni, CCI

Steven Harris, Redstone Arsenal
Brian Roberson, NASA MSFC
Ashley T. Mastin, ADEM
Kevin Greaney, US EPA Region IV
Robert Pope, US EPA Region IV
HAZARDOUS WASTE EMERGENCY PERMIT

STATEMENT OF BASIS

US EPA Identification Number: AL7 210 020 742

Facility Name: U.S. Army, Garrison Redstone
U.S. Army Aviation and Missile Research Development and Engineering Center (AMRDEC)

Location: Huntsville, Madison County

Type of Hazardous Waste Management: Treatment

Permit Duration: Three (3) weeks

The conditions in this permit are based on standards promulgated under Chapters 335-14-2, 335-14-3, 335-14-5, 335-14-7, and 335-14-8 of the ADEM Administrative Code.

The waste covered by this permit consists of one (1) single stage, anti-aircraft guided missile, containing approximately 103.176 pounds net explosive weight (NEW) at the U. S. Department of the Army, Redstone Arsenal (RSA). This item is scheduled to undergo an initial lightning strike test, and the Redstone Test Center (RTC) does not possess a method to determine if the internals are damaged following the test. Therefore, the item will be deemed unstable/unsafe, too damaged for off-post travel, and unsuitable for further testing after the lightning strike test. The demilitarization treatment described in this permit was determined to be the safest and most effective technology available.

This permit allows for implementation of on-site treatment of the listed item after the lightning strike test using thermal treatment, by open detonation or open burning. RSA is currently authorized to conduct Open Burning and Open Detonation (OB/OD) operations at two units regulated by the Resource Conservation and Recovery Act (RCRA) and in accordance with the ADEM Administrative Code Rules 335-14-6-.16(13) and 335-14-6-.16(14). However, the listed item has been deemed too large for processing at RSA’s OB/OD areas; therefore, the missile will be processed at Test Area 1 (TA-1).

The issuance of this permit will result in environmental and safety benefits as compared to the current storage of this hazardous waste. The conditions of this permit are designed to protect public health and the environment. The treatment will be performed at TA-1 at RSA to minimize risk to the public, and will continue until the treatment is complete or expiration of this permit.

Issuance of an emergency permit under ADEM Administrative Code R. 335-14-8-.06(1) is warranted because there is an imminent and substantial endangerment to human health and the environment due to the potential instability of the waste and the lack of available treatment alternatives.
HAZARDOUS WASTE
FACILITY PERMIT

ISSUED TO: United States Department of the Army, Redstone Arsenal

EPA ID/PERMIT NUMBER: AL7 210 020 742

LOCATION: Huntsville, Madison County, Alabama,
Latitude 34° 36' 39.82" and Longitude -86° 40' 37.15"

UNITS PERMITTED: Emergency Treatment at Test Area (TA) 1

EFFECTIVE DATE: May 6, 2021

EXPIRATION DATE: May 27, 2021

This Permit is issued pursuant with the Code of Alabama 1975, §§ 22-30-1-et. seq., as amended, and regulations adopted thereunder and the Hazardous Waste Management and Minimization Act and in accordance with the plans and specifications and applications filed with the Department subject to the conditions appended hereto, all of which are considered a part of this Permit. This Permit shall be subject to all applicable laws of the State of Alabama, rules and regulations and orders of the Department of Environmental Management and shall be effective from the date of issuance.

Alabama Department of Environmental Management
HAZARDOUS WASTE EMERGENCY PERMIT

US EPA Identification No./Permit No.        AL7 210 020 742

Name of Permittee/Operator:                  U.S. Department of the Army,
Operator:                                    Redstone Arsenal
Facility Location:                           Madison County, Alabama 35898
Effective Date:                              May 6, 2021
Expiration Date:                             May 27, 2021

In compliance with the provisions of the Alabama Hazardous Wastes Management and Minimization Act, as amended, the Permittee is authorized to conduct hazardous waste management activities including:

_____ Storage
____Treatment
____Disposal

at the facility location in accordance with the provisions and conditions attached to this permit.

5/6/2021

Alabama Department of Environmental Management  Date
A. **WASTE LIST**

The following hazardous wastes may be treated at this facility:

<table>
<thead>
<tr>
<th>Waste Number</th>
<th>Common Name/Description</th>
<th>Total Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>D003, D006, D008</td>
<td>Reactive/Energetic, Cadmium, Lead</td>
<td>One single stage, anti-aircraft guided missile at approximately 103.176 pounds Net Explosive Weight (NEW)</td>
</tr>
</tbody>
</table>

B. **HAZARDOUS WASTE TREATMENT, STORAGE, DISPOSAL UNITS LIST**

The following hazardous waste management units are covered by the permit: Emergency Treatment at Test Area 1 (TA-1).

1. **Process Description**

   The missile will be treated using thermal treatment, by open detonation or open burning. This action will be performed at TA-1 at Redstone Arsenal.

2. **Restrictions**

   (a) Management of the waste shall be in accordance with the approved plan and Section B.5 of this permit.

   (b) Explosives Ordnance Disposal (EOD) will be in charge of the treatment.

   (c) Redstone Test Center and Aviation and Missile Command (AMCOM) safety representatives will be onsite to provide observation and coordination during the transportation and demilitarization treatment operations.

   (d) The TA-1 Range Safety Officer will be onsite during the demilitarization activities for observation and coordination.

   (e) The treatment of chemical agents, nuclear or radioactive materials, biological agents, depleted uranium, or items containing or contaminated with these materials is expressly prohibited.

3. **Transportation Conditions**

   (a) The treatment area shall be secured. All nonessential personnel shall be evacuated from the immediate area during removal of the unstable compounds from storage, transportation to the treatment area, and placement in the treatment
area. Road barricades will be placed to prevent unauthorized entry to the storage and treatment areas.

(b) The unstable compounds shall be properly containerized for transportation to ensure stability during movement to the treatment area.

(c) The predetermined route of travel shall be directly from the missile’s storage location on McAlpine Road to the TA-1 treatment area on Centerline Road. Two routes between the missile’s storage location and TA-1 have been selected: the primary route of approximately 5½ miles along McAlpine, Buxton, Patton and Flight Roads through the main TA-1 gate until final location on Centerline Road and the alternate route of about 4 miles along McAlpine, Buxton, and Dodd Roads through an alternate TA-1 gate until final location on Centerline Road. The truck driver shall have a commercial driver's license and local ammunition hauler certification.

(d) The route of travel between the storage area and the treatment area shall be secured by emergency personnel prior to transport, and shall be cleared of non-essential traffic during the transport procedures.

(e) AMCOM safety and EOD personnel will escort the transport truck from the storage area to the treatment area.

4. Storage Conditions

Cradles will be placed on the transport truck and the unstable missile and container will be placed in the cradles and strapped down. The missile container shall remain at its current location until the appropriate time for removal for treatment.

5. Treatment Conditions

The unstable missile and container will be treated at Redstone Arsenal, TA-1 and treatment will be performed by the EOD team personnel trained in munitions/propellant handling and OB/OD operations. Treatment will be accomplished using open detonation or open burning during daylight hours; commencing no sooner than one hour after sunrise and ending no later than one hour before sunset. The EOD Team will decide the treatment method in accordance with ADEM Admin. Code r. 335-14-7-.13(5), based on atmospheric and other conditions on the day of treatment. The EOD Team will requisition donor material as required to complete the treatment. After treatment, any residues will be properly disposed.

C. GENERAL CONDITIONS

1. Duration of Permit (Rules 335-14-8-.05 and 335-14-8-.06(1))

(a) This permit is issued for a period of three (3) weeks.
(b) This permit may be terminated by the Department at any time without process if it is determined that termination is appropriate to protect human health and the environment.

(c) In the event that treatment of the missile cannot be completed within the three weeks due to safety, weather, logistical or other reasons, Redstone Arsenal may/shall apply for a one-time renewal of the permit.

2. **Duty to Comply** (Rule 335-14-8-.03(1)(a))

   The Permittee shall comply with all conditions of this permit. All words used in this permit shall have the meaning and definitions set forth in Chapter 335-14-8 of the ADEM Administrative Code. The operation of the facility shall be in accordance with the conditions agreed to with ADEM. The conditions have been incorporated as part of the permit. The filing of a request by the Permittee for a permit modification, revocation, re-issuance, termination, planned changes or anticipated noncompliance does not stay any condition of this permit. Any permit noncompliance constitutes a violation of the ADEM Administrative Code and is grounds for enforcement action including permit termination, revocation and re-issuance, or modification or for denial or a permit renewal application. In addition, criminal or civil actions may be brought in appropriate instances.

3. **Imminent Hazard Action** (Rule 335-14-5-.01(4))

   Notwithstanding any other provision of these Rules, enforcement actions may be brought pursuant to Section 7003 of RCRA and AHWMMA.

4. **Duty to Mitigate** (Rule 335-14-8-.03(1)(d))

   The Permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

5. **Personnel Training** (Rule 335-14-5-.02(7))

   Contact with the wastes will be limited to personnel adequately trained in the handling of reactive and flammable wastes.

6. **Emergency Coordinator** (Rule 335-14-5-.04(6))

   The Permittee will ensure that at all times there is at least one employee either on the premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures.
The emergency coordinator must, in addition to carrying out the responsibilities specified in Rule 335-14-5-.04(7) of the ADEM Administrative Code, be thoroughly familiar with all operations and activities at the facility, and the location layout. In addition, this person must have the authority to commit the resources needed to carry out all emergency response measures.

7. **Proper Operation and Maintenance** (Rule 335-14-5-.03(2))

   The Permittee must maintain and operate the facility in a manner to minimize the possibility of any unplanned fire, explosion, or sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, and surface water, which could threaten human health or the environment.

8. **Security** (Rule 335-14-5-.02(5))

   The Permittee must prevent the unknowing entry and minimize the possibility for the unauthorized entry of persons or livestock onto the active portions of the facility by means of:

   (a) A surveillance system that continuously monitors and controls entry onto the active portion of the facility.

   (b) An artificial or natural barrier that completely surrounds the active portion of the facility and a means to control entry, at all times, through gates or other entrances to the active portion of the facility.

   (c) In addition, the facility must post a sign with the legend "DANGER - UNAUTHORIZED PERSONNEL KEEP OUT", at each entrance to the active portion of the facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. This legend must be written in English and any other language predominant in the area surrounding the facility and must be legible from a distance of at least 25 feet. Existing signs with a legend other than "DANGER - UNAUTHORIZED PERSONNEL KEEP OUT" may be used if the wording on the sign indicates that only authorized personnel are allowed to enter the active portion and that entry onto the active portion can be dangerous.

9. **Access to Communications or Alarm System** (Rule 335-14-5-.03(5))

   Whenever hazardous waste is being loaded, unloaded, or otherwise handled, the Permittee must ensure that all personnel involved in the operation will have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee.
10. **General Inspection Requirements** (Rule 335-14-5-.02(6))

   The Permittee must inspect the site prior to the unloading or managing any waste to ensure that only authorized personnel are present.

11. **General Requirements for Ignitable, Reactive or Incompatible Waste** (Rule 335-14-5-.02(8))

   The Permittee must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste.

12. **Arrangements with Local Authorities** (Rule 335-14-5-.03(8))

   The Permittee must assure that the following arrangements have been made with the local authorities (unless otherwise specified):

   (a) Arrangements made to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel will normally be working, entrances to and roads inside the facility, and possible evacuation routes;

   (b) Agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any other to provide support to the primary emergency authority;

   (c) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

   (d) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses that could result from fire, explosions, or releases at the facility.

   (e) RTC Safety and AMCOM Safety will coordinate with U.S. Army Garrison (USAG) Redstone Arsenal Fire and Emergency Services for on-site support to assist in the event of fire or personal injury emergences.

   (f) EOD personnel will be responsible for the treatment of the waste material.

13. **Identification Number** (Rule 335-14-5-.02(2))

   An EPA Identification Number has been assigned to the facility: AL7 210 020 742
14. **Closure** (Rule 335-14-5-.07(2))

   (a) All fragments, debris, and treatment residuals shall be collected and properly disposed.

   (b) A visual inspection of the treatment site shall be performed to ensure all fragments, debris, and treatment residuals have been removed.

   (c) Any shrapnel with what appears to be explosive residue shall be placed in an OD pit at TA-1 and processed. Any remaining scrap shall be placed in a bin and transported to the facility’s permitted OB unit and flashed, which involves placing the debris in a burn pan with donor material and additional burning to ensure that any explosive residue is consumed (flashed).

   (d) At the completion of processing the missile, surface and subsurface soil samples shall be collected and submitted to an analytical laboratory for testing. The testing shall include explosives, metals and perchlorate. The testing shall be completed using US EPA Method SW-846, number 8330, 6020 and 6850, respectively.

15. **Reporting** (Rule 335-14-5-.05(8))

    The Permittee shall submit to the Alabama Department of Environmental Management the following information:

   (a) The EPA identification number.

   (b) The actual dates and times of treatment.

   (c) A description of and the quantity of each container of waste that is stored and/or treated.

   (d) Name of emergency coordinator.

   (e) Copy of all analytical reports and a description of the sampling and analytical methods used.

   (f) A certification that the emergency has been alleviated.
Mr. Stephen A. Cobb  
Chief, Land Division  
Alabama Department of Environmental Management  
Post Office Box 301463  
Montgomery, AL  36130-1463

Dear Mr. Cobb:

This letter serves as the Redstone Arsenal (RSA) request for an emergency permit modification to our Resource Conservation and Recovery Act (RCRA) Permit. If granted, the modification would allow RSA to demilitarize the items listed on the attached interim hazard classification (IHC) memorandum providing details of the item to be emergency demilitarized. This item has been identified as unsuitable for OB/OD and/or unsuitable for transport to an off-site facility. RSA is requesting that these items be demilitarized utilizing the EOD team from Ft. Campbell, Kentucky at Redstone Test Center’s (RTC) Test Area – 1 (TA-1).

The reasons the item will be targeted for emergency demilitarization is 1.) there is no method to determine if the item's internals have not been damaged after its intended use and 2.) item is not considered safe for off-post travel. The items listed on Attachment 1 have been assessed and determined to meet one of the criteria for emergency demilitarization by an EOD technician.

The hard limits for disposal will be as follows:

1. High ceiling clear weather.
2. Will begin no sooner than one hour after sunrise.
3. Will end no later than one hour before sunset unless a misfire occurs.
4. Donor material (C4) will be requisitioned for uses; amount to be determined by onsite EOD team.

The EOD team plans to perform the demilitarization of the items listed on Attachment A during the period of May 5, 2021 – May 26, 2021.

My point of contact for this action is Steven Harris, Environmental Management Division, Directorate of Public Works, 256-955-7435 or email steven.harris11.civ@mail.mil.
Sincerely,

Clint Howard

FOR: Keith Cook
Chief, Environmental Management Division

Encls.
Encl 1. IHC

DEPARTMENT OF THE ARMY
UNITED STATES ARMY AVIATION AND MISSILE COMMAND
5300 MARTIN ROAD
REDSTONE ARSENAL, ALABAMA 35898-5000

AMAM-SF

18 June 2020

MEMORANDUM FOR CMDS Project Office, ATTN: SFAE-MSL-CMT (Kevin Woodsinger), Redstone Arsenal, AL 35898-5650

SUBJECT: AMCOM Interim Hazard Classification (IHC) Number 20-168 EOD Test Missile, PN: U39860A-E637

1. Reference: Email, Angelina Lindsay, PEO-MS, 10 June 2020, subject: W: IHC information.

2. The Tamir/Iron Dome requires an IHC for the shipment and storage of the EOD Test Missile, PN U39860A-E637. The Iron Dome Missile Magazine contains one Iron Dome Missile. The total NEW is 46.8 kg. This IHC is being issued to allow the shipment and storage of the EOD Test Missile to and from Government sites and US FOL. Special Provision: This IHC is a corrected copy and replaces the original IHC also dated 18 June 2020.

3. This IHC is hereby assigned and is valid from 18 June 2020 to 18 June 2021 unless superseded or cancelled.

   (1) DOD Hazard Class/Division/SCG: 1.1E
   (2) Sensitivity Group: SG3
   (3) Hazardous Fragment Distance: Per Local Quantity Distance Requirements
   (4) DOT Hazard Class: 1.1E
   (5) DOT Label: Explosive 1.1E
   (6) UN Serial Number: 0181
   (7) DOT/UN Proper Shipping Name: ROCKETS
   (8) DOT Container Markings: ROCKETS / PN: U39860A-E637 / UN: 0181
   (9) Packing Requirements: 49 CFR 173.62(b)(130)
   (10) Net Explosive Weight: 103.176 lbs (46.8 kg)
   (11) Net Explosive Weight for QD: 103.176 lbs (46.8 kg)

4. This IHC has been issued IAW TB 700-2 and authorized by 49 CFR 173.56(b)(2)(ii), is valid when articles are transported by US MIL-AIR or other US Government assets, and when stored OCONUS by or for the Department of Defense (DoD) or other US Government agencies. The articles shall remain under the control of the US Military or other US Government agencies at all times. A copy of this IHC and SP 15448 must accompany each shipment, be carried by the transport vehicle, and be displayed at the storage location. This IHC is invalid for transportation of the articles outside the US FOL and is not an authoritative document for transport by any other foreign country. SP 15448 can be obtained at: https://www.phmsa.dot.gov/approvals-and-permits/hazmat/special-permits-search.

5. The IHC POC is Brett Smith, Commercial 256-842-5994, DSN 788-5994 Email brett.e.smith20.civ@mail.mil.

   [Signature]

   RICHARD S HENRY
   Munitions Hazard Classification Lead

CF:
SDDC (AMSSD-SA)
USATCES (JMAC-EST)
SFAE-MSL-CMT

AN EQUAL OPPORTUNITY EMPLOYER
Encl 2. Route Map