

COPY



STEVEN A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

MARY FALLIN
Governor

June 28, 2013

Darrell Elliott, Director
Environmental Management Office
McAlester Army Ammunition Plant
McAlester, Oklahoma 74501-5000

Re: Issuance of McAlester Army Ammunition Plant (McAAP) Operations Permit #6213822798-2013
(Permit) for Hazardous Waste Management

Dear Mr. Elliott:

Enclosed is the Oklahoma Department of Environmental Quality (Department) Operations Permit for hazardous waste management including conditions for the operation of the AP1236M2 deactivation furnace and the open burning/open detonation areas at McAAP. The Permit has been approved by the Department as indicated by the enclosed executed permit signature sheets.

The Department received your letter of June 3, 2013 that attached a Proof of Publication from the McAlester News-Capital documenting the publication on May 3, 2013 of a Notice of Draft Permit. A local-station radio broadcast announcing the draft permit was also made three times on May 3, 2103. You informed the Department that no comments on the draft permit were received at McAAP. Also, no comments relevant to permit conditions were received by the Department.

The Department's previous letter to McAAP dated February 25, 2013 transmitted a draft of the Permit. The Permit is this draft after exchanging the enclosed title page and enclosing the signature pages.

All operations for the hazardous waste management units including deactivation furnace and open burning/open detonation areas shall be conducted in accordance with the plans and specifications approved by the Department, and all standards and rules promulgated pursuant to the Oklahoma Hazardous Waste Management Act, the Rules and Regulations for Hazardous Waste Management as they exist or may be amended, and the federal Resource Conservation and Recovery Act as amended. This permit will expire on June 27, 2023.

Please refer questions to Dr. J. David Lawson of my staff at (405) 702-5104.

Sincerely,

A handwritten signature in black ink, appearing to read "Saba Tahmassebi", written over a horizontal line.

Saba Tahmassebi, Ph. D., P. E.
Chief Engineer
Land Protection Division

ST/jdl

Enclosures

Copy to: Laurie King (6PD-O) EPA Region 6 with enclosures

Mailed
JUN 27 2013

Handwritten initials in black ink, possibly "JL" or "JK", written below the "Mailed" stamp.



COPY



STEVEN A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

MARY FALLIN
Governor

February 25, 2013

Darrell Elliott, Director
Environmental Management Office
McAlester Army Ammunition Plant
McAlester, Oklahoma 74501-5000

Re: Notice of Determination of Technical and Administrative Completeness of Hazardous Waste Management Operations Permit Application (Application) for Ammunition Peculiar Equipment (APE) 1236M2 Deactivation Furnace and Open Burning/Open Detonation (OB/OD), Hazardous Waste Management Operations Permit #6213822798-2013(Permit), McAlester Army Ammunition Plant (McAAP)

Dear Mr. Elliott:

The Land Protection Division of the Oklahoma Department of Environmental Quality (Department) received application submissions which make up your Part B permit application for the hazardous waste operations of McAAP. These submissions are incorporated into the administrative record for this permit application and are listed below.

1. McAAP's letter of January 22, 2002 that transmitted three copies of "McAAP Part B Permit Application, Volume I and II" prepared by the U. S. Army Center for Health Promotion and Preventive Medicine (USCHPPM), Aberdeen Proving Ground, Maryland dated October 2001. The subject of this document is the hazardous waste storage building.
2. McAAP's letter of July 30, 2002 that furnished McAAP's assessment of the status of Solid Waste Management Units (SWMUs) at McAAP.
3. McAAP's letter of September 4, 2003 that furnished McAAP's Part B permit application for Open Burning/Open Detonation (OB/OD) in the form of five compact disks. These compact disks are each dated July 2003 and are labeled "Section A-L," "Appendices A-H," "Attachment A, B, C, E," "Attachment D-1" and "Attachment D-2."
4. McAAP's letter of October 2, 2003 that furnished additional analytical data for the Part B permit application for OB/OD in the form of one compact disk.
5. McAAP's letter of January 21, 2004 that amended McAAP's Part B permit application for storage by requesting higher permitted storage limits on D003 waste.
6. McAAP's letter of February 18, 2004 that transmitted "McAAP Incinerator Part B Permit Application Volume I." The document was prepared for McAAP by USCHPPM but is not dated and contains only one volume. The submission contained one hard copy and two duplicate compact disks.

707 NORTH ROBINSON, P.O. BOX 1677, OKLAHOMA CITY, OKLAHOMA 73101-1677

printed on recycled paper with soy ink



mailed
MAR 13 2013

SEP

7. McAAP's letter of March 22, 2004 that transmitted one compact disk titled "Attachments 1-9 McAAP Permit Application. The attachments are Waste Analysis Plan, Security, Closure, Process, Contingency, Training, and three separate SOPs for incineration, open burning and open detonation."
8. McAAP's letter of March 31, 2004 that transmitted "McAAP APE 1236M2 Deactivation Furnace Resource Conservation and Recovery Act Trial Burn Test Plan February 27, 2004."
9. McAAP's letter of July 27, 2004 that transmitted one compact disk entitled "McAAP Environmental Management Office Health Risk Assessment Protocol No. 39-DA-01K2-04 for Comprehensive Test Performance, APE 1236 Deactivation Furnace Draft July 2004 prepared by USCHPPM."
10. McAAP's letter of September 28, 2004 that transmitted "Revision A of the Trial Burn Test Plan for the APE 1236M2 Deactivation Furnace."
11. McAAP's letter of December 27, 2004 that transmitted two copies of four documents requested by the Department on the October 20, 2004 conference call with McAAP and USCHPPM. The documents are (1) EPA/600/P - 96/001F September 1996 PCBs: Cancer Dose-Response Assessment and Application to Environmental Mixtures, (2) Temporary Emergency Exposure Limit (TEEL) development for Anniston Chemical Agent Disposal Facility RCRA Risk Assessment, (3) EPA/600/R-98/103 Emission Factors for the Disposal of Energetic Materials by Open Burning and Open Detonation by William J. Mitchell and Jack C. Suggs, U. S. EPA, Research Triangle Park, NC, August 1998 and (4) Air Pathway Screening Assessments for RCRA Subpart X Permitting, US Army Environmental Center, May 1995, Revision 0, prepared by Halliburton NUS Corporation. McAAP also supplied a related document in 1995 entitled "Development of Methodology and Technology for Identifying and Quantifying Emission Products from Open Burning and Open Detonation Thermal Treatment Methods, Headquarters U.S. Army Armament, Munitions and Chemical Command, January 1992."
12. McAAP's letter of February 14, 2005 that transmitted one compact disk and two paper copies of the report entitled "Protocol Resource Conservation and Recovery Act Part B Risk Assessment No. 39-DA-01K2-05 Ammunition Peculiar Equipment 1236 Deactivation Furnace and Open Burn and Open Detonation Area McAAP, McAlester, Oklahoma, January, 2005" submitted by USCHPPM.
13. McAAP's letter of May 11, 2005 that transmitted "Air Pollution Emission Assessment No. 43-EL-01LW-05, RCRA Trial Burn and Health Risk Assessment Test, APE 1236M2 Deactivation Furnace, Building 452, McAAP 3-13 November 2004."

14. McAAP's letter of June 22, 2006 that transmitting two hard copies and one compact disk of "Protocol, RCRA Part B Risk Assessment No. 39-DA-01K-05, Ammunition Peculiar Equipment 1236 Deactivation Furnace and Open Burn and Open Detonation Area, McAAP, June 2006."
15. McAAP's letter of May 9, 2007 that transmitted one hard copy and two compact disks of "Draft Health Risk Assessment Report RCRA Part B Health Risk Assessment No. 39-DA-01K2-05 Ammunition Peculiar Equipment 1236 Deactivation Furnace and Open Burn and Open Detonation Areas, McAAP" prepared by USCHPPM and dated April 2007.
16. McAAP's letter of May 10, 2007 that requested a transition of RCRA permit standards at Subpart O of 40 CFR Part 264 to the Clean Air Act Title V Operating Permit No. 2005-301-TV for the Deactivation Furnace at McAAP.
17. McAAP's letter of September 13, 2007 that transmitted a closure and post-closure plan and a waste analysis plan in support of the operations permit for the deactivation furnace.
18. McAAP's letter of November 27, 2007 that transmitted a revised Closure Plan and Waste Analysis Plan in response to the Department's NOD of October 26, 2007.
19. McAAP's letter of February 27, 2008 that transmitted one compact disk entitled "McAlester Army Ammunition Plant Part B Permit Application" dated February 2008. This submittal was described as a revision of the Part B permit application to include the revised Closure Plan and Waste Analysis Plan.
20. McAAP's letter dated September 30, 2009 that transmitted a closure plan for Conforming Storage Unit and two 90-day accumulation areas for hazardous waste.
21. McAAP's letter of April 28, 2011 that transmitted duplicate compact disks entitled McAlester Army Ammunition Plant RCRA Permit Application March 2011 prepared by the U. S. Army Public Health Command. This submittal replaces previous submittals of the same subject matter and recognizes the closure of the permitted hazardous waste storage building.

The Department will incorporate the following McAAP submittals into the administrative record for this permit application. These items were submitted to the Department in support of a permit modification of the previous hazardous waste management permit (as last modified to include OB/OD in August 1999) for the addition of a cryofracture process to the deactivation furnace to incinerate Area Denial Artillery Munition (ADAM) mines.

22. McAAP's letter of January 12, 2000 that submitted (1) A Memorandum for Commander, McAAP from USCHPPM, Subject: Update of the Human Health Risk Assessment of the Demilitarization Operations at the McAAP, McAlester, Oklahoma signed by Dennis E.

- Druck, Acting Program Manager, Environmental Risk Assessment and Risk Communication USCHPPM, and (2) Second Draft Industrial and Environmental Radiation Study No. 26-MF-3207-00-02, RCRA Part B, APE 1236 Deactivation Furnace, McAAP, 25 October – 30 December 1999 prepared by USCHPPM.
23. McAAP's letter of February 26, 2001 requesting a Class 2 permit modification to include the cryofracture process to operate with the permitted deactivation furnace. This submittal included new sections for the previous Part B permit application for the furnace and several drawings of the furnace and the cryofracture unit.
 24. McAAP's letter of August 28, 2001 that responded to the Department's NOD of May 21, 2001. This submittal contained replacement pages for the permit modification application for the cryofracture process.
 25. McAAP's letter of December 18, 2001 that responded to the Department's NOD of October 3, 2001. This submittal transmitted a Memorandum for Commander, McAAP from USCHPPM that presented a general outline of stack testing procedures for depleted uranium and contained a statement that a radiation study would be completed after stack test results were available.
 26. McAAP's letter of October 2, 2003 that transmitted Memorandum for Commander, McAAP Subject: Test Protocol, Air Pollution Emission Assessment No. 43-EL-01HL-04, ADAM Mine/APE 1236M2 Deactivation Furnace, McAAP. This memorandum specified a stack test protocol for depleted uranium.

The Department will incorporate the following McAAP submittals into the administrative record for this permit application. These items concern groundwater monitoring of the OB/OD areas.

27. McAAP's letter of April 21, 2003 that transmitted "Groundwater Re-evaluation Report of Open Burning Grounds, New Demolition Grounds and Old Demolition Grounds McAAP" prepared by the U. S. Army Corps of Engineers, Tulsa District, April 2003.
28. McAAP's letter of October 21, 2003 that transmitted "Groundwater Report Open Burning Grounds New Demolition Grounds Old Demolition Grounds, McAAP" prepared by the U. S. Army Corps of Engineers, Tulsa District, October 2003.
29. McAAP's letter of January 31, 2005 that transmitted "Hydrogeologic Study and Groundwater Assessment Workplan SWMUs McAAP-25 (Open Burning Grounds), McAAP-27 (Old Demolition Area) and McAAP-28 (New Demolition Area) McAAP 15 February through 1 March 2005" prepared by USCHPPM.
30. McAAP's letter of July 6, 2005 that transmitted a response letter from USCHPPM to comments of the Department on the above-listed workplan.

31. McAAP's letter of May 15, 2006 that transmitted "Hydrogeologic Study and Ground Water Assessment SWMUs McAAP-25 (Open Burning Grounds), McAAP-27 (Old Demolition Area) and McAAP-28 (New Demolition Area) McAAP 15-24 February 2005, 11-16 July 2005 and 15-17 September 2005" prepared by USCHPPM.
32. McAAP's letter of September 21, 2006 that responded to the Department's letter of August 31, 2006 requesting supplemental information and materials to the above-listed report.
33. McAAP's letter of July 19, 2007 that transmitted "Draft Ground Water Monitoring Work Plan Solid Waste Management Units McAAP-025 (Open Burning Grounds), McAAP-027 (Old Demolition Area) and McAAP-028 (New Demolition Area), McAAP" prepared by USCHPPM.
34. McAAP's letter of November 20, 2007 responding to Departmental letter of August 14, 2007 that transmitted "Ground Water Monitoring Plan No. 38-EH-0600-07" for OB/OD areas at McAAP.
35. McAAP's letter of April 22, 2008 transmitting "Ground-Water Consultation No. 38-EH-0600-07 SWMUs 25 (Open Burning Grounds), 27 (Old Demolition Area), and 28 (New Demolition Area) McAAP 13-24 August 2007."
36. McAAP's letter of December 23, 2008 transmitting "Ground Water Consultation No. 38-EH-09YH-08 SWMUs MCAAP-25 (Open Burning Grounds), MCAAP-27 (Old Demolition Area), and MCAAP-28 (New Demolition Area), McAlester Army Ammunition Plant (McAAP), 6-19 August 2008."
37. McAAP's letter of August 13, 2009 transmitting "Ground Water Consultation No. 38-EH-09YH-09 SWMUs MCAAP-25 (Open Burning Grounds), MCAAP-27 (Old Demolition Area), and MCAAP-28 (New Demolition Area), McAlester Army Ammunition Plant (McAAP), 2-12 February 2009."
38. McAAP's letter of July 1, 2010 transmitting "Ground Water Consultation No. 38-EH-09YH-10, SWMUs MCAAP-25 (Open Burning Grounds), MCAAP-27 (Old Demolition Area), and MCAAP-28 (New Demolition Area), McAlester Army Ammunition Plant (McAAP), 12-16 February 2010."

39. McAAP's letter of February 16, 2011 transmitting "Ground Water Consultation No. 38-EH-09YH-10, SWMUs MCAAP-25 (Open Burning Grounds), MCAAP-27 (Old Demolition Area), and MCAAP-28 (New Demolition Area), McAlester Army Ammunition Plant (McAAP), 9-20 August 2010."
40. McAAP's email of March 22, 2011 that transmitted two topographical maps of McAAP.

Also, the Department received McAAP's letter dated November 26, 2012 that transmitted comments on the pre-draft RCRA permit furnished to McAAP by the Department's letter dated May 29, 2012 and a DVD prepared by McAAP containing the RCRA Part B permit application administrative record.

The Department received on April 29, 2002 the \$5000 permit application fee from McAAP. The above-referenced submissions by McAAP comprise the Application.

The Department has examined this Application and has determined that it meets the requirements of the Oklahoma Hazardous Waste Management Act and the Hazardous Waste Management Rules (Oklahoma Administrative Code [OAC] 252:205). Consequently, the Department has issued the enclosed draft of a Hazardous Waste Management Operations Permit #6213822798-2013 that includes conditions for continued operation of McAAP's permitted hazardous waste operations. These operations are the Ammunition Peculiar Equipment (APE) 1236M2 Deactivation Furnace and Open Burning/Open Detonation (OB/OD) areas. The referenced attachments to the draft permit are those currently on file as part of the administrative record. Specifically, Attachment 1. Waste Analysis Plan is Section C of the above-mentioned submittal No. 21 entitled McAAP RCRA Permit Application March 2011. Likewise, Attachment 2. Procedures to Prevent Hazards is Section F, Attachment 3. Personnel Training is Section H, Attachment 4. Hazardous Waste Contingency Plan is Section G, Attachment 5. Closure and Post-Closure Plans is Section I, and Attachment 6. Process Information is Section D. The subject attachments are enclosed.

Prior to issuance of this operations permit, McAAP is required to publish notice of opportunity to comment on the tentatively approved permit conditions in a daily or weekly major newspaper of general circulation local to the site. Concurrently, a notice should be broadcast over local radio stations pursuant to 40 CFR 124.10(c)(2)(ii). The "Notice of Draft Permit" and "Radio Broadcast Text" accompanying the draft documents provide some suggested language that may be used for the public notices. These notices announce the opening of a 45-day comment period during which the public may comment on the permit language or the McAAP submissions. Provide your final draft notices for approval prior to publication as required by OAC 252:4-7-13 (c). Direct any questions to J. David Lawson at (405) 702-5104.

Sincerely,



Saba Tahmassebi, Ph. D., P. E.
Chief Engineer
Land Protection Division

ST/jdl

Enclosure

Copy to: Laurie King (6PD-O) EPA Region 6 with enclosure

Oklahoma Department of Environmental Quality

Notice of Draft Permit

The Oklahoma Department of Environmental Quality (DEQ) hereby gives notice of the opportunity for public comment on a Draft Operations Permit Renewal it has prepared after its review of an application filed by the McAlester Army Ammunition Plant for the continued operation of an ammunition deactivation furnace and open burning/open detonation areas. The draft permit also contains corrective action provisions for Solid Waste Management Units. The facility is located in parts of Range 12 East and Townships 3 North, 4 North and 5 North; Range 13 East and Townships 3 North, 4 North and 5 North; and Range 14 East and Townships 4 North and 5 North in Pittsburg County, Oklahoma.

The Oklahoma DEQ has tentatively found that the application meets the requirements of the Oklahoma Hazardous Waste Management Act and the Hazardous Waste Management Rules (OAC 252:205) and the United States Resource Conservation and Recovery Act (RCRA) as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA).

The application and draft permit may be reviewed during normal business hours at the following locations:

McAlester Public Library, 401 N. Second Street, McAlester, Oklahoma, telephone number 918-426-0930

Land Protection Division, Oklahoma Department of Environmental Quality, Central Records, Land Protection Division, 707 N. Robinson Avenue, Second Floor, P. O. Box 1677, Oklahoma City, Oklahoma 73101-1677, telephone number 405-702-1188;

No later than 45 days after the date of this notice, any person may submit written comments on the draft permit to the Oklahoma DEQ at the above Oklahoma City address. Also, persons residing or doing business in Oklahoma, may request the Oklahoma DEQ to schedule and conduct a formal public meeting to receive oral and written comments on the draft permit. A request for a public meeting shall be in writing and shall state the nature of the issues proposed to be raised in the meeting.

More specific information may be obtained by contacting Darrell Elliott, Environmental Management Office, McAlester Army Ammunition Plant, telephone 918-420-6551 or Saba Tahmassebi at the Oklahoma DEQ telephone 405-702-5100.

Radio Broadcast Text

Oklahoma Department of Environmental Quality

**Notice of Potential Permit Conditions
For a Hazardous Waste Management Facility**

The Oklahoma Department of Environmental Quality (DEQ) hereby gives notice of the opportunity for public comment on a draft operations permit renewal it has prepared after its review of an application filed by the McAlester Army Ammunition Plant (McAAP) for the continuation of two hazardous waste operations. These operations are (1) operation of a deactivation furnace and (2) operation of open burning and open detonation areas at McAAP.

The Oklahoma DEQ has tentatively found that the application meets the requirements of the Oklahoma Hazardous Waste Management Act and the Hazardous Waste Management Rules (OAC 252:205) and the United States Resource Conservation and Recovery Act (RCRA) as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA).

Further information, including the application, the potential permit conditions, and a fact sheet may be reviewed during normal business hours at the Oklahoma Department of Environmental Quality building, 707 North Robinson Avenue, Oklahoma City, Oklahoma and the McAlester Public Library, 401 N. Second Street.

Persons wishing to comment on the proposed permit conditions or to request a public meeting should submit their comments or requests in writing to the DEQ no later than forty five (45) days from the date of this broadcast. The DEQ mailing address is P. O. Box 1677, Oklahoma City, Oklahoma, 73101-1677.

For further information about this notice, call the Land Protection Division of the DEQ at 405-702-5100. That number again is 405-702-5100.

McAlester Army Ammunition Plant (McAAP)
McAlester, Oklahoma

FACT SHEET

Potential Conditions for a
Resource Conservation and Recovery Act (RCRA) Permit

Proposed Action: Oklahoma Department of Environmental Quality Hazardous Waste Operations Permit Renewal

Type of Facility: Hazardous Waste Treatment Facility including Operation of a Deactivation Furnace and Operation of Open Burning and Open Detonation Units (OB/OD)

EPA ID Number: OK6213822798

Location: Hwy 69 South of McAlester, Oklahoma

Legal Description: Sections 14 and 23 of T4N and R13E of Pittsburg County, Oklahoma

Geographic Location: All hazardous waste operating units are located within the boundary of the 44,965 acre McAAP at the following locations:
Deactivation Furnace: 34° 49' 52" North 95° 55' 1" West
Open Burning Area: 34° 48' 50" North 95° 54' 30" West
New Open Detonation Area: 34° 48' 17" North 95° 54' 46" West
Old Open Detonation Area: 34° 47' 52" North 95° 53' 37" West

Landowner: Department of Defense, U. S. Army

Facility Operator: Commander, McAAP

Comment Period:

Public Meeting Dates:

Basis of Draft Permit:

McAAP submitted to the Land Protection Division of the Oklahoma Department of Environmental Quality (DEQ) an application for renewal of a permit to operate the following hazardous waste management units: a deactivation furnace and open burning and open detonation areas. McAAP has operated under Permit #OK6213822798 which was issued on September 2, 1992 for a 2400 square-foot hazardous waste storage facility. The permit was modified on January 29, 1996 to include conditions for operation of a hazardous waste incinerator, the Ammunition Peculiar 1236 Deactivation Furnace. The permit was again modified on August 6, 1999 to include the continued operation of an open burning area and two separate open detonation areas. The hazardous waste storage facility was closed in 2010 and no

longer operates.

The basic requirements of the Oklahoma Hazardous Waste Disposal Act (OHWDA), the Hazardous Waste Management Regulations (Rules) as amended, the federal Resource Conservation and Recovery Act (RCRA), and the Hazardous and Solid Waste Amendments of 1984 (HSWA) having been met, the DEQ has prepared potential permit conditions. The Department has the authority to issue permits for and enforce compliance with RCRA and HSWA programs.

The potential permit conditions were developed by the DEQ and incorporate applicable conditions from Oklahoma Administrative Code (OAC) 252:205 and 40 CFR 270, additional conditions to enhance compliance with OAC 252:205 and 40 CFR 264, and such other conditions as are required to achieve environmentally sound hazardous waste management.

The administrative record supporting the potential permit conditions consists of the Part B application, additional supporting documentation, the draft permit, and this Fact Sheet.

Other Environmental Permits

McAAP is currently operating under the following Environmental Protection Agency and/or State of Oklahoma permits:-

Resource Conservation Recovery Act Permit OK6213822798
National Pollution Discharge Elimination System permit #OK0000523
Oklahoma State Landfill Permit 3561014
Air Quality Permit No. 2005-301-TV

Hazardous and Solid Waste Amendments (HSWA)

HSWA provided the new requirement for corrective action for continuing releases. This provision is established in Section 3004(u) of RCRA, promulgated as regulation at 40 CFR 264.101.

All permit applicants must now: (a) identify all solid waste management units (SWMUs) at the facility, (b) identify any releases that have occurred or are occurring from those units, (c) take appropriate corrective action to clean up those releases, and (d) demonstrate financial assurance for those corrective actions. The provision on continuing releases was effective on the date of enactment of HSWA (November 8, 1984). Thus, a permit issued after that date must address this provision.

Other HSWA provisions are incorporated as conditions of the proposed permit, and include certain minimum technological design requirements, a requirement to certify that waste generation by the facility is continually minimized, and restrictions on the management of wastes that are banned from land disposal unless treated.

Information Resources

Copies of the proposed permit conditions, this Fact Sheet, and the Part B application are available for review during normal business hours at the locations listed below:

McAlester Public Library
401 N. Second Street, McAlester, Oklahoma

Oklahoma Department of Environmental Quality
707 N. Robinson, P. O. Box 1677
Oklahoma City, Oklahoma 73101-1677

Telephone inquiries may be directed to:

Oklahoma Department of Environmental Quality
Saba Tahmassibi, Chief Engineer
Land Protection Division
Telephone No. 405-702-5100

Comment Period and Procedures

Persons wishing to comment on the proposed permit conditions or the operating conditions of the permit, which will continue for the term of the permit, may submit their comments, in writing, to the Oklahoma DEQ Office at the addresses listed below. Comments should be directed to the appropriateness of the permit decision and the permit conditions and should be factual in nature. All comments must be received at the Oklahoma DEQ no later than forty-five (45) days after the public notice of this Draft Permit.

Land Protection Division
Oklahoma Department of Environmental Quality
707 North Robinson, P. O. Box 1677
Oklahoma City, Oklahoma 73101-1677

Public comment and hearing procedures may be found at 40 CFR 124.10 and 124.12. The comment period during which written comments on the draft permit may be submitted extends for 45 days from the date of Notice. A public meeting will be held by the Oklahoma DEQ upon written request when there is a significant degree of public interest. Public notice of a public meeting will be given at least 30 days before the meeting.

Public Meeting

The purpose of any public meeting is to clarify issues involved in the permit decision and receive comments from the public. Any person may submit oral or written statements and data concerning the proposed permit conditions. The public is urged to address the issues set forth in the Notice of Potential Permit Conditions and this Fact Sheet and to present factual, relevant statements on these issues. All such pertinent and material testimony will be considered in reaching a final determination on the permit. A reasonable limit may be set upon the time allowed for oral statements, and the submission of statements in writing may be required.

Notice of Final Determination

The Oklahoma DEQ will notify the applicant and each person who has submitted written comments or requested notice of the final permit decision. Within thirty (30) days after a RCRA permit decision has been issued, any person who filed comments on the proposed permit or participated in the public meeting/hearing may petition the Executive Director of the Oklahoma DEQ to review any condition of the permit decision. The petition shall include a statement of the reasons supporting that review, including a demonstration that any issues being raised were raised during the public comment period, and when appropriate, a showing that the condition in question is based on a finding of fact or conclusion of law which is clearly erroneous, or an exercise of discretion or important policy consideration which the Executive Director should review. A petition to the Executive Director is, under 75 O. S. §319, OAC 252:205-3-2 and 40 CFR 124.19, a prerequisite to judicial review.

A petition to the Executive Director of the Oklahoma DEQ is to be provided by following the procedures described in OAC 252:205-3-2 and 40 CFR 124.19. The petition to the Executive Director should be directed to the address below:

Steve Thompson, Executive Director
Department of Environmental Quality
707 N. Robinson, P. O. Box 1677
Oklahoma City, Oklahoma 73101-1677

If no comments are received during the comment period, the permit will become final and effective immediately upon issuance.



O K L A H O M A
DEPARTMENT OF ENVIRONMENTAL QUALITY

MCALESTER ARMY AMMUNITION PLANT

OPERATIONS PERMIT

#6213822798-2013

Hazardous Waste Management

Effective Date: June 28, 2013

Expiration Date: June 27, 2023

**OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND PROTECTION DIVISION**

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
OPERATIONS PERMIT
FOR A HAZARDOUS WASTE MANAGEMENT FACILITY

EPA ID#:	OK6213822798	Permit Number #6213822798-2013
Permittee:	McAlester Army Ammunition Plant Highway 69 South McAlester, Oklahoma	Effective Date: June 28, 2013 Expiration Date: June 27, 2023

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 USC 6901 et seq., commonly known as RCRA), including the Hazardous and Solid Waste Amendments of 1984 (HSWA), and regulations promulgated thereunder by the U.S. Environmental Protection Agency (EPA) (codified and to be codified in Title 40 of the Code of Federal Regulations) and the Oklahoma Hazardous Waste Management Act (27A O.S. Supp. 2000 § 2-7-101, as amended) and regulations promulgated thereunder, a permit to operate an ammunition deactivation furnace and open burning/open detonation (OB/OD) areas is issued by the Land Protection Division of the Oklahoma Department of Environmental Quality (Department) to McAlester Army Ammunition Plant (hereafter called the Permittee or McAAP). The facility is located southwest of McAlester, Oklahoma, on Highway 69 South. More specifically, the facility is located in all or portions of the following Sections in the Indian Base and Meridian in Pittsburg County, Oklahoma:

Range 12E, Township 3N, Sections 1 and 2; Range 12E, Township 4N, Sections 1, 12, 13, 24, 25 26, 35 and 36 and part of Sections 2, 11, 14 and 23; Range 12E, Township 5N Section 36; Range 13E, Township 3N, Sections 5 and 6 and parts of Sections 3 and 4; Range 13E, Township 4N, Sections 1 to 33 and parts of Sections 34 and 35; Range 13E, Township 5N, Sections 25 to 36 and parts of Section 21; Range 14E, Township 4N, Sections 5, 6, 7 and 18 and parts of Sections 3, 4, 8, 9, 17, 19, 20 and 30; and Range 14E, Township 5N, Section 31.

This section sets permit conditions for the continued operation of McAAP's Ammunition Peculiar Equipment(APE) 1236M2 deactivation furnace and open burning/open detonation areas.

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any attachments), and the applicable regulations contained in 40 CFR Parts 124, 260 through 264, 266, 268, and 270, as specified in the Permit.

This permit is based on the assumption that all the information submitted in the permit modification application is accurate. Any inaccuracies found in the submitted information may be grounds for the termination, revocation and reissuance, or modification of this permit in accordance with 40 CFR 270.41, 270.42, and 270.43 and for enforcement action.

This permit is effective as of June 28, 2013 and shall remain in effect until June 27, 2023 unless revoked and reissued under 40 CFR 270.41, terminated under 40 CFR 270.43, or continued in accordance with 40 CFR 270.51(a), and the Oklahoma Hazardous Waste Management Regulations (Oklahoma Administrative Code 252:205) and the Oklahoma Administrative Procedures Act 75 O. S. §§ 250 et seq.

Issued this 28th day of June, 2013.



6/28/2013

Saba Tahmassebi, Ph. D., P. E.
Chief Engineer, Land Protection Division
Oklahoma Department of Environmental Quality

(Date)



6-28-13

Scott Thompson
Division Director
Land Protection Division
Department of Environmental Quality

(Date)

TABLE OF CONTENTS

McAlester Army Ammunition Plant
Operations Permit #6213822798-2013

Section I	General Permit Conditions	
A.	General.....	I-1
B.	Basis of Permit.....	I-1
C.	Incorporation by Reference.....	I-1
D.	Definitions.....	I-1
E.	Effect of Permit.....	I-4
F.	Permit Actions.....	I-4
G.	Severability.....	I-6
H.	Duties and Requirements.....	I-6
I.	Signatory Requirement.....	I-11
J.	Reports, Notifications and Submissions to the ODEQ.....	I-12
K.	Confidential Information.....	I-12
L.	Documents to be Maintained at the Facility.....	I-12
Section II	General Facility Conditions	
A.	Design and Operation of Facility.....	II-1
B.	Required Notices.....	II-1
C.	General Waste Analysis.....	II-1
D.	Security.....	II-1
E.	General Inspection Requirements.....	II-2
F.	Personnel Training.....	II-2
G.	Special Provisions for Ignitable, Reactive, or Incompatible Waste.....	II-2
H.	Preparedness and Prevention.....	II-2
I.	Contingency Plan.....	II-3
J.	Manifest System.....	II-3
K.	General Closure Requirements.....	II-4
L.	General Post-Closure Requirements.....	II-5
Section III	Deactivation Furnace	
A.	Section Highlights.....	III-1
B.	Regulatory Status.....	III-2
C.	Allowable Waste Feeds.....	III-2
D.	Closure.....	III-2
Section IV	Open Burning and Open Detonation	
A.	Section Highlights.....	IV-1
B.	Permitted and Prohibited Waste Identification.....	IV-2
C.	Design, Construction and Operating Requirements.....	IV-3
D.	Handling and Storage Requirements.....	IV-5
E.	Inspection Schedules and Procedures.....	IV-5
F.	Prevention of Unintended Ignition, Reaction or Release of Wastes.....	IV-5
G.	Monitoring Requirements.....	IV-6
H.	Closure.....	IV-11
I.	OB/OD Operation Record.....	IV-11

TABLE OF CONTENTS

McAlester Army Ammunition Plant
Operations Permit #6213822798-2013

Section V	Special Conditions Pursuant to the 1984 Hazardous and Solid Waste Amendments (HSWA)	
A.	Preamble and General Comments to HSWA Conditions.....	V-1
B.	Required RFI Activities.....	V-3
C.	Required Corrective Measures Implementation.....	V-3
D.	Standard Conditions.....	V-3
E.	Specific Condition – Closure and Post Closure Care.....	V-8
F.	Specific Condition – Information Repository.....	V-8
G.	Specific Condition – Investigation of Area(s) of Concern.....	V-9
H.	Corrective Action.....	V-9
I.	Reporting Requirements.....	V-14
J.	Notification Requirements for and Assessment of Newly-Identified SWMUs and Potential AOCs.....	V-14
K.	Notification Requirements for Newly-Discovered Releases at SWMU(s) and AOC(s).....	V-16
L.	Interim Measures.....	V-16
M.	RFI Workplan.....	V-17
N.	RFI Implementation.....	V-19
O.	RFI Final Report and Summary.....	V-19
P.	Determination of No Further Action.....	V-20
Q.	CMS Plan.....	V-20
R.	CMS Implementation.....	V-21
S.	CMS Final Report and Summary.....	V-22
T.	Corrective Measure (Remedy) Selection and Implementation.....	V-23
U.	RFI Scope of Work.....	V-23
V.	CMS Scope of Work.....	V-38
Table I	RFI/CMS Submission Summary.....	V-50

TABLE OF CONTENTS

McAlester Army Ammunition Plant
Operations Permit #6213822798-2013

LIST OF ATTACHMENTS

Attachment 1.....	Waste Analysis Plan
Attachment 2.....	Procedures to Prevent Hazards
Attachment 3.....	Personnel Training
Attachment 4.....	Hazardous Waste Contingency Plan
Attachment 5.....	Closure and Post-Closure Plans
Attachment 6.....	Process Information

Permit Attachment 1. Waste Analysis Plan

SECTION C WASTE CHARACTERISTICS AND WASTE ANALYSIS PLAN

This Waste Analysis Plan (WAP) describes the chemical and physical characteristics of wastes treated at the RCRA units on MCAAP. This plan also presents the parameters, rationale, and testing procedures for evaluating waste to ensure the safe handling of wastes. The information submitted was developed in accordance with the requirements of 40 CFR 270.14(b)(2) and 264.13.

As indicated in 40 CFR 264.13(a)(1), before an owner or operator treats, stores, or disposes of any hazardous waste, a detailed chemical and physical analysis of a representative sample of the waste must be obtained.

At a minimum, the analysis must contain information which allows effective treatment, storage, or disposal in accordance with 40 CFR 264.13 and 268. The required analysis may include information developed under 40 CFR 261, or published/documented data on the hazardous waste or hazardous waste generating process. The analysis must be repeated when the owner or operator has reason to believe that the process or operation generating the waste has changed.

The MCAAP RCRA units may receive wastes from both on-site and off-site facilities. Both types of waste fall into generic waste categories that are classified by particular physical and chemical properties, generating process or operation, and waste characteristics.

1. Wastes Incinerated

MCAAP conducts thermal treatment of waste munitions and Propellants, Explosives, and Pyrotechnics (PEP) at its incinerator. General information concerning the chemical and physical characteristics of PEP treated at the unit are described in this section.

The categories of wastes treated in the incinerator consist primarily of military energetic materials and ordnance that have exceeded their "shelf-life", off-specification versions of these items, or various waste components from manufacturing processes that cannot be recycled or otherwise disposed of safely. Due to the varying nature of these items, it is impossible to accurately describe each specific reject munitions item. Each item is manufactured within strict specifications. If an item falls outside these strict specifications at any time during loading, assembling, or packing, the munitions item is rejected and is handled as a waste item. Historical data, waste analyses, specifications and ordnance publications available at the facility are consulted to obtain information on these items to determine the suitability of the waste material for incineration.

a) Description of Wastes to be Treated at Incinerator

The 40 CFR 264.340 provides the regulatory basis for hazardous waste incinerators to be exempted from the RCRA regulations for air emissions. In order to qualify for the exemption, the owner/operator of unit must demonstrate compliance with the Maximum Available Control Technology (MACT) requirements of part 63 Subpart EE by conducting a Comprehensive

Performance Test and submitting a Notification of Compliance to the Administrator that documents compliance with these provisions. MCAAP has completed these tasks and therefore the unit qualifies for this exemption.

One key aspect of this exemption allows for the specific types of wastes to be treated in the unit to be controlled under the MACT's Feedstream Analysis Plan (FAP), rather than the traditional RCRA waste analysis plan. The FAP includes parameters for analyzing each waste, the method for performing the analysis, test and sampling methods, and frequency of analysis. Consequently, detailed sampling and analysis methodologies for wastes will not be included in this WAP, nor will the RCRA permit be modified in the future to accommodate additional wastestreams. The FAP will serve as the sole mechanism to regulate these requirements.

b) Waste Analysis Information

(1) General Explosive Information

Tables C-1 and C-2 provide a general description of chemical composition, hazard characteristics of the wastes, characteristics of explosives, and information on military specifications for explosives.

A number of reactive compounds are present in waste military munitions. These compounds fall into four general categories:

- Primary explosives
- Boosters and secondary explosives
- Propellants
- Pyrotechnics

Primary and secondary explosive compositions react by violently detonating. Propellants and pyrotechnics react by burning, generating large quantities of gas with intense light and heat. Table C-1 provides a summary of compositions potentially treated at the units, their chemical formulas, and their EPA Hazardous Waste Numbers. The primary hazardous waste number for all wastes treated at the incinerator is D003 (reactivity).

(2) Characteristics of Explosive Components

Table C-2 contains physical properties of PEP materials demilitarized at this site, which in conjunction with Tables C-1, demonstrates that incineration will successfully treat these materials.

**Table C-1
Chemical Composition of Explosives**

Explosive	Chemical Formula	Primary Hazardous Waste Number	Ancillary Hazardous Waste Number
Primary and Secondary Explosives			
Primary Explosives:			
Diazodinitrophenol (DDNP)	$C_6H_3N_4O_5$	D003	-
Lead azide	N_6Pb (71% Pb)	D003	D008
Lead mononitroresorcinate (LMNR)	$C_6H_3O_2Pb$ (57.5% Pb)	D003	D008
Lead stephynate	$C_6HN_3O_8Pb$	D003	D008
Mercury fulminate	$C_2HgN_2O_2$	D003	D009
Potassium dinitrofuorane (KDNBF)	$C_6H_2N_4O_6K$	D003	-
Tetracene	$C_{18}H_{12}$	D003	-
Fuels:			
Antimony sulfide	Sb_2S_5	D003	-
Calcium silicide	$CaSi_2$	D003	D001
Lead thiocyanate	$Pb(SCN)_2$ (64% Pb)	D003	D008
Oxidizers:			
Ammonium perchlorate	NH_4ClO_4	D003	-
Barium nitrate	BaN_2O_6	D003	D005
Potassium chlorate	$KClO_3$	D003	-
Aliphatic Nitrate Esters:			
1,1,1-Trimethylolethane trinitrate (TMETN)	$C_5H_9O_9N_3$	D003	-
1,2,4-Butanetriol trinitrate (BTN)	$C_4H_7N_3O_9$	D003	-
Diethyleneglycol dinitrate (DEGN)	$C_4H_8N_2O_7$	D003	-
Nitrocellulose	$C_{12}H_{16}(ONO_2)_4O_6$	D003	-
Nitroglycerin	$C_3H_5N_3O_9$	D003	-
Nitrostarch	$C_6H_{10}O_5NO_2$	D003	-
Pentaerythritol tetranitrate (PETN)	$C_5H_8N_4O_{12}$	D003	-
Triethylene glycodinitrate (TEGN)	$C_6H_{12}O_4N_2O_4$	D003	-
Nitramines:			
2,4,6-Trinitrophenylmethylnitramine (tetryl)	$C_7H_5N_5O_5$	D003	-
Cyclotetramethylenetetranitramine (HMX)	$C_4H_8N_8O_2$	D003	-
Cyclotrimethylenetrinitramine (RDX)	$C_3H_6N_6O_6$	D003	-
Ethylenediamine dinitrate (EDDN Haleite)	$C_2H_6N_4O_4$	D003	-
Nitroguanidine	$CH_4N_4O_2$	D003	-
Nitroaromatics:			
1,3-Diamine-2,4,6-trinitrobenzene (DATB)	$C_6H_4N_6O_6$	D003	-
1,3,5-Triamino-2,4,5-trinitrobenzene (TATB)	$C_6H_6N_6O_6$	D003	-
2,2',4',6',6'-Hexanitrozobenzene (HNAB)	$C_{12}N_8O_{12}$	D003	-
2,4,6-Trinitrotoluene (TNT)	$C_7H_5N_3O_6$	D003	-
Hexanitrostilbenzene (HNS)	$C_{12}H_2N_6O_{12}$	D003	-
Ammonium nitrate	NH_4NO_3	D003	-
Black powder	$K(Na)NO_3$	D003	-

Explosive	Chemical Formula	Primary Hazardous Waste Number	Ancillary Hazardous Waste Number
Primary and Secondary Explosives (cont.)			
Various compositions, including compositions A, B, and C; ednatols; octols; tertylols; pentolite; tritonal; picratol; amatol; ammonal; plastic bonded explosives (PBX); minol; torpex; high blast explosive (HBX); and dynamite (military)	Mixtures of the above chemicals	D003	
Propellants			
Mixtures of nitrocellulose, nitroglycerin, and nitroguanidine (designated as M-series propellants—single, double, and triple base)	Varies	D003	D008 if lead is a component
Pyrotechnics			
Combinations of oxidizers, fuels, and binding agents. Typical components: <ul style="list-style-type: none"> <input type="checkbox"/> Oxidizers are peroxides and perchlorates; <input type="checkbox"/> Fuels are aluminum and magnesium; and <input type="checkbox"/> Binding agents are resins, waxes, plastics, oils, retardants, waterproofing agents, and color intensifiers. 	Varies	Varies	

Table C-2
Characteristics of Explosives

Material	Heat of Combustion, Calories per gram at Constant Pressure	Heat of Formation, Kilogram Calories per mole	Products of Explosion	
			Heat, Calories per gram (H ₂ O) gas	Gas, Milliliters per gram
Primary explosives				
Lead azide	-	-112 to -126.3	367	308
Mercury fulminate	938	-221 to -226	427	315
Diazodinitrophenol	-	956	820	
Lead styphnate	1,251	92.3	460	440
Tetracene	-	270	658	1,190
Aliphatic nitrate esters				
BTN	2,167	368	1,458	-
DEGN	2,792	-99.4	1,161	-
Nitrocellulose				
Pyroxyln (12% N)	-	-216	1,020	-
Guncotton (13.35% N)	2,313	-200	1,020	883.2
High nitrogen (14.14% N)	-	-191	1,810	-
Nitroglycerin				
PETN	1,603	-90.8	1,486	715
TEGN	1,957	-128.7	1,510	790
TEGN	3,428	-603.7	750	-
TMETN	2,642	-422	-	-
Nitramines				
HMX	2,231 to 2,253	11.3 to 17.93	1,480	-
RDX	2,259 to 2,284	14.71	1,480	908

Table C-2
Characteristics of Explosives

Material	Heat of Combustion, Calories per gram at Constant Pressure	Heat of Formation, Kilogram Calories per mole	Products of Explosion	
			Heat, Calories per gram (H ₂ O) gas	Gas, Milliliters per gram
EDDN	2,013	156.1	128 to 159	-
Haleite	2,477	20.11	1,276	908
Nitroguanidine	2,021	20.29	880	1,077
Tetryl	2,914	4.67 to 7.6	1,450	760
Nitroaromatics				
Ammonium picrate	2,745	95.82	800	-
DATB	-	-97.1 to -119	910	-
HNAB	-	-58 to -67.9	1,420	-
HNS	3,451	-13.9 to 1.87	1,360	-
TATB	2,850	-33.46 to -36.85	1,018	-
TNT	3,563 to 3,598	-10 to -19.99	1,290	730
Ammonium nitrate	-	88.6	381	980

c) Parameters and Rationale [40 CFR 264.13(b)(1)]

This section presents the types of parameters evaluated and the rationale for selecting these parameters during the management of hazardous wastes at the incinerator.

(1) Pre-Acceptance Procedures

For both on and off-site generated waste, MCAAP personnel review information on the waste such as history of generation, hazardous constituents in waste, waste composition, hazardous properties, pertinent chemical and physical data, and MSDSs.

Before an off-site generated waste is accepted at MCAAP, the waste is visually inspected for consistency with pre-acceptance documents. If there are discrepancies between the waste received and the pre-acceptance paper work, the generator will be notified and the issue will be resolved.

As stated previously in this section, the FAP will regulate which specific items can be introduced into the unit.

(2) Post Treatment Procedures for Residues

Representative samples of ash residues generated from the incinerator are tested for explosives content to verify that all energetics have been effectively treated. If detectable levels are found, the waste is retreated. If the results indicate there are no detectable levels of explosives in the ash, it is subsequently analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals to determine if it contains any hazardous constituents above the regulatory levels.

(3) Test Methods

All analytical tests are conducted in accordance with the protocols specified in "Test Methods for Evaluating Solid Waste; Physical/Chemical Methods (SW-846)," Third Edition, July 1992, as amended; "Methods for Chemical Analysis of Water and Wastes" (EPA-600/4-79-020); or an equivalent method approved by the Regional Administrator. The apparatus, reagents, calibration methods, quality controls, analytical procedures, and calculation methods specified in these protocols are incorporated into this document by reference. Table C-3 identifies the test methods to be utilized.

d) Prohibited Compounds

The following items will not be introduced into the incinerator:

1) Chemical Warfare Agents

- Choking Agents
- Nerve Agents
- Blood Agents

- Blister Agents
- Incapacitating Agents
- Vomiting Agents
- Tear-producing Compounds
- Herbicides

2) Smokes

- Titanium tetrachloride
- Sulfur trioxide – chlorosulfonic acid
- Hexchloroethane (HC) mixture 6.68 % grained aluminum, 46.6 % zinc oxide, 46.66 % HC
- Bulk white phosphorus
- Bulk red phosphorus
- Plasticized white phosphorus
- Oil smoke
- Colored smokes (red, yellow, green, violet, white)

3) Incendiaries

- Eutectic white phosphorus
- Napalm B (50 % polystyrene, 25 % benzene, and 25 % gasoline)

4) Items Regulated under the Nuclear Regulatory Commission

**Table C-3
Test Methods**

Parameter	Procedure	Reference
pH	Electrometric	Method 9045A
Flash Point	Open Cup	Method 1010
TCLP	TCLP Leachate	Method 1311
Chromium	Atomic Absorption	Methods 7190/7191
Lead	Atomic Absorption	Methods 7420/7421
Silver	Atomic Absorption	Methods 7760A/7761
Mercury	Atomic Absorption	Methods 7470/7471
SVOC	GCMS	Method 8270
Explosives	GC/LC	Method 8330

**(4) Methods Used to Obtain Samples of the Ash
[40 CFR 264.13(b)(3) and 264.13(c)(2)]**

The sampling equipment and collection/handling methods used for waste analyses follow EPA-approved sampling protocols contained in the most recent edition of SW-846. The following procedures will be followed:

- Choose a stainless steel or Teflon-lined scoop;
- Clean sampling devices and containers before use. All used nondisposable containers and samplers will be washed with warm detergent solution (e.g., Liquinox, Alconox, or equivalent), rinsed at least three times with tap water, rinsed with distilled water, and air dried or wiped dry;
- Wear necessary protective clothing and gear, and observe required sampling precautions;
- Remove a sample of the waste generated during the treatment event from the collection drum;
- Once the sample container is full, cap the sample container; attach label and seal; record in field logbook; and complete analysis request sheet.

e) Additional Waste Analysis for Wastes Generated Off-Site [40 CFR 264.13 (c)]

MCAAP may potentially accept waste munitions or waste PEP shipments from other DOD facilities for treatment at the incinerator. MCAAP will provide written notifications to off-site generators in accordance with 40 CFR 264.12, stating that they have the appropriate permits for, and are willing to accept the waste the generator is shipping. Copies of these notices will be retained at MCAAP as part of the operating record.

2. Wastes in Miscellaneous Units (Open Burn/Open Detonation) [40 CFR 270.23]

a) General Explosive Information

MCAAP conducts thermal treatment of waste munitions PEP at its OB and OD units. These units are defined as miscellaneous units under 40 CFR 264. The chemical and physical characteristics of PEP treated at the OB and OD units are described in this section.

A number of reactive compounds are present in waste military munitions. These compounds fall into four general categories:

- Primary explosives,
- Boosters and secondary explosives,
- Propellants, and
- Pyrotechnics.

Primary and secondary explosive compositions react by violently detonating. Propellants and pyrotechnics react by burning, generating large quantities of gas, together with intense light and heat. Table C-4 provides a summary of compositions potentially treated at the OB and OD units, their chemical formulas, and their EPA Hazardous Waste Numbers. The primary hazardous waste number for all wastes treated at the OB and OD units is D003 (reactivity).

Primary explosives are used to initiate larger, less sensitive energetic components and may sometimes act as a booster charge between propellant and intermediate or explosive charges. These low detonation rate explosives, due to their capacity to cause detonation in less sensitive explosives, are also called initiating explosives or agents. The rate of burn for these explosives is controlled to ensure excessive pressure does not develop and that desired ballistic effects are achieved. Primary explosives are mixtures that are very sensitive to shock or friction and are a mixture of fuel, oxidizer, and explosive compounds. Typical fuels are antimony sulfide and lead thiocyanate; oxidizers include barium nitrate and potassium nitrate. The primary initiators are lead azide and lead styphnate.

Booster and secondary explosives create large volumes of hot gas in a short time after initiation. In explosives, a fast reaction produces a very high-pressure shock in the surrounding medium capable of shattering objects. These noninitiating explosives are too insensitive to be initiated by means of impact, friction, or brief application of heat. These explosives are primarily nitrates, nitro compounds, and nitramines. The most common high explosives are cyclotrimethylenetrinitramine (RDX), trinitrotoluene (TNT), trinitrophenylmethylnitramine (tetryl), cyclotetramethylenetetranitramine (HMX), and various combinations of these compounds. High explosive ordnance may have waxes or aluminum powder as additives.

Propellants are low detonation rate explosives that generate large volumes of hot gas. In propellants, a slower reaction time produces lower pressure over a longer period of time. This lower, sustained pressure is used to propel objects. The propellant mixtures are typically classified as single or double based. Single-based propellants are composed mainly of nitrocellulose, while double-based propellants are mixtures of nitrocellulose and nitroglycerin. A number of miscellaneous chemical compounds are added to the propellant charge to control

deflagration characteristics or to promote stability during storage. These additives include various nitrated organic compounds, metals, and metal salts. The additives incorporated into the propellant fuels generally account for 3% of the mixture and are oxidized during the deflagration reaction. For this reason, they are of minor consequence relative to their impact on the environment. All components of military propellants are in solid form and contain no free liquids.

Pyrotechnics generate large amounts of heat but much less gas than propellants or explosives. Pyrotechnics use exothermic chemical reactions, which are generally non explosive, self-sustaining, and self-contained. Pyrotechnic compositions are generally finely divided fuels such as metals, alloys, and hydrocarbons mixed with an oxidizer. Typical oxidizers consist of metal nitrates, ammonium, or metal perchlorates, chlorates, and peroxides. Secondary constituents also present in pyrotechnic mixtures are binders, ignition agents, retardants, and colorants. A variety of chemical compounds are present in these additives. Typical minor components include black powder, chlorinated organics, waxes, sugar, asphalt, polyvinyl chloride, and vegetable oils. The thermal treatment of these devices generates gaseous combustion products and solid particulates.

b) Published Data

Prior to treatment of wastes at the OB and OD units, historical data, specifications, and ordnance publications are used to obtain information regarding the nature of the waste to be treated. Information contained in the item's military specification (MILSPECs) that may be used to characterize the various propellant compositions presented in different munitions and ordnance items.

The MILSPECs for these items are strict and tolerances (variations) are small. The off-specification versions of these munitions will not vary significantly in chemical composition from the original specification. As testing of these substances to determine exact chemical characteristics would be dangerous (as would delays in routing wastes for treatment), full chemical characterization is not performed prior to treatment.

Off-specification materials contain the same raw materials as usable items, but are generally deficient in meeting some performance specification. Since off-specification items do not contain significantly different chemicals or concentrations compared to the same on-specification explosive, the original product information can be used to ensure proper OB or OD treatment. Therefore, waste analysis will not be required for these items.

If there is a difference in the composition of off-specification materials that may render them unacceptable for OB or OD purposes, the user/generator will provide this information. This information is then reviewed to determine if the waste is suitable to OB or OD. In some cases, a small test burn of the material may be performed to assist in this determination.

c) Explosive Compositions and Classifications

MCAAP may treat over 60 different types of explosive compounds and munitions each year. The specific type of explosive varies from year to year, depending on types of munitions generated and the manufacturer. Table C-4 presents a series of constituent-derived families

developed to categorize munitions by the primary energetic. These constituent families, drawn from air emissions test data, Material Safety Data Sheets (MSDSs), and manufacturers' specifications, were used to assist in waste characterization.

Table C-4 was developed based on the four general categories of military explosives. It summarizes the major types of explosives and lists specific explosives for each type. The last column of the table presents the constituent family names developed to summarize and consolidate similar explosive compounds. For example, since Composition A and Composition C explosives are blends of nitramines, plasticizers, and various binders, they are consolidated into the constituent family Nitramine Blends.

Constituent families are primarily based on the chemical constituents that comprise the energetic, as well as the expected method of constituent breakdown during deflagration or detonation. In cases where primary chemical types (e.g., nitramines and nitroaromatics) are blended to create boosters or explosives, a family was created to represent this binary or ternary composition.

Table C-4

Military Explosive Compositions and Classifications

Explosive Types	Description	Example Compounds	Constituent Families
Primary Explosives			
Lead azide	Salt of hydrazoic acid (initiator)	Lead azide	Primary explosives compounds: <input type="checkbox"/> Mercury fulminate <input type="checkbox"/> Lead azide <input type="checkbox"/> DDNP <input type="checkbox"/> Lead stephynate <input type="checkbox"/> Tetracene <input type="checkbox"/> Lead thiocynate
Mercury fulminate	Salt of a fulminic or paracyanic acid, used as initiator		
DDNP	DDNP, used as initiator	DDNP	
Lead stephynate	Anhydrous salt, used as primer	Lead stephynate	
Tetracene	Intermediate booster and primer (rare)	Tetracene	
Primary compositions	Initiators for high explosives, propellants, and pyrotechnics	Consists of combinations of: <input type="checkbox"/> Lead stephynate <input type="checkbox"/> Tetracene <input type="checkbox"/> Barium nitrate <input type="checkbox"/> Antimony sulfide <input type="checkbox"/> Aluminum <input type="checkbox"/> Lead thiocynate <input type="checkbox"/> Potassium chlorate	
Boosters and Secondary Explosives			
Nitramines	N-type nitration where nitrogroup is attached to a nitrogen atom being nitrated	HMX, RDX, EDDN (Haleite), tetryl (pyrolite, tetralite)	Nitramines
Nitroaromatics	C-types nitration where nitrogroup is attached to a carbon atom being nitrated	TATB, TNT	Nitroaromatics
Aliphatic nitrate esters	O-type nitration where nitrogroup is attached to an oxygen atom being nitrated	BTN, nitrocellulose (NC), nitroglycerin (NG), PETN, TEGN, TMETN, and DEGN	Aliphatic nitrate esters
Binary compositions	Composition C (such as C-4)	RDX/plasticizer	Nitramine blend
	Composition A	RDX/desensitizer	
	Composition B	RDX/TNT (60/40) Others called cyclotols	Nitroaromatic and nitramines blend
	Ednatols	Haleite/TNT	
	Octols	HMX/TNT	
	Tetrytols	TNT/Tetryl	Nitroaromatic and nitramines blend
	Pentolite	PETN/TNT	Aliphatic nitrate ester and Nitroaromatic blend
	Tritonal	TNT/flaked aluminum	Nitroaromatic blends

Table C-4

(Continued)

Explosive Types	Description	Example Compounds	Constituent Families	
Boosters and Secondary Explosives (continued)				
Binary compositions (cont.)	Picratol	Ammonium pictrate/TNT	Ammonium nitrate blend	
	Amatol	Ammonium nitrate/TNT		
	Ammonal	Ammonium nitrate/aluminum with TNT/DNT/RDX mixture		
Plastic bonded explosives	Water gel/slurry explosives	Water gel/slurry explosives		
Ternary compositions	Minol	Ammonium nitrate/TNT/aluminum		Nitroaromatic and nitramines blend
	Anatex	Ammonium nitrate/TNT/RDX		
	DBX (depth charges)	Ammonium nitrate/TNT/RDX		
	High Blast Explosive (HBX)	RDX/TNT/Aluminum		
	Torpex	RDX/TNT/Aluminum powder		
	PBX	>% RDX/HMX/PETN with polymeric binder	Aliphatic nitrate ester and nitramine blends	
Quaternary compositions	Dynamite	Dynamite		
Industrial explosives	Mixtures of NC/NG/NQ to achieve ballistic requirements	M-series, including: <input type="checkbox"/> Single-base <input type="checkbox"/> Double-base <input type="checkbox"/> Triple-base <input type="checkbox"/> Composite <input type="checkbox"/> Ball (modified double-base)	Single-base Double-base Triple-base	
Propellants				
Propellants	Mixtures of NC/NG/NQ to achieve ballistic requirements	M-series, including: <input type="checkbox"/> Single-base <input type="checkbox"/> Double-base <input type="checkbox"/> Triple-base <input type="checkbox"/> Composite <input type="checkbox"/> Ball (modified double-base)	Single-base Double-base Triple-base	
Pyrotechnics				
Delays and fuzes	Delays and fuzes	Mixtures of oxidants and powdered metals	High particulate loading (explosive) or high particulate	
Incendiaries	Incendiaries	Thermite (aluminum and rust) Phosphorous Napalm Bombs with magnesium casing	Loading (burning)	

Table C-4
(Continued)

Explosive Types	Description	Pyrotechnics (continued)	Example Compounds	Constituent Families
Photoflash	Photoflash compositions		Mixture containing: <input type="checkbox"/> Aluminum or magnesium (fuel) <input type="checkbox"/> Barium nitrate or potassium perchlorate (oxidizer)	High particulate loading (explosive)
Tracers and fusers	Tracers and fusers		Contain mixtures of: <input type="checkbox"/> Strontium peroxide <input type="checkbox"/> Magnesium <input type="checkbox"/> Potassium perchlorate (oxidizer)	Double-base
Flares and signals	Thermal radiation from the product-oxide particles and the spectral emission from excited metals		Consist of: <input type="checkbox"/> Sodium nitrate (oxidant) <input type="checkbox"/> Magnesium <input type="checkbox"/> Aluminum (fuel at times) <input type="checkbox"/> Binder	High particulate loading (burning)
Ignitors and initiators	Ignitors and initiators (between primary ignitor and main charge)		Black powder Ignition mixtures containing: <input type="checkbox"/> Aluminum <input type="checkbox"/> Barium chromate <input type="checkbox"/> Laminac <input type="checkbox"/> Magnesium	Black powder Ignition mixtures

d) Miscellaneous Waste Streams Treated at OB/OD Unit

(1) Plastic Bonded Explosives/PF141IG Sludge

Plastic Bonded Explosives (PBX) are produced in building 190 and placed in large tub-sized kettles. After the explosives are poured into steel bomb casings, the kettles are cleaned with a non-halogenated solvent (PF141IG). This process generates a sludge-like mixture of explosives and solvent that is too dangerous to transport off-site for treatment. MCAAP has determined that on-site open burning of this waste stream is the safest and most effective method of treatment available. Based on the language in 261.23(a)(6),(7), and (8), this waste stream is classified as a D003 waste in the Explosives Subcategory.

(2) Methyl Ethyl Ketone Peroxide

In the production buildings, a thermal coat is sprayed on bomb bodies to create a heat shield designed to provide personnel with more escape time in the event of a fire. This two part mixture consists of a thick, pasty resin, and plastic jugs of methyl ethyl ketone peroxide (MEPK). When the MEPK exceeds its shelf life, or is determined to be off-specification, it can be extremely unstable and may spontaneously combust. In the last several years, the plant has had explosions and building fires caused by the storage of this material. Due to the dangers involved with handling this waste, it is transported to the OB area for treatment. Based on the language in 261.23(a)(6),(7), and (8), these wastes are classified as D003 wastes in the Explosives Subcategory.

(3) Hypersolve

Hypersolve is used to clean out all bomb bodies during the explosive melt out operations. Cloth rags, gloves, and other personal protective equipment are routinely generated during this process and must be treated at the OB area due to the presence of explosives. Based on the language in 261.23(a)(6),(7), and (8), these wastes are classified as D003 wastes in the Explosives Subcategory.

(4) Explosives Contaminated PPE

Explosives contaminated PPE is generated throughout the munitions processing buildings and is treated at the OB area. Based on the language in 261.23(a)(6),(7), and (8), this waste stream is classified as a D003 waste in the Explosives Subcategory.

(5) Lab Waste

Spent heptane and acetone reagents that contain measurable amounts of explosives are occasionally generated at the laboratory. Based on the language in 261.23(a)(6),(7), and (8), these wastes are classified as D003 wastes in the Explosives Subcategory.

(7) Waste PBX

Scrap PBX is routinely generated from explosive fill operations. Due to contamination, this material cannot be reused and is treated at the OB area. Based on the language in 261.23(a)(6),(7), and (8), this waste stream is classified as a D003 waste in the Explosives Subcategory.

e) Management of Residues from Open Detonation

Metallic shrapnel is the only treatment residue generated from OD. It is formed as a result of an explosion; therefore, its presence is evidence that the reactivity characteristic has been deactivated. However, shrapnel is visually inspected for evidence that the energetic component of the items has been successfully treated. This inspection is conducted by site personnel specially trained for this task. Any shrapnel observed or suspected to contain unreacted energetics is retreated to ensure complete deactivation. After the inspection, shrapnel is certified as being free of an explosive hazard and sold as scrap metal.

The shrapnel is not analyzed for toxicity characteristics, provided that it meets the definition of scrap metal in 40 CFR 261.

f) Management of Residues from Open Burning

OB treatment operations may generate two classes of solid waste: ash residue and solid residue such as recoverable metal casings, fragments, and pieces of untreated munitions filler material. Metal casings and fragments are managed as scrap metal, while untreated material is re-burned to ensure complete deactivation.

Ash generated from the OB unit is accumulated in 55 gallon drums identified with the ash type designation (PBX, TNT, M76, etc). Since these ash types have different characteristics they are considered different waste streams with different waste profiles. Containers of ash types will be accumulated in lots of 25 to 100 prior to a composite sample being drawn on the particular lot. After the sampling is conducted, the containers in the area will be identified with signage stating "Waiting For Analysis". Upon receipt of analytical results, the wastes will be managed accordingly.

g) Chemical Warfare Agents

Materials that may have been contaminated with military chemical warfare agents are not accepted for thermal treatment at the OB or OD units. Examples of such chemical warfare agents include the following:

- Choking Agents
- Nerve Agents
- Blood Agents
- Blister Agents
- Incapacitating Agents

- Vomiting Agents
- Tear-producing Compounds
- Herbicides

In addition, smoke and incendiary compounds listed in Table C-5 are not treated at the OB or OD units.

Table C-5
Compounds Not Treated by OB/OD

Smokes

- Titanium tetrachloride (FM)
- Sulfur trioxide – chlorosulfonic acid (FS)
- Hexchloroethane (HC) mixture 6.68 % grained aluminum, 46.6 % zinc oxide, 46.66 % HC
- White phosphorus (WP)
- Bulk red phosphorus (RP)
- Plasticized white phosphorus (PWP)
- Oil smoke
- Colored smokes (red, yellow, green, violet, white)

Incendiaries

- Eutectic white phosphorus (EWP)
- Napalm B (50 % polystyrene, 25 % benzene, and 25 % gasoline)

h) Waste Analysis Procedures

All materials treated introduced into the OB/OD units are assumed to be hazardous wastes. A detailed waste analysis is not necessary to ensure successful treatment by OB/OD, as the constituents of the PEP and their ballistic properties are well known prior to treatment. The MSDSs and MILSPECs for the constituents being subjected to OB/OD are maintained on file at this facility. Table C-2 contains physical properties of PEP materials demilitarized at this site, which in conjunction with Table C-1 demonstrate that OB/OD will successfully treat these materials.

i) Parameters and Rationale

The need for PEP residues to be tested for the RCRA characteristics of reactivity and the TCLP depends on the nature of the PEP material. Historical data exists from the U.S Bureau of Mines Gap Test over a period of several years indicated that the ash residue at MCAAP does not exhibit the characteristic of reactivity. Nevertheless, representative samples of the ash are collected and tested for explosive content and TCLP metals. The explosive content test also serves as a measure of the effectiveness of thermal treatment for the PEP material.

j) Test Methods

All analytical tests are conducted in accordance with the protocols specified in "Test Methods for Evaluating Solid Waste; Physical/Chemical Methods (SW-846)," Third Edition, July 1992, as amended; "Methods for Chemical Analysis of Water and Wastes" (EPA-600/4-79-020); or an equivalent method approved by the Regional Administrator. The apparatus, reagents, calibration methods, quality controls, analytical procedures, and calculation methods specified in these protocols are incorporated into this WAP by reference. Table C-6 identifies the test methods to be utilized.

Table C- 6
Test Methods

Parameter	Procedure	Reference
pH	Electrometric	Method 9045A
Flash Point	Open Cup	Method 1010
TCLP	TCLP Leachate	Method 1311
Chromium	Atomic Absorption	Methods 7190/7191
Lead	Atomic Absorption	Methods 7420/7421
Silver	Atomic Absorption	Methods 7760A/7761
Mercury	Atomic Absorption	Methods 7470/7471
SVOC	GCMS	Method 8270
Explosives	GC/LC	Method 8330

k) Methods Used to Obtain Representative Samples of the Ash [264.13(b)(3) and 264.13(c)(2)]

The sampling equipment and collection/handling methods used for waste analyses follow EPA-approved sampling protocols contained in the most recent edition of SW-846. The general procedures and precautions listed below are followed to ensure that a representative sample is collected from each container of waste ash

- Choose a stainless steel or Teflon®-lined scoop.
- Clean sampling devices and containers before use. All used nondisposable containers and samplers are washed with warm detergent solution (e.g., Liquinox®, Alconox®, or equivalent), rinsed at least three times with tap water, rinsed with distilled water, and air dried or wiped dry.

®Teflon is a registered trademark of E.I. DuPont de Nemours & Co., Inc., Wilmington, Delaware.

®Liquinox is a registered trademark of

®Alconox is a registered trademark of

- Wear necessary protective clothing and gear, and observe required sampling precautions.

- Remove a sample of the waste generated during the treatment event from the collection drum.
- Once the sample container is full, cap the sample container; attach label and seal; record in field logbook; and complete analysis request sheet.

l) Frequency of Analyses [40 CFR 264.13(b) (4)]

The frequency in which the OB ash is analyzed is described above in paragraph 2 (f) of this section.

m) Additional Waste Analysis for Wastes Generated Off-site [40 CFR 264.13 (c)]

MCAAP may potentially accept waste munitions or waste PEP shipments from other DOD facilities for treatment at the OB/OD units. Prior to acceptance of any such waste, MCAAP will coordinate with the generating facility and review all applicable information related to the item(s). No wastes will be received unless MCAAP personnel are satisfied that both the physical and chemical data are sufficient to ensure the selected treatment process is appropriate, and that the composition of the item(s) is consistent with the information provided in this document.

MCAAP will provide written notifications to off-site generators in accordance with 40 CFR 264.12, stating that they have the appropriate permits for, and are willing to accept the waste the generator is shipping. Copies of these notices will be retained at MCAAP as part of the operating record.

Permit Attachment 2. Procedures to Prevent Hazards

SECTION F PROCEDURES TO PREVENT HAZARDS

The information provided in this section is submitted in accordance with the requirements of 40 CFR 270.14(b) (4), (5), (6), (8), and (9). Other regulations addressed to complete this section include: 40 CFR 264.14; 264.15, 264.17; 264.194; and 264.254.

This section addresses general security provisions, inspection schedules, and the prevention of accidental ignition or reaction of ignitable, reactive, or incompatible wastes.

1. Security Procedures and Equipment [40 CFR 270.14(b)(4) and 264.14]

MCAAP is a fully secured Army installation. Nearly all of the 45,000 acres is totally enclosed with a four-strand barbed wire fence with steel posts and cross ties for stretch posts. The property boundary is posted at frequent intervals with signs reading "U.S. Government Property - Keep Out". Security forces patrol a 50-foot-wide fireguard clearing bordering the installation at a minimum of once per week to check the fence for needed repairs. The fireguard clearing is not an all weather road; therefore, during periods of wet weather the road patrol may exceed 1-week intervals. Plant entrance is controlled through two gates. The main entrance on the east boundary, C-Tree Road, is manned 24-hours per day by security forces. The second entrance, the north boundary at Haywood, is manned during scheduled hours. A locked gate prevents entry at all other times.

The plant has two levels of security. The first and lowest level of security is the controlled area (headquarters, maintenance, and industrial area). The second and tighter level of security is referred to as the restricted area. Entrance into the restricted area is through manned guard stations. Personnel entering this area must have proper identification badges and vehicle passes. The restricted area is a no-smoking area and security guards check for prohibited items such as spark producing devices, firearms, matches, lighters, and citizen band radios.

2. 24-Hour Surveillance System [40 CFR 264.14(b)(1)]

MCAAP is responsible for onsite security to control entry, at all times, through the secured gate or other entrances to the active portion of the entire installation. All entrances are staffed 24-hours per day and proper identification is required for entry. All visitors must register and receive a pass prior to admittance to the base.

The OB/OD units and the incinerator are all located completely within the fenced and secured area of MCAAP. Security Police patrol all units, control entry onto the active portion of the facility during hours of non-operation, and also check the fenceline/buildings year-round. The procedures and personnel used are determined by the Security Police.

3. Barrier and Means to Control Entry [40 CFR 264.14(b)(2)(i) and (ii)]

a) OB/OD

The OB and OD units are located within the restricted area. Inside the restricted area, steel gates control access to the OB/OD units across Road 6 as shown in Figure F-1. The gates are closed at all times except when authorized activity at the units is in progress.

The Operations Area Supervisor controls the keys to the buildings located in the OB/OD area. The key control unit maintains a master key for use in making duplicate keys. Master keys are locked in a metal box and cannot be checked out.

b) Incinerator

The incinerator is located within the restricted area and all doors to the unit will be closed and locked when not in operation. The key is maintained by the Ammunition Production Control and a log book is kept to document issuance and return.

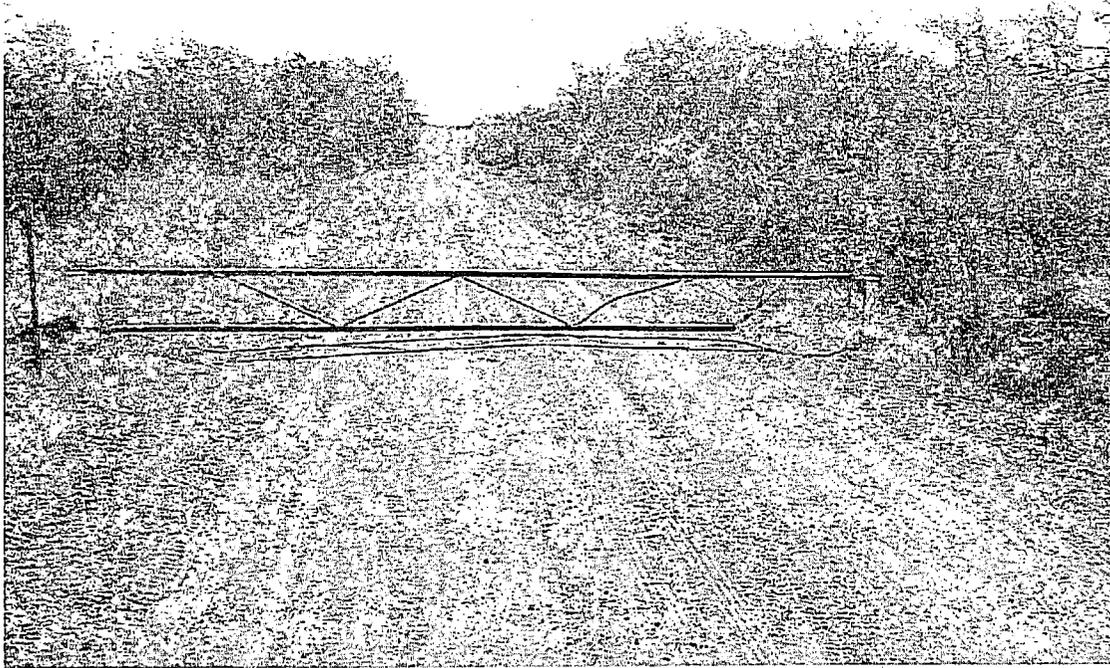


Figure F-1 –OB/OD ACCESS GATE

4. Warning Signs [40 CFR 264.14(c)]

a) General

Signs reading "U.S. Government Property - Keep Out" are posted at frequent intervals along the MCAAP property boundary.

b) OB/OD Unit

A warning light and "Danger" sign are located outside the entrance to the OB and OD units (Figure F-2).

c) Incinerator

Signs reading "Hazardous Waste Management Area - Unauthorized Personnel Keep Out" are posted outside the unit (Figure F-3).

5. Inspection Schedule and Frequencies [40 CFR 270.14(b)(5) and 264.15]

A program has been established to inspect all components of the permitted units for malfunctions/deterioration of monitoring equipment, safety/emergency equipment, security devices and operating/structural equipment. These inspections are necessary to prevent, detect, and respond to situations that may pose a risk to human health or the environment.

Inspection frequencies are provided within each unit's specific checklist. The frequency depends upon equipment deterioration, environmental or human health incidences, or equipment malfunction between inspections.

a) Specific Process Inspection Requirements [40 CFR 270.14(b) (5) and 264.15(b) (4)]

The specific process inspections discussed below are for container storage, the incinerator, and the miscellaneous thermal treatment units. Inspections of waste piles, container storage areas, tanks, surface impoundments, landfills, land treatment facilities are not applicable to this permit application because these types of units do not exist at McAlester.

(1) OB/OD Unit Inspection [40 CFR 264.602]

An employee trained in hazardous waste management procedures conducts inspections of the OB/OD units in accordance with Tables F-1, F-2, F-3, and F-4. Other information contained in these tables includes a summary of the anticipated problems discovered, and also the frequency in which inspections are performed.

These schedules have been designed to help ensure that the OB/OD units are maintained and operated in accordance with all applicable Federal, State, and local regulatory requirements, in addition to the conditions of the Part B permit. Inspections are intended to assist in identifying equipment deterioration and malfunctions, to ensure the effectiveness of the treatment process, and to protect human health and the environment.

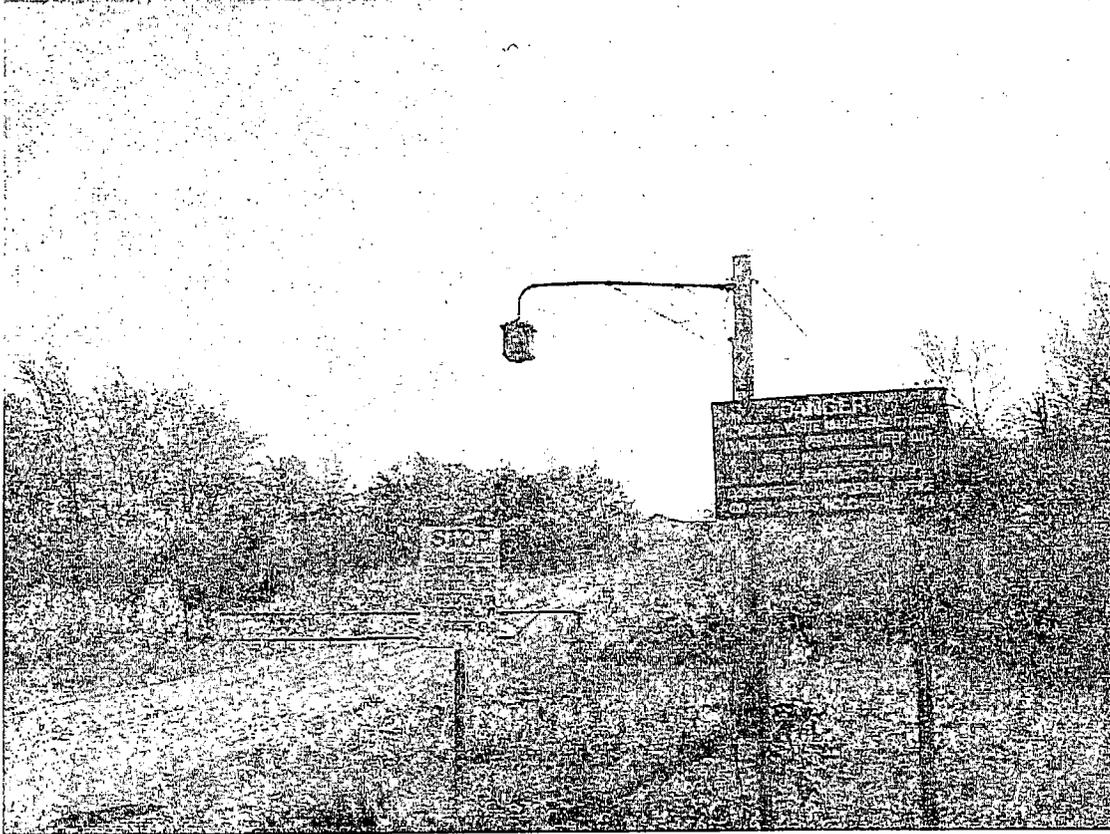


Figure F-2 – OB/OD Warning Sign

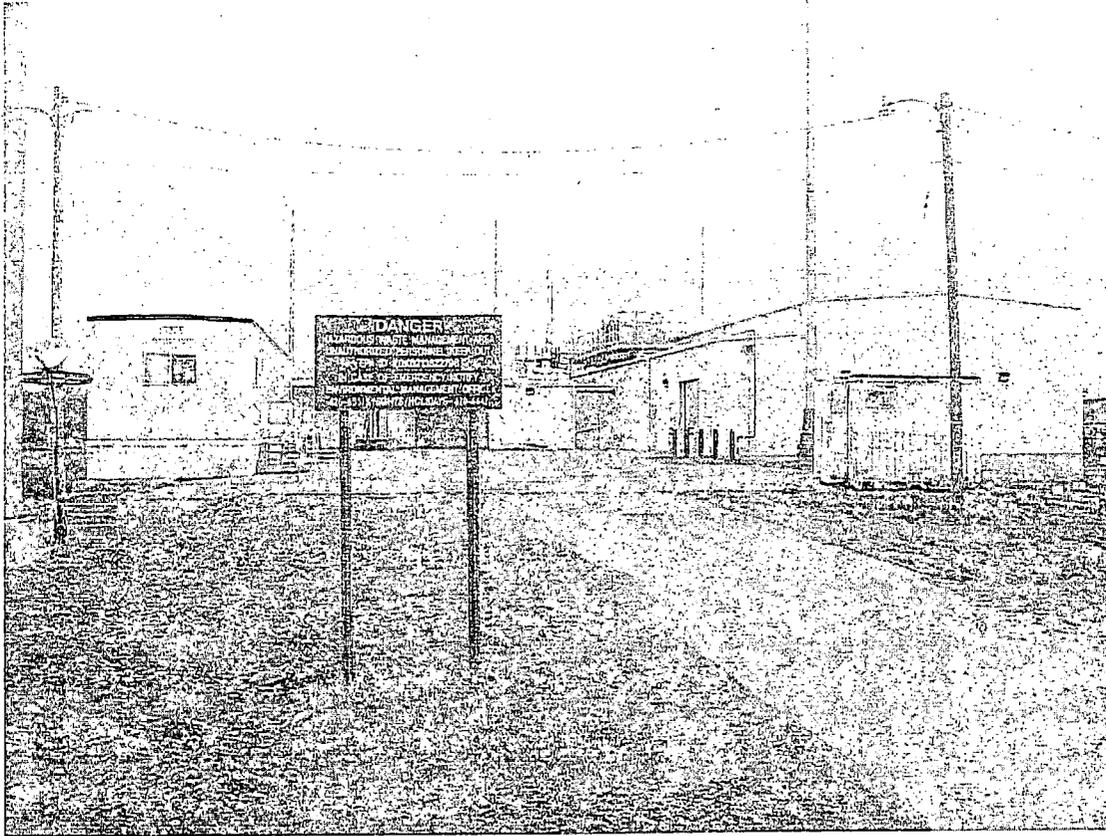


Figure F-3 – Incinerator Warning Sign

Table F-1. OB Unit Inspection Schedule (General Issues)

<u>ITEM</u>	<u>TYPICAL PROBLEMS</u>	<u>MINIMUM FREQUENCY</u>
Burning subunits	Displacement or erosion of soil, growth of vegetation	Quarterly
Perimeter fence	Broken or damaged wires or posts	Quarterly
Perimeter fire guard	Vegetation growth	Quarterly
Roads	Potholes, washouts, rutting	Quarterly
Personnel shelter	Structural deterioration of concrete in walls, road, or floor; erosion or displacement of earth barricades	Quarterly
Blasting circuitry	Deterioration or damage of wires; corrosion	Quarterly
Electrical testing meters	Out of calibration	Quarterly
Fire extinguishers	Incompletely charged; inoperative	Quarterly
Weather monitoring equipment	Out of calibration	Quarterly
Warning signs, lights, sirens	Not properly displayed; inoperative	Quarterly

Table F-2. OB Unit Inspection Schedule (Cleaning and Securing Unit)

<u>ITEM</u>	<u>MINIMUM FREQUENCY</u>
Verify a search of areas surrounding the pans is conducted to collect any unburned ammunition or explosives	AEU
Verify any unburned ammunition or explosive material collected is placed in a marked container for subsequent reburn	AEU
Verify a sample of burn ash is taken for initial explosives analysis prior to removal	AEU
Verify all containers that previously contained explosive items are inspected and certified as free of explosive hazards.	AEU

Table F-3. OD Unit Inspection Schedule (General Issues)

<u>ITEM</u>	<u>TYPICAL PROBLEMS</u>	<u>MINIMUM FREQUENCY</u>
Demolition pits	Rounding out of pits or change in dimension due to explosions	Quarterly
Demolition area	Potholes, washouts, soft areas, rutting, erosion	Quarterly
Personnel shelter	Structural deterioration of concrete in roof, walls or floor; erosion or displacement of earth barricade	Quarterly
Blasting circuitry	Deterioration or damage of wires; corrosion	Quarterly
Electrical testing meters	Out of calibration	Quarterly
Fire extinguishers	Incompletely charged; inoperative	Quarterly
Weather monitoring equipment	Out of calibration	Quarterly
Warning signs, lights, sirens	Not properly displayed; inoperative	Quarterly
Shrapnel/residue	Energetic components not successfully treated	AEU
Sedimentation Lagoon	Loss of integrity; ineffective retention	Quarterly

Table F-4. OD Unit Inspection Schedule (Cleaning and Securing Pits)

<u>ITEM</u>	<u>MINIMUM FREQUENCY</u>
Search of surrounding area and around each pit for unexploded material	AEU
Cleaning road ways using dozer/front end loader	Daily
Running magnet over road, pit, and cover dirt	Daily
Destroying all duds/unexploded material	As Needed
Conducting maintenance/cleaning of the entire unit to remove scrap metal	Annually

b) Inspection Log [40 CFR 264.15(d) and 264.73(b) (5)]

Inspections for all units are recorded in notebooks and are kept onsite at MCAAP for at least 3 years. Information recorded includes the date and time of inspection, the name of the inspector, the items inspected, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

c) Remedial Action [40 CFR 264.15 (c)]

If inspections reveal that non-emergency maintenance is needed, MCAAP will initiate immediate action(s) to preclude further damage and to reduce the need for emergency repairs. If a hazard is imminent, or has already occurred, remedial action(s) will immediately be taken. Appropriate authorities will be notified according to the Contingency Plan (Section I). In the event of an emergency involving the release of hazardous substances to the environment, efforts will be directed towards containing the hazard, removing it, and subsequently decontaminating the affected area. These procedures are also outlined in the Contingency Plan.

6. Aisle Space Requirement [40 CFR 264.35]

a) Incinerator

The incinerator is accessible to fire and emergency equipment by paved roads. A driveway circling the building and a concrete pad also serve to facilitate access for emergency equipment.

Access to the unit is available through 10 ft wide door. Within the building there is sufficient lateral clearance between equipment and the walls to allow for firefighting and other emergency operations.

b) OB/OD Unit

Thermal treatment of military munitions is conducted in an outdoor setting where space is not a constraint to the unobstructed movement of personnel and emergency equipment to any area of the facility. Military munitions and energetic materials brought to the units are not stored or stacked in piles at the thermal treatment units, but are treated immediately after unloading.

7. Prevention of Accidental Ignition or Reaction of Wastes [40 CFR 264.17(a) and 270.14(b)(9)]

a) OB/OD Unit

The very nature of OB and OD thermal treatment processes results in violent reactions producing heat, explosion, fire, and dust. However, appropriate procedures and precautions are in place to ensure that all reactions are controlled and do not threaten either human health or the environment, nor damage the structural integrity of the treatment units. These procedures include the following:

Personnel handling hazardous waste at the units are specifically trained to manage ignitable and reactive waste, and are fully aware of the proper procedures to prevent accidental ignition:

- No incompatible wastes are managed at the OB and OD thermal treatment facilities.
- Smoking and open flames are prohibited in the vicinity of waste energetics.
- Motor vehicles and equipment employing internal combustion engines used in the vicinity of explosive areas, or for transporting waste military munitions and energetic materials, are equipped with exhaust systems fitted with effective spark and flame arresting devices in the exhaust lines.
- Blasting caps are stored in approved containers only and separate from explosives.
- Explosive materials to be used during the treatment process are stored in the Explosives Ready-Service Bunker prior to use where they remain dry, cool, and out of the direct rays of the sun.
- Demolition operations are not conducted during or upon the approach of an electrical storm.
- The maximum allowable quantities of explosives per OB and/or OD event are not exceeded.
- The ignition train used to initiate the burning of propellants is arranged to lead downwind to the material to be burned.
- A thorough search of the treatment area is made after each OB and OD event for any material that may not have burned or detonated.

Permit Attachment 4. Hazardous Waste Contingency Plan

SECTION G

CONTINGENCY PLAN

G-1. General Information (40 CFR 264.52)

The information contained herein was developed in accordance with 40 CFR Part 264, Subpart D. The purpose of Part 264, Subpart D is to ensure that facilities that treat, store, and dispose of hazardous wastes have established the procedures necessary should an emergency situation arise.

MCAAP is a DOD operated facility that both produces and stores ammunition and explosives. The Base Commander is responsible for the operation of the facility. The Commander may be reached at (918) 420-6211 from 0630 to 1700 hours Monday through Thursday. The Fire Chief is the primary Emergency Coordinator at MCAAP and may be reached at (918) 420-6221 from 0630 to 1700 hours from Monday through Thursday. Other emergency coordinators may also be reached at this telephone number. Contract security will contact the Emergency Coordinator during non-duty hours.

This contingency plan is specific to the areas regulated as treatment units under the RCRA. These include the incinerator and the OB/OD areas. The management of explosive hazardous wastes to be introduced into these units is strictly regulated under site specific SOPs and DOD safety standards. These SOPs and regulations address procedures for proper packaging, transport, and placement of waste into the treatment units. Copies of these SOPs and regulations are maintained at the units.

Wastes derived from these treatment operations are minimal. The burning ground generates ash, contaminated production wastes, contaminated clothing, and containers. The incinerator generates ash and shell casings, while the OD units produce shrapnel. All of these wastes are containerized and processed for disposal.

Under reasonably foreseeable conditions, the types and quantities of materials treated at the incinerator and the OB/OD units would not result in any significant releases that could spread beyond the MCAAP boundary. In the event of fires, the combination of natural firebreaks, paved roads, and man-made firebreaks, will keep fires from spreading beyond the units.

G-2. Emergency Coordinators (40 CFR 264.52(d) and 264.55)

For emergencies at the treatment units, the person discovering the incident immediately notifies the Duty Supervisor who confirms the incident and then notifies the Emergency Coordinator and other appropriate response personnel. If the Primary Emergency Coordinator is not available, the Alternate Emergency Coordinator is contacted.

Emergency Coordinators have the responsibility for coordinating all emergency response measures. They are thoroughly familiar with all aspects of the Contingency Plan, all

operations and activities of the installation, the location and characteristics of the wastes, the locations of all records within the installation, and the installation layout. The Emergency Coordinator has the authority to utilize all emergency equipment and to mobilize all personnel upon determination that an imminent threat to human health and the environment from the emergency situation exists.

When explosive items are present, the Emergency Coordinator relies heavily on the support and expertise of the Duty Supervisor and other technicians to properly respond. These individuals are considered technical experts for munitions incidents in accordance with 29 CFR 1910.120 and 40 CFR 311.

Primary Emergency Coordinator: Fire Chief
McAlester, OK 74501-9002
Office: (918) 420-6221

Alternate Emergency Coordinator: Assistant Fire Chief
McAlester, OK 74501-9002
Office: (918) 420-6221

G-3. Implementation (40 CFR 264.52(a) and 265.56(d))

The Fire Chief is responsible for implementing the Contingency Plan should he decide the incident presents an imminent or actual threat to human health or the environment. This section should be used as a guide in making this decision.

In the event of a fire or explosion, the Contingency Plan will be implemented if:

1. A fire causes the release of toxic fumes.
2. The fire spreads and could possibly ignite materials at other locations on site or could cause heat-induced explosions.
3. The fire could possibly spread to offsite areas.
4. The use of water or a water and chemical fire suppressant could result in contaminated runoff.
5. An imminent danger exists that an explosion could occur, causing a safety hazard of flying fragments or shock waves.
6. An imminent danger exists that an explosion could ignite other hazardous wastes at the unit.
7. An imminent danger exists that an explosion could result in release of toxic material.

8. An explosion has occurred.

In the event of a spill or material release, the Contingency Plan will be implemented if:

1. The spill could result in release of flammable liquids or vapors, thus causing a fire or gas explosion hazard.
2. The spill could cause the release of toxic liquids or fumes.
3. The spill can be contained onsite, but the potential exists for groundwater contamination.
4. The spill cannot be contained onsite, resulting in offsite soil contamination and/or ground/or surface water pollution.

In the event of a major flood, the contingency plan will be implemented if the potential exists for surface water contamination.

G-4. Emergency Response Procedures

G-4a. Notification (40 CFR 264.56(a))

In the event of an emergency situation, the Emergency Coordinator will be notified first; subsequently facility personnel, appropriate local agencies, and Fire and Police Departments will be notified. The Oklahoma Department of Environmental Quality (ODEQ) will also be notified.

G-4b. Identification of Hazardous Materials (40 CFR 264.56(b))

The Emergency Coordinator will immediately identify the character, exact source, amount, and area extent of the hazardous waste release. The initial identification method will be by visual inspection of the material and location of the release. If for some reason, the released material cannot be identified, then samples will be taken for chemical analysis.

As stated previously, the Duty Supervisor will provide support for situations involving waste munitions. This support may include identifying the item(s), assessing threat potential, determining what expertise and equipment is necessary to properly respond to the incident, and coordinating any "render-safe" procedures.

G-4c. Hazard Assessment (40 CFR 264.56(c) and (d))

The Emergency Coordinator will assess possible hazards, both direct and indirect, to human health and the environment.

G-4d. Control Procedures (40 CFR 264.52(a))

Potential emergency occurrences fall under two classifications: (1) fires and/or explosions, and (2) spills or material release. Natural disasters such as earthquakes or hurricanes are assumed to fall into one of these two classifications.

1. Fire or Explosion

Procedures in the unit SOPs exist to minimize the potential for these events; however, if they should occur, the following actions will be taken.

- (a) MCAAP fire department notified.
- (b) Operations at affected facility interrupted or suspended and traffic rerouted if deemed necessary by Emergency Coordinator.
- (c) MCAAP emergency response personnel notified by Emergency Coordinator.
- (d) Containment of fire/explosion by emergency response personnel using available emergency equipment.
- (e) Delineation of area affected.
- (f) Assessment of the potential imminent threat to human health or the environment.
- (g) Area will be cleaned of all hazardous material using emergency equipment. Contaminated material will be removed in appropriate containers awaiting disposition.
- (h) Cleanup and service of equipment.
- (i) Affected area certified clean by the Safety Officer and the Emergency Coordinator.
- (j) Determination of cause of incident and definition of actions to be taken to prevent recurrence made by the Emergency Coordinator.
- (k) Required reports filed by Environmental Management Office.
- (l) Resumption of operations.

2. Hazardous Material/Waste Release

In the event of an emergency spill or release of hazardous material/waste, the area supervisor will be contacted immediately. He will contact the MCAAP fire department and inform him of the material that was spilled or released, the location of the incident, and estimate of the quantity released and the rate of release, and injuries incurred and their extent, any potential for fire or explosion, and the extent of the area involved. The Emergency Coordinator will deploy the necessary emergency response personnel to contain the spill.

The following guidelines will be used in case of an accidental episode involving waste materials. These are general guidelines and circumstances may dictate some alterations to these procedures. Most waste spills are easily contained. Small spills will be removed by a portable sump pump. Waste material will be pumped into 55-gallon compatible containers. The area will be flushed with water three times and this water pumped into 55-gallon compatible containers. This solution will be characterized either through generators knowledge or analytical tests and managed accordingly. Damaged or leaking containers will have contents pumped to new containers, or placed into overpacks. The damaged container will be disposed of at an approved site. Cleanup personnel will:

1. Make sure all unnecessary persons are removed from the hazard area.
2. Put on protective clothing and equipment.
3. If possible, try to stop the leak.
4. Remove all surrounding materials that could be especially reactive with materials in the waste. Determine the major components in the waste at the time of the spill.
5. Place all containment and cleanup materials in containers for proper characterization.
6. Place all recovered liquid wastes and contaminated soil in containers for proper characterization.

The initial response to an emergency spill or release will be to protect human health and safety and the environment. Identification, containment, treatment, and disposal assessment will be the secondary response. If an incident results in the formation and release of a toxic vapor cloud, the area will be evacuated. All response personnel will remain upwind of the spill except those in protective clothing and respirators. The need to evacuate an urban population will be highly unlikely because of the location of the units.

All emergency equipment used in an emergency must be cleaned and fit for use prior to resumption of operations in the affected area. A list of emergency equipment and vehicles is listed in Figure G-1.

G-4e. Prevention of Recurrence or Spread of Fires, Explosions, or Releases [40 CFR 264.56(e)]

Actions appropriate to controlling and preventing the spread of fires would be selected and implemented by the Emergency Coordinator and trained, professional fire fighters. MCAAP will rely upon their professional, on-scene judgment in selecting a course of action that is most protective of human health and the environment. Similarly, the knowledge and training of on-scene ordnance experts would be used in determining the most appropriate response to actual or potential uncontrolled explosions, or releases of reactive hazardous wastes.

Should any event occur that would require implementation of this Contingency Plan, MCAAP would follow up with actions to prevent future recurrences. At a minimum, future operations at the unit would be suspended and an investigation of the incident would be conducted to determine the reasons for the occurrence. Based on the results of the investigation, any appropriate changes would be instituted prior to resumption of operations.

G-4f. Storage and Treatment of Released Material [40 CFR 264.56(f) and (g)]

Immediately after an emergency, the Environmental Office will make arrangements for treatment, storage, or disposal of recovered wastes, contaminated soil, surface water, or any other contaminated material.

G-4g. Incompatible Wastes [40 CFR 264.56(h)(1)]

The Emergency Coordinator and personnel from the Environmental Office will ensure that wastes that may be incompatible with the released material are not treated, stored, or disposed of in the affected area(s) of the unit.

G-4h. Post-Emergency Equipment Maintenance [40 CFR 264.56(h)(2) and (i)]

After an emergency event, all emergency equipment will be cleaned so that it is fit for use, or it will be replaced. Before operations are resumed, an inspection of all safety equipment will be conducted. The State and local authorities will be notified that post-emergency equipment maintenance has been performed and that operations will be resumed.

G-4i. Container Spills and Leakage [40 CFR 264.56(q) and 264.171]

In the event of container spills or leakage, cleanup will proceed as detailed above for spills or material release.

G-5. Emergency Equipment [40 CFR 264.52(e)]

Reference Figure G-1 for a list of MCAAP response equipment, material and supplies with their location identified.

Fire trucks and equipment are available from the fire station in Building 408. The station operates 24-hours per day with a minimum of seven men per shift. Equipment includes two ambulances, three 250-gpm structural/brush and grass trucks, a 500-gpm pumper truck, a 1000-gallon tanker, and a Monaco alarm system which is tied into various manual and automatic fire detection devices throughout the installation. In addition, fire extinguishers are located near the permitted units. The fire station also provides rubberized suits with full headgear and self-contained breathing apparatus.

G-6. Coordination Agreements

The resources of MCAAP, including fire protection, medical facilities, and security personnel, are sufficient to respond to any potential emergency presented by hazardous wastes stored or processed on-site. However, coordination with local officials in regard to emergency response as required by 40 CFR 264.37 has been made. Formal requests for coordination and assistance have been sent to McAlester Regional Hospital, Oklahoma Highway Patrol, and the City of McAlester Police Department, Fire Department, and mayor's office. A coordination agreement has been made with the city of McAlester to assist in emergency spill or release emergencies. The local emergency units will work under the direct supervision and advice of the MCAAP Fire Department, Security Force, or Emergency Coordinator.

G-7 Evacuation Plan [40 CFR 264.52(f)]

Because of the isolated locations of the units, evacuation beyond the immediate area is not anticipated to be necessary. Isolation and strict control of personnel preclude the necessity for general evacuation.

G-8. Required Reports [40 CFR 264.56(j)]

The ODEQ will be notified immediately of any emergency event by calling (405) 702-5100 during business hours. As required by 40 CFR 264.56, any emergency event that requires implementing the Contingency Plan will be reported in writing within 15 days to the ODEQ.

The Environmental Coordinator will notify the ODEQ when post-emergency equipment procedures have been completed. This will be done prior to resumption of operations.

G-9. Review of Contingency Plan and Amendments Thereto

The Contingency Plan is reviewed annually and amended if: the annual review detects inadequacies in the plan; the applicable regulations are changed; the plan fails in an emergency; there is a significant change in the operation of the unit; or if the list of Emergency Coordinators changes.

Figure G-1. List of MCAAP response equipment, material, and supplies

<u>PUBLIC WORKS DIRECTORATE</u>	<u>LOCATION</u>
Bulldozer	Bldg 90
Road Grader	Bldg 90
Dump Truck	Bldg 90
Backhoe	Bldg 90
HAZMAT Response Trailer	Bldg 408
3 Class A Pumpers	Bldg 408
2 Ambulance	Bldg 408
2 Brush Pumpers 4WD	Bldg 408
1 Rescue Truck (Light)	Bldg 408
1 Mini Pumper 4WD	Bldg 408
Fire Truck	Bldg 408
1 200 Gallon Tanker	Bldg 408
Rescue Boat	Bldg 408
4 ATV	Bldg 408
Suburban 4WD	Bldg 408
1 4WD Pumper	Bldg 408
Two Way Radio	Bldg 408
Level A Training Suits	Bldg 408
Nitrile Gloves	Bldg 408
Neoprene Gloves	Bldg 408
Booties	Bldg 408
Glove Attachment Rings & Domes	Bldg 408
PVC Chemical Boots	Bldg 408
Level A Total Encapsulated Suits	Bldg 408
Level B Suits	Bldg 408
60-Minute SMA Breathing Apparatus	Bldg 408
10' x 5" HAZMAT Booms	Bldg 408
10' x 8" Floater Booms	Bldg 408
85 GL Overpack Drums	Bldg 408
43" x 3' Master Soaker Pads	Bldg 408
Poly Bags with Ties	Bldg 408
Caution Tape	Bldg 408
Drum Puncture Kits	Bldg 408
24" Brooms with handles	Bldg 408
55 GL Drum Liners	Bldg 408
Non-Sparking Shovels	Bldg 408
Sealing Putty	Bldg 408
Storage Box with Rollers	Bldg 408
Plug and Wedge Kits	Bldg 408
4-Wheel Drive Vehicle	Bldg 22
Drum Repair Kit	Bldg 22

Absorbent Booms
Absorbent Pads

Bldg 92
Bldg 92

Permit Attachment 6. Process Information

SECTION D
PROCESS INFORMATION FOR RCRA UNITS

1. Open Burning/Open Detonation [40 CFR 270.23]

a) OB in Containment Devices

**(1) Physical Characteristics, Materials of Construction and Dimensions
[40 CFR 270.23(a)(1)]**

The OB unit is regulated as a miscellaneous treatment unit under Subpart X of 40 CFR 264. It consists of five burning pads, with each pad containing four burning pans. There are also three static firing pads used for the open burning of rockets and missiles. The burning ground site plan is shown in Figure D-1.

The burning pads are leveled open areas that are cleared of vegetation to the extent necessary to minimize the spreading of fires. They measure approximately 100-200 feet wide by 100-200 feet long (Figure D-2). Each pad is equipped with metal burning pans (Figure D-3) constructed in accordance with the detailed drawings and specifications shown in Figures D-4 and D-5.

The three static firing pads (Figure D-6) are located in a leveled open area that is cleared of all vegetation. This area measures approximately 125 feet wide by 600 feet long. Each rocket pad consists of a concrete slab approximately 50 feet x 70 feet. One pad has a concrete saddle, while the other two consist of a metal saddle bolted to a concrete slab.

The rocket pads are located approximately 300 feet from the burning pads.

Aerial photographs defining the unit boundaries for the OB/OD areas are shown in Figures D-7 and D-8.

**(2) Documentation of Protection of Human Health and the Environment
[40 CFR 270.23(a)(2), 264.601, 264.602]**

The operating provisions taken at the MCAAP OB unit to protect human health and the environment are described below. Additional information is included in the Health Risk Assessment.

(a) OB Operating Provisions for Protection of Human Health and the Environment

Several procedures and precautions have been instituted at MCAAP to minimize the risk potential resulting from OB operations. These are discussed below.

(i) Selection of Materials to be Treated

Only PEP materials listed in the WAP will be treated at the units. Prior to thermal treatment, all materials to be thermally treated are inspected by personnel trained in site-specific hazardous

material handling and OB operation practices. The inspection is to assure that only PEP materials are treated. Non-PEP materials will not be treated by OB methods.

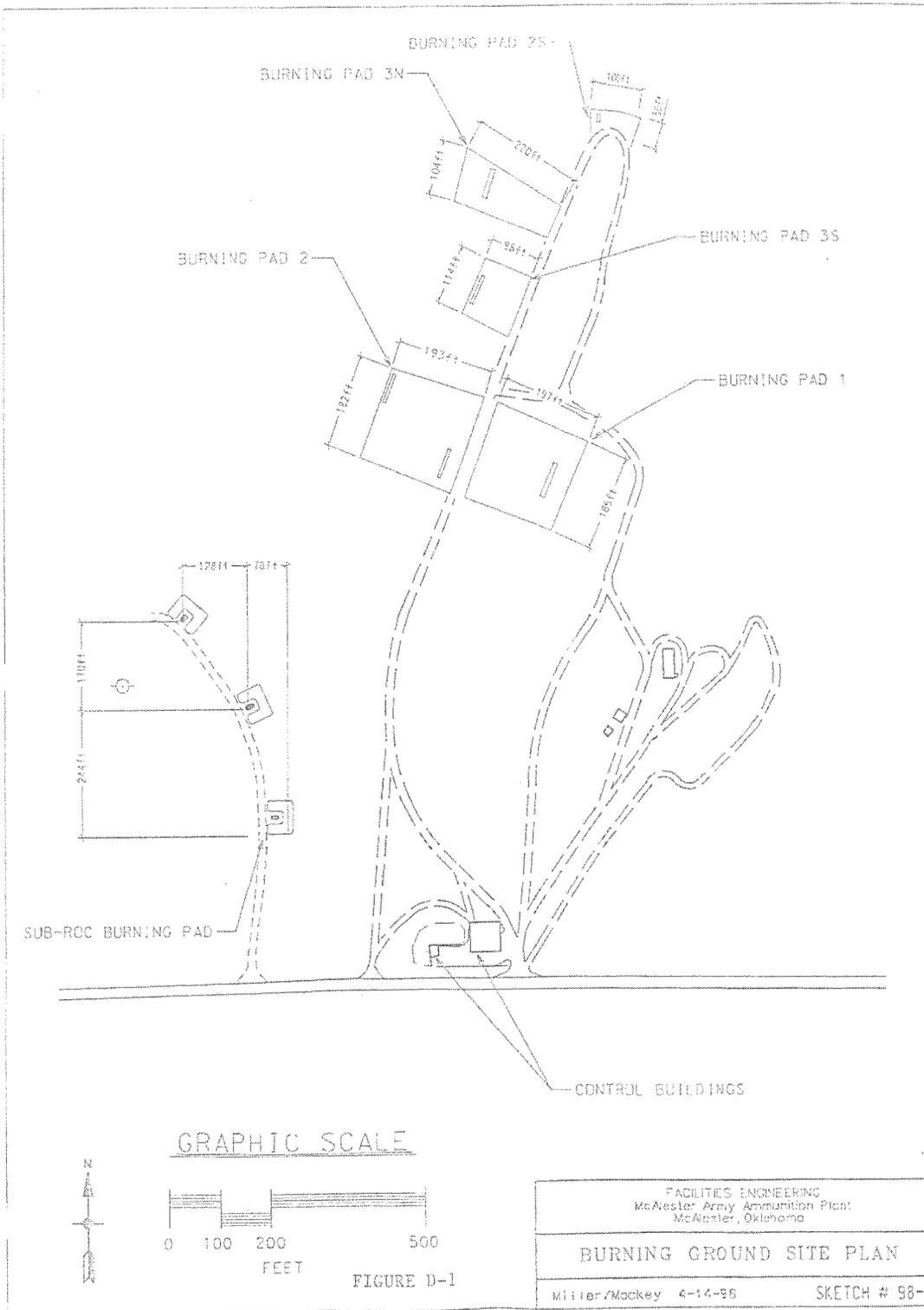


Figure D-1

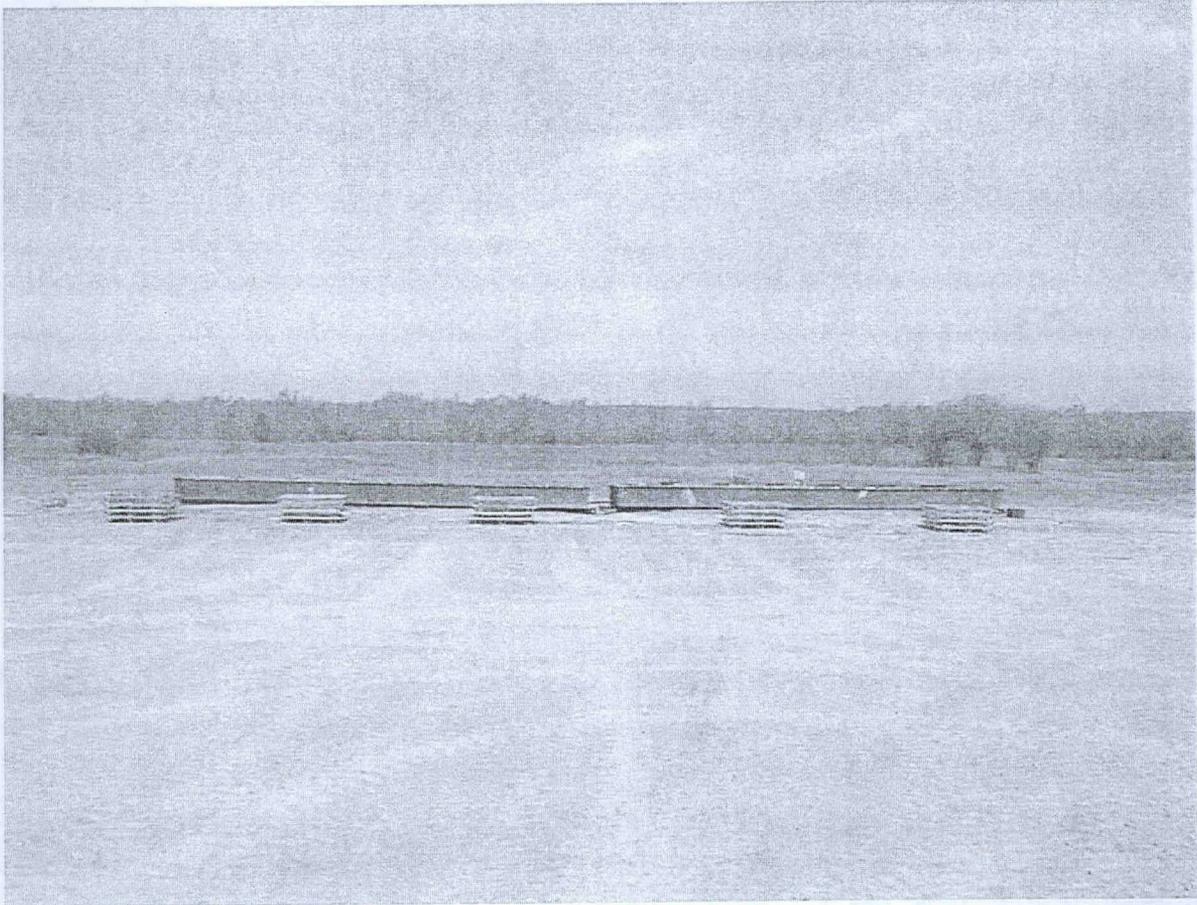


Figure D-2 – Burn Pads

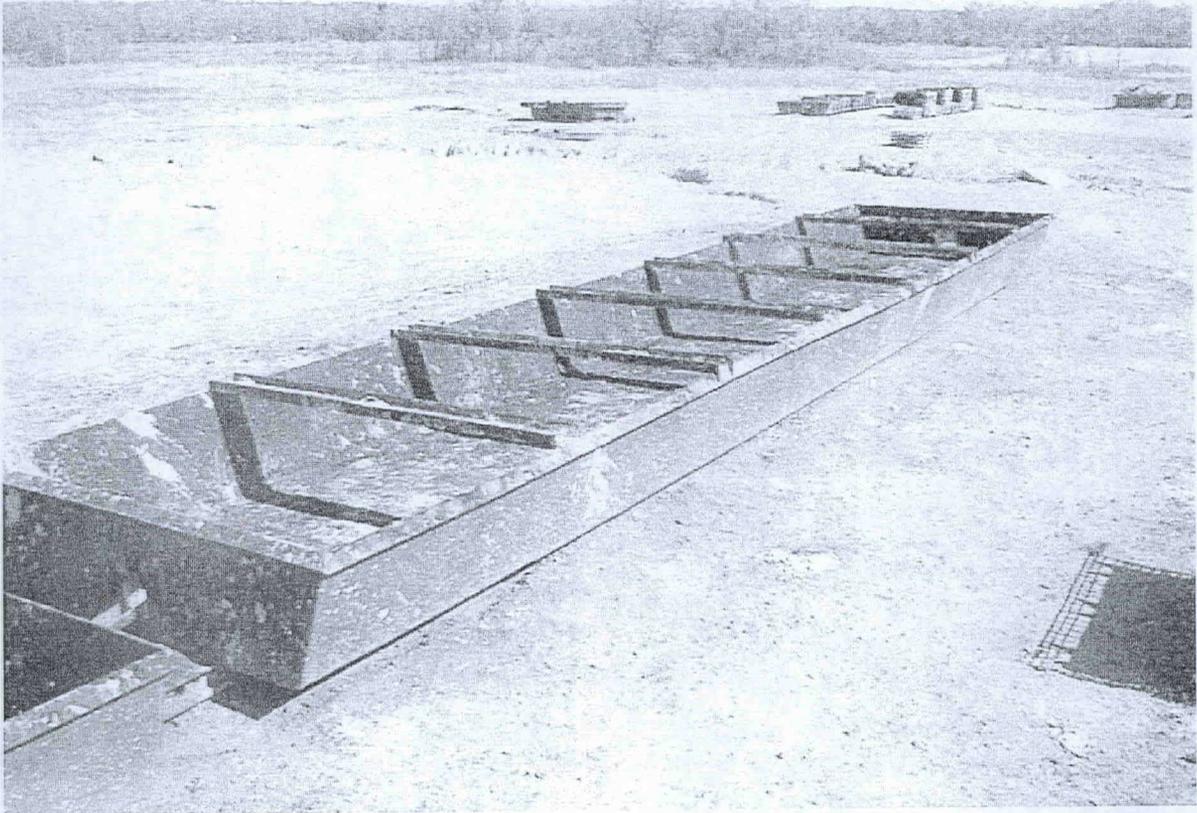


Figure D-3 – Burn Pans

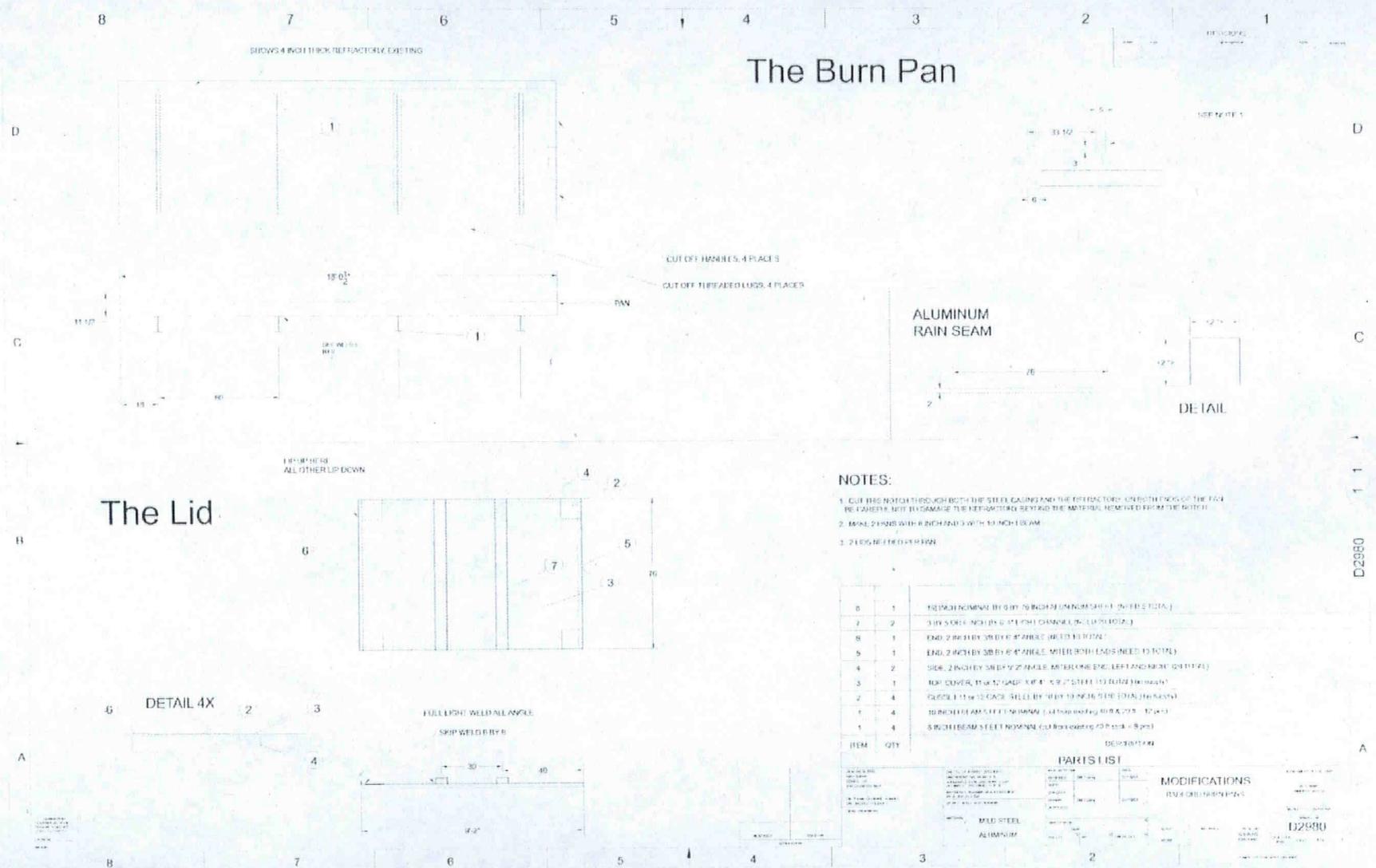


Figure D-4

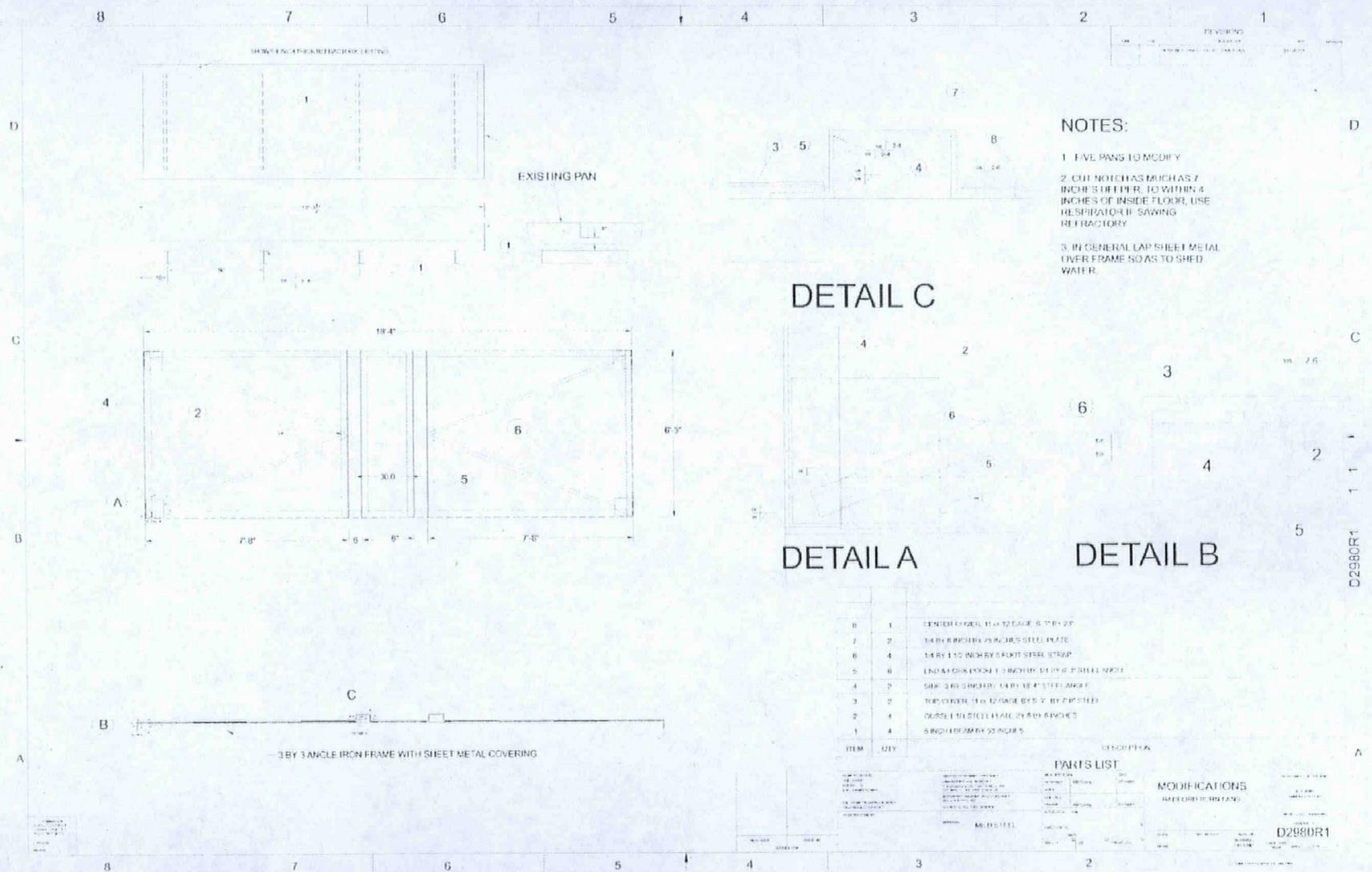


Figure D-5

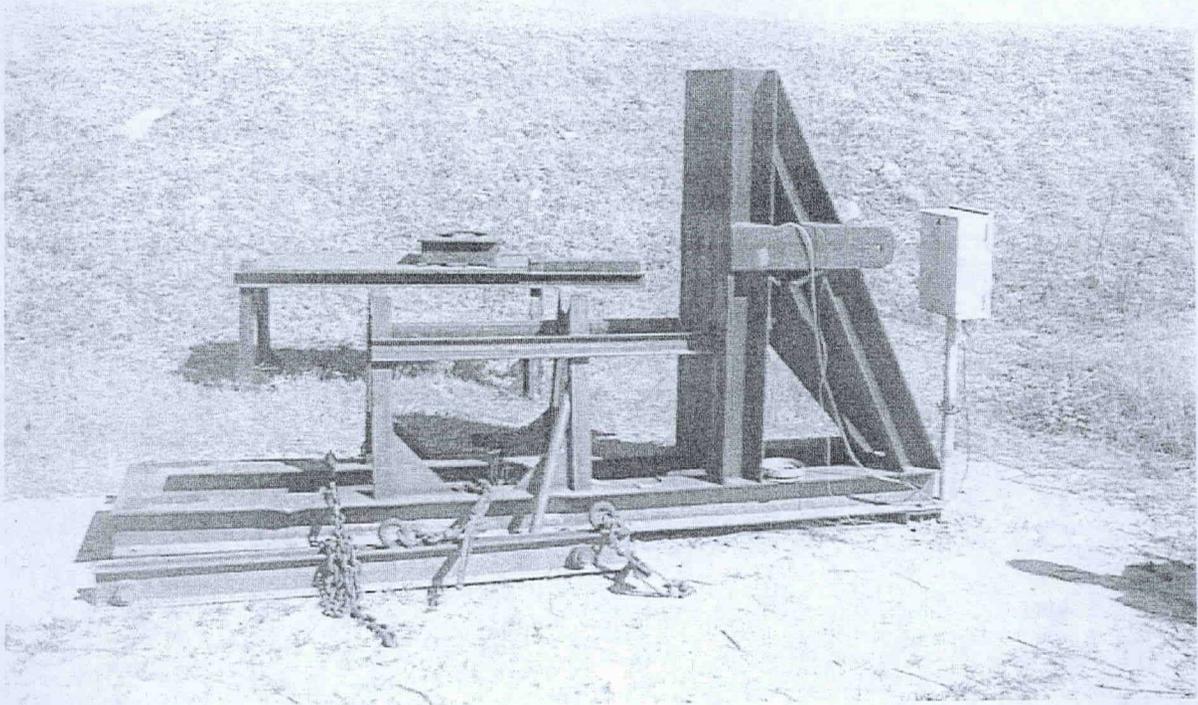


Figure D-6 – Static Firing Pad

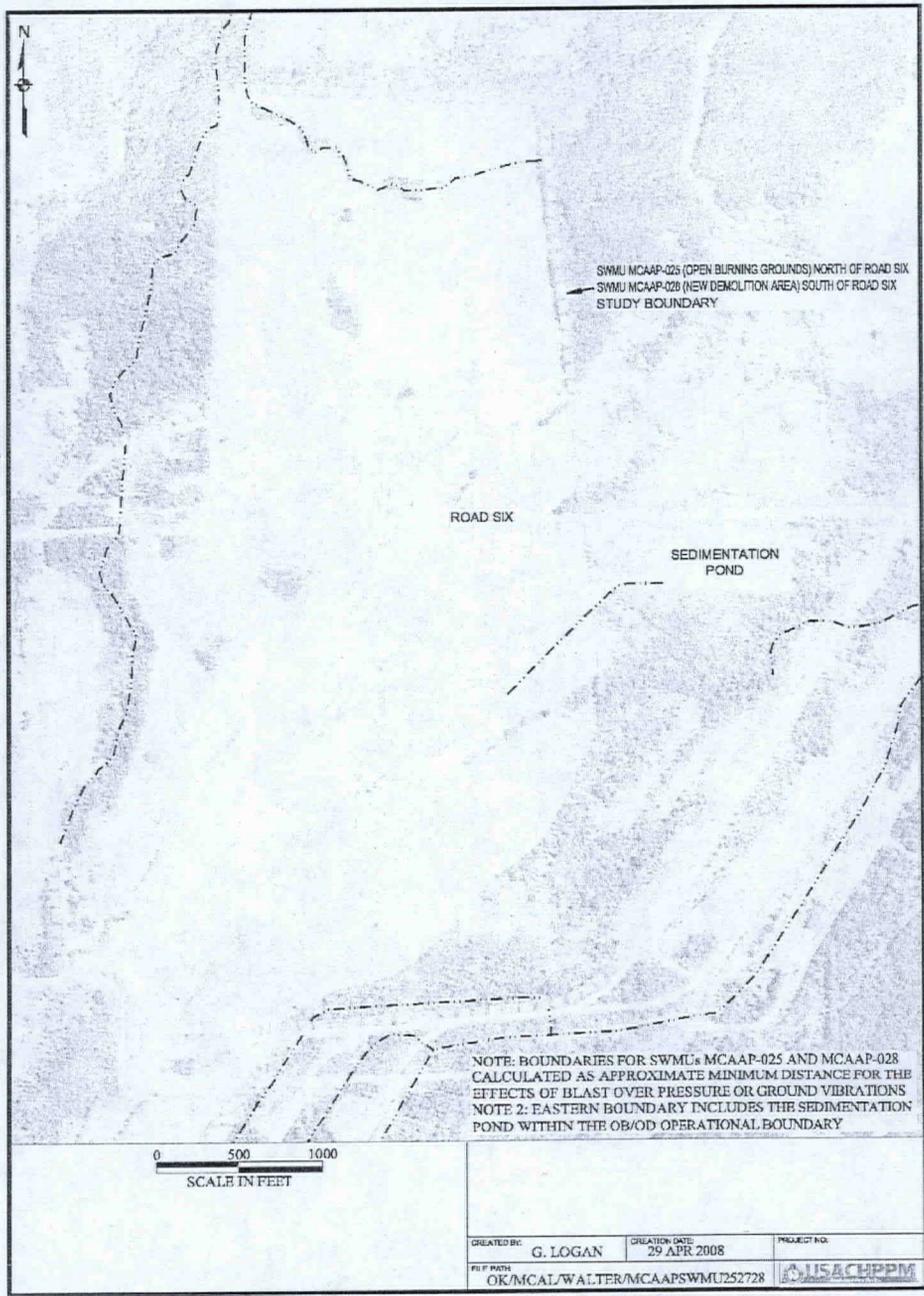


Figure D-7

(ii) Control of Waste Ejected During Burning

MCAAP utilizes three measures to minimize the potential for environmental contamination at the OB unit. First, the OB pan is of sufficient depth (see specifications in Figures D-4 and D-5) to contain the PEP material during OB. Second, pans are cleaned following the OB operations. Third, post-burning inspections are conducted to locate any ejected materials. These materials are collected and re-burned or disposed of as potentially hazardous materials.

All three rocket pads are constructed of a concrete pad surrounded by 10-foot dirt berms. Any material ejected during burning could be easily located and subsequently re-burned or disposed.

(iii) Integrity of Containment Devices

The potential for environmental contamination resulting from loss of integrity of a pan is minimized in two ways. First, each pan is elevated above the ground using two I-beams to allow complete visual inspection around the pan. Second, the structural integrity of the steel pans has been shown to be reliable in previous U.S. Army tests at the Tooele Army Depot (U.S. Army 1986).

Loss of integrity at the rocket pads is minimized by the concrete pad and the 10-foot earthen berm around each firing pad. In addition, 150 feet will be left between each pad and the berm for truck and forklift access. This will allow for visual inspection around each firing pad.

(iv) Deterioration or Malfunction Procedures

As stated in 40 CFR 264.15(c), "the owner/operator must remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard." The most serious deterioration or malfunction would be the functional loss of an OB pan or provisions to contain leaks. In the event of an accidental release or emergency situation, specific response procedures have been established. These are discussed in detail in the Contingency Plan in Section G.

The most serious deterioration or malfunction at the rocket pads would be the loss of a saddle for the rocket. The saddle will be inspected after each burn for all structural defects. In the event a defect is noted, it will be repaired or replaced prior to any further use. In the event of an accidental release or emergency situation, specific response procedures described in the Contingency Plan will be implemented.

(v) Prevention of Accumulation of Precipitation within Containment Devices

The accumulation of precipitation during non-operational periods will be prevented in the OB pans through the use of precipitation covers. Each cover will be equipped with handles to allow operations personnel to place it on the pan and remove it. Covers are tight fitting and will remain on the burn pans during non-operational periods.

Rocket pads will be utilized by placing the missile in the saddle and burning the PEP inside the missile. The missile will be removed from the site after burning and cleanup. Therefore, precipitation will not accumulate inside the burn area.

(vi) Residue Management

Residue resulting from the thermal treatment is generated in the OB pans, and on the pads around the pans should material be ejected/discharged during burning. After burning, all residues will be removed from the pans. Any residue found outside of the pan will be collected and placed into containers.

The majority of residue resulting from the static firing operation will be contained inside the missile. After burning, all residues will be removed from inside the missile. Any residues that may have been ejected onto the surrounding area will be collected.

Representative samples of ash will be collected and tested to determine the appropriate method of disposal. Analytical results will be kept for a minimum of 3 years.

(vii) Fire Hazard Minimization

All combustible materials in amounts sufficient to spread fire will be removed within a radius of 200 feet from the point of burning, as specified in the current OB SOP. Procedures and equipment available for fire protection are discussed in the Contingency Plan.

(b) Effects on Ground Water Quality

Paragraph 1a (4) discusses ground water and the potential effects of OB on it. All OB will be conducted in pans or inside the missile, isolating the materials from the ground surface. The SOP provides detailed instructions for the operation and inspection of the OB unit, including procedures to prevent PEP or residues from contacting the ground surface.

(c) Effects on Surface Water Quality

The OB unit is within the drainage basin and approximately 4,000 feet upstream of Rocket Lake. No other perennial surface water bodies lie between the OB unit and Rocket Lake. OB unit operating procedures specified in the SOP greatly minimize the potential for any PEP or residue to be exposed during a run-off event. OB operations will be conducted only during favorable meteorological conditions as specified in the SOP. All burning is conducted in pans or inside the missile, and PEP and residue handling procedures are designed to prevent materials from contacting the ground surface. Should any PEP or residue fall on the ground it will be removed in accordance with the SOP. Inspections of the unit are made assuring that all PEP and residue are properly treated and removed.

(d) Effects on Air Quality

OB operations are conducted in accordance with SOPs and air quality effects are expected to be minimal. This is demonstrated by the fact that there are existing Federal regulations that allow OB activities.

(e) Potential Soil Contamination

The design of the burning pans and the operating procedures described in this section minimize the potential for soil contamination.

(f) Access Control [40 CFR 264.14(b) and 270.14(b)(4)]

The OB unit is located in a secure area within the limited access area. When OB operations are in progress, access road gates are locked, warning lights are on, and warning signs are posted. Personnel from the Surveillance Division of the Quality Assurance Directorate inspect each burning operation to assure compliance with the SOP and other applicable documents. Telephone and radio contact are maintained with support personnel, including emergency and fire fighting units.

(3) Post Closure Requirements [40 CFR 270.14 and 270.23(a)(3)]

The MCAAP OB unit is not a hazardous waste disposal facility; therefore, it is not subject to post-closure requirements unless clean closure cannot be obtained.

When the OB unit is taken out of service, all PEP and residues will be removed from the site. Site closure details are contained in the Closure Plan (Section I).

(4) Hydrogeologic Assessments [40 CFR 264.601(a) and (b)]

MCAAP is located in the Arkansas Valley Section of the Ouachita physiographic province on a rolling, hilly landscape of eroded Middle Pennsylvanian sandstones and shales. The majority of the facility is situated on shale of the Boggy Formation, which outcrops around the nose of the gently plunging Krebs syncline at the center of the installation. The southern limb of the syncline is comprised of older sandstone and shale formations that outcrop along the eastern boundary of MCAAP. Topographic highs are capped by younger resistant Thurman Sandstone. Pleistocene terrace deposits, averaging 20-30 feet thick and consisting of gravel, sand, silt, and clay, mantle some areas of the facility. The basal gravel of these deposits are often locally water bearing. The OB unit is situated on the southern flank of the Krebs Syncline along the eastern edge of the Thurman Sandstone outcrop of MCAAP. Recent alluvium is of limited extent within the reservation boundary and is confined to the flood plains of Hominy and Bull Creeks. Faulting in the area is minor and of local extent, usually occurring along the crests of tightly folded anticlines. No active faults are known to occur on MCAAP.

Regional groundwater hydrology shows that there are no known major or minor aquifers in the MCAAP area. The geology in the MCAAP area is not conducive to the development of extensive ground-water reserves. The predominant rock type is clay shale, which characteristically has a low permeability and a low storage capacity. A thin veneer of clayey and silty soil generally overlies the clay shale, which is equally unsuitable for maintaining sufficient quantities of ground water as a resource. Only where shales are interbedded with sandstones, or are overlain by permeable Pleistocene gravel deposits, is there any appreciable amount of ground water available. The few wells that are present in the MCAAP area are developed in the Savanna and Boggy Formations. These shallow wells yield an average of less than 10 gallons per minute.

Because of the unavailability of large quantities of ground water, surface water is a very important resource to the MCAAP area. The rugged topography of the area lends itself to a good drainage system that carries the large amounts of surface run-off that result from precipitation. Six drainage systems carry this run-off away from MCAAP in various directions. However, the predominant direction is to the north, with creeks and streams ultimately flowing into Eufaula Reservoir on the Canadian River in northern Pittsburgh County.

Although drainage is good, streams frequently go dry during periods of little or no precipitation due to the low storage capacity of the bedrock. For this reason, lakes and ponds are the chief water suppliers in the MCAAP area. There are 106 lakes and ponds within the boundaries of the installation, ranging in size from Brown Lake, with 656 surface acres, down to 1/4-acre ponds. Brown Lake, the largest body of water at MCAAP, was constructed on Bull Creek in 1943 to create a 2-billion gallon raw water supply for the installation. It also serves as the principal potable water supply for the town of Savanna and as a back-up supply for Pittsburgh County Sewer and Water District 15. The lake receives drainage from approximately 21 square miles in the central portion of the facility that comprise the Bull Creek watershed. The OB unit is located in this drainage basin. The other bodies of water on MCAAP serve a variety of functions, from stock ponds in pasture areas to impoundments for erosion control in developed areas. Brown Lake is the only body of water on MCAAP used as a drinking water supply.

Further information related to hydrogeologic assessments conducted on MCAAP can be found in Attachment 1 of Section M (Protection of Ground Water).

(5) Meteorological and Air Quality Assessments [40 CFR 264.601(c) and 270.23(b)]

(a) Climatology

The plant site has a continental climate characterized by rapid temperature changes. The historical temperature extremes are -14°F in January and 112°F in July. The annual mean precipitation is 43.92 inches. The annual mean snowfall is 6.6 inches. The prevailing winds are from the south and north with an annual average of 10.3 miles/hour. A wind rose map is provided in Figure D-9.

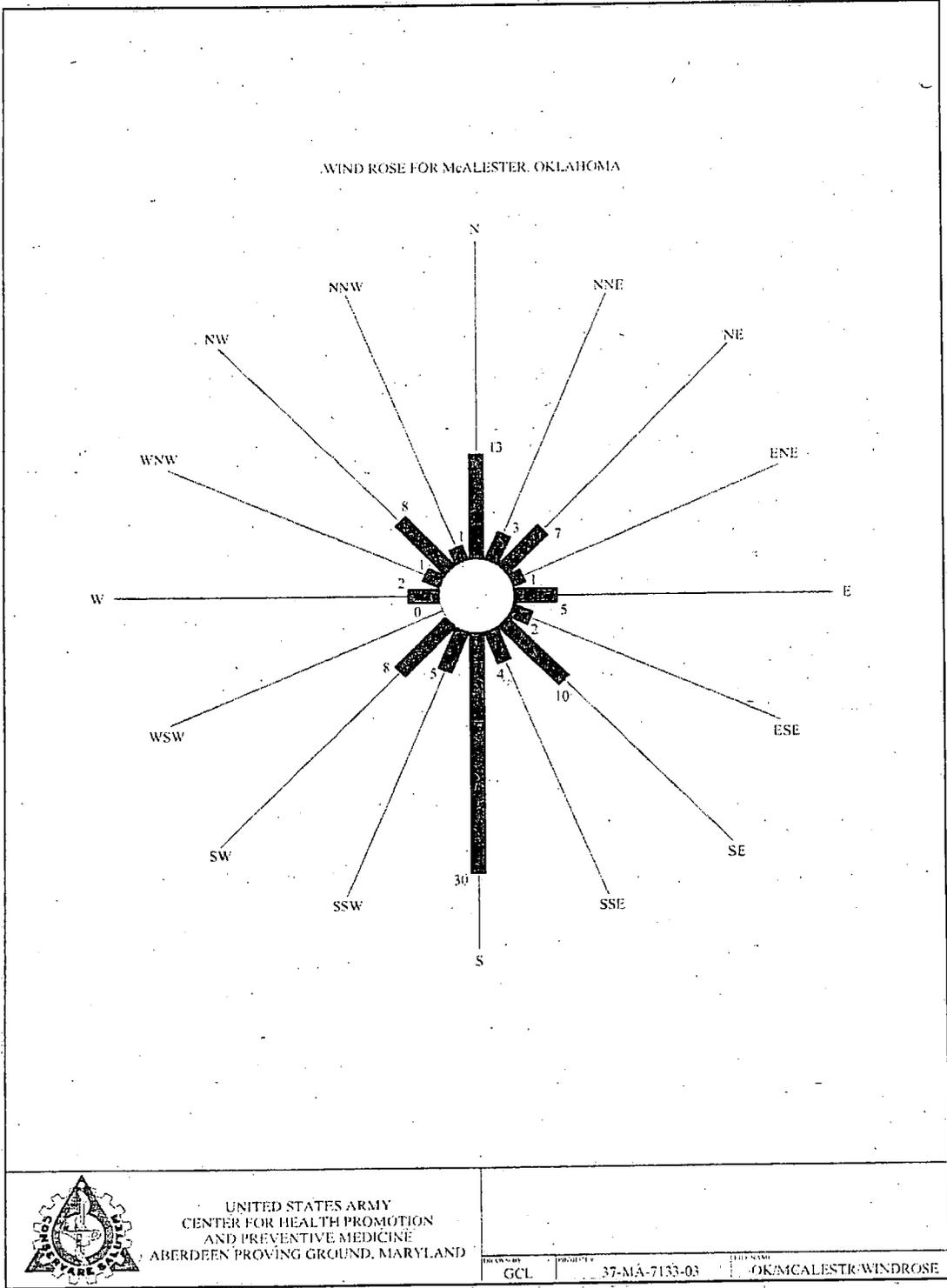


Figure D-9

(b) Topography

The plant site contains variable terrain elevation and is generally hilly. The site is bounded on the east by U.S. Highway 69 and the Union Railroad. The site is bounded on the south, west, and north by variable terrain features.

(6) Effectiveness of Treatment [40 CFR 270.23(d)]

PEP materials, considered hazardous due to reactivity, are treated at the OB unit to deactivate the reactivity characteristic. Tests were performed on the residue at the unit to determine the effectiveness of treatment. The test results show the residue to be non-reactive and that the treatment is an effective method of decharacterizing the reactive waste.

(7) Minimum Protective Distances [40 CFR 265.382 and 270.23(e)]

Minimum protective distances from the point of burning to any inhabited structure, public road, magazine, operational building, or combustible material in amounts sufficient to spread fire are specified in the OB SOP. These provisions are consistent with the distances specified in 40 CFR 265.382.

(8) Standard Operating Procedures [40 CFR 264.31 and 270.23(e)]

All OB operations, rocket burning, and related activities are carried out in accordance with the current SOP. This includes, but is not limited to, the construction and/or repair of munitions and explosives, preparations for OB, burning, securing the area, and safety procedures.

(9) Pathways of Exposure and Exposure Magnitude [40 CFR 270.23(e)]

Pathways of Exposure and Exposure Magnitudes for air, water, and soil are addressed in the Risk Assessment.

b) OD on Ground Surface [40 CFR 270.23(e)]

(1) Physical Characteristics, Materials of Construction and Dimension [40 CFR 270.23(a)(1)]

MCAAP utilizes two OD units. Each unit has 26 pits or subunits connected by an access road. The pits measure approximately 15 feet wide and 30 feet long (Figure D-10), while the unit boundaries extend to the fire break. Both the pits and the access roads are excavated approximately 10-15 feet below grade and are constructed of the naturally occurring soil materials.

**(2) Documentation of Protection of Human Health and the Environment
[40 CFR 270.23(a)(2)]**

The 40 CFR 264.601 and 264.602 require facility owners to ensure OD operations do not adversely affect human health and the environment through the soil, surface water, ground-water, and air pathways. These pathways are addressed in the following sections, in the Risk Assessment, and in the Ground Water Monitoring Plan.

(a) OD Operating Provisions for Protecting Human Health and the Environment [40 CFR 270.23(a)(2)]

OD activities are performed in a manner designed to protect human health and the environment. The potential for fire risk is reduced by minimizing the amount of dry grass, leaves, and other extraneous combustible material within 200 feet of the point of destruction.

Prior to thermal treatment, all materials to be treated are inspected by personnel trained in site-specific hazardous material handling and OD operation practices. The inspection is to assure that only PEP materials are treated. Non-PEP materials will not be treated by OD methods.

Following destruction of PEP, the demolition crew will police the immediate area for undetonated items in accordance with the OD SOP. Undetonated items are collected and subsequently retreated.



Figure D-10 - OD PIT

(b) Residue Management and Potential Soil Contamination
[40 CFR 264.601(b)(2)]

The materials treated by OD are highly reactive and the explosions result in near complete combustion. Only very small amounts of ash residues are generated. The majority of the surface residues remaining after detonation consist of discrete metallic fragments and occasional pieces of PEP, which were not thermally treated during the explosion. The OD unit SOP requires collection of the visible fragments of PEP following a demolition event. This reduces the amount of residue remaining in contact with the soil. However, the very nature of OD greatly disturbs the surface soil in the pits, causing the mixture of soil and any residues generated.

(c) Effects on Air Quality, Surface Water Quality, Ground-Water Quality
[40 CFR 264.601]

OD effects on air and water are addressed in the Risk Assessment and the Ground Water Monitoring Plan.

(d) Fire Hazard Minimization

All combustible materials in sufficient quantity to spread fire will be removed within a radius of 200 feet from the point of destruction as specified in the OD unit SOP. Procedures and equipment available for fire protection are discussed in the Contingency Plan.

(e) Access Control [40 CFR 264.14(b) and 270.14(b)(4)]

OD operations are conducted in a secure area within the limited access area. While OD operations are in progress, access roads are locked, warning lights are on, and warning signs are posted. Personnel from the Surveillance Division of the Quality Assurance Directorate inspect each detonation operation to assure compliance with the OD SOP and other applicable documents. Telephone and radio contact are maintained with support personnel, including emergency and fire fighting units.

(3) Post Closure Requirements [40 CFR 270.14 and 270.23(a)(3)]

The MCAAP OD units are not hazardous waste disposal facilities; therefore, post closure requirements are not applicable unless clean closure cannot be obtained.

When the OD units are taken out of service, all PEP and residues will be removed from the sites. Site closure details are contained in Section I (Closure Plan). A Post Closure plan is not expected to be needed and is not submitted with this application.

(4) Hydrogeologic Assessments [40 CFR 264.601(a) and (b)]

MCAAP is located in the Arkansas Valley Section of the Ouachita physiographic province on a rolling, hilly landscape of eroded Middle Pennsylvanian sandstones and shales. The majority of the facility is situated on shale of the Boggy Formation, which outcrops around the nose of the

gently plunging Krebs syncline at the center of the installation. The southern limb of the syncline is comprised of older sandstone and shale formations that outcrop along the eastern boundary of MCAAP. Topographic highs are capped by younger resistant Thurman Sandstone. Pleistocene terrace deposits, averaging 20-30 feet thick and consisting of gravel, sand, silt, and clay, mantle some areas of the facility. The basal gravels of these deposits are often locally water bearing. The new OD unit is situated on the southern flank of the Krebs Syncline along the eastern edge of the Thurman Sandstone outcrop of MCAAP. The old OD unit is located southeast of the synclinal axis on the southeastern edge of the Boggy Formation outcrop of MCAAP. Recent alluvium is of limited extent within the reservation boundary and is confined to the flood plains of Hominy and Bull Creeks. Faulting in the area is minor and of local extent, usually occurring along the crests of tightly folded anticlines. No anticlines occur within the boundaries of MCAAP, making the presence of faulting highly unlikely. No active faults are known to occur on MCAAP.

Regional ground-water hydrology shows that there is no known major aquifer in the MCAAP area. The geology in the MCAAP area is not conducive to the development of extensive ground water reserves. The predominant rock type is clay shale, which characteristically has a low permeability and a low storage capacity. A thin veneer of clayey and silty soil generally overlies the clay shale, which is equally unsuitable for maintaining sufficient quantities of ground water as a resource. Only where shales are interbedded with sandstones, or are overlain by permeable Pleistocene gravel deposits, is there any appreciable amount of ground-water available. The few wells that are present in the MCAAP area are developed in the Savanna and Boggy Formations. These shallow wells yield an average of less than 10 gallons per minute.

Because of the unavailability of large quantities of ground water, surface water is a very important resource to the MCAAP area. The rugged topography of the area lends itself to a good drainage system that carries the large amounts of surface run-off that result from precipitation. Six drainage systems carry this run-off away from MCAAP in various directions. However, the predominant direction is to the north, with creeks and streams ultimately flowing into Eufaula Reservoir on the Canadian River in northern Pittsburg County.

Although drainage is good, streams frequently go dry during periods of little or no precipitation due to the low storage capacity of the bedrock. For this reason, lakes and ponds are the chief water suppliers in the MCAAP area. There are 106 lakes and ponds within the boundaries of the installation, ranging in size from Brown Lake, with 656 surface acres, down to 1/4-acre ponds. Brown Lake, the largest body of water at MCAAP, was constructed on Bull Creek in 1943 to create a 2-billion gallon raw water supply for the installation. It serves as the Public Water Supply for MCAAP, Pittsburg County Sewer and Water District 15, and the town of Savanna. The Brown Lake Watershed is listed by the Oklahoma Water Resources Board as a Sensitive Water Supply, and is intended for the following beneficial uses: Public and Private Water Supply, Warm Water Aquatic Community, Class I Agriculture, Industrial and Municipal Process Water, Primary Body Contact Recreation, and Aesthetic Value.

Both OD grounds consist of sites with exposed soil with sparsely vegetated areas at the perimeters. At the old OD area, the runoff is channeled to a sedimentation lagoon on the north end of site and discharges into an unnamed tributary of Chun Creek. At the new OD, the

majority of the water is channeled to a sedimentation lagoon on the north east end of the site and eventually into a tributary of Brown Lake. The remaining water from the New Detonation Grounds is sheet flow to the west edge of the site which eventually flows into a tributary of Rocket Lake.

Quarterly visual observations of stormwater quality are conducted at outfalls located at each of the named areas. Annually samples of stormwater runoff are collected and tested for explosives and other analytical parameters as required in MCAAP's OKR05 permit from the State of Oklahoma.

(5) Meteorological Assessments [40 CFR 264.601(c)]

An assessment of the meteorological impact of OD operations is contained in paragraph 1a(5) of this section.

(6) Land Use Maps [40 CFR 270.23(b)]

Section B of this application contains land use maps for the area surrounding the units.

(7) Pathways of Exposure and Exposure Magnitude [40 CFR 270.23(c)]

Pathways of Exposure and Exposure Magnitudes are addressed in the Risk Assessment.

(8) Effectiveness of Treatment [40 CFR 270.23(d)]

PEP, considered hazardous due to reactivity, is treated at the OD units. The violent nature of the OD treatment process causes any residue to be mixed into the soil in the detonations pit. For this reason, soil samples from the OD units were analyzed to determine the effectiveness of the OD treatment process. Results of the analyses indicated the treatment was effective as the residues were no longer reactive.

(9) Minimum Protective Distances [40 CFR 265.382 and 270.23(e)]

Minimum protective distances from the point of detonation to any inhabited structure, public road, magazine, operational building, or combustible material in amounts sufficient to spread fire are specified in the OD SOP. These provisions are consistent with the distances specified in 40 CFR 265.382.

(10) Standard Operating Procedures [40 CFR 264.31 and 270.23(e)]

All OD operations and related activities are carried out in accordance with the current SOP. This includes, but is not limited to, the construction and/or renovation of all facilities, handling of munitions and explosives, preparations for OD, securing of the areas, and safety procedures.

2. INCINERATOR [40 CFR 264.340 and 40 CFR 270.19 and 62]

The Ammunition Peculiar Equipment (APE) 1236M2 incinerator at MCAAP is a rotary furnace system that has been designed by the US Army for thermal destruction of ammunition. These munitions are considered RCRA hazardous waste due to their explosive (reactive) components.

This unit has demonstrated compliance with the MACT requirements of part 63, Subpart EE and is therefore exempted from the standards in 40 CFR 264 Subpart O.

a) Engineering Design of APE 1236M2 Incinerator

(1) General System Description

The furnace has three major sections: the feed room; the barricaded area; and the air pollution control equipment (APCE). In addition to these sections, the unit feed housing will have a small port to allow the Munitions Cryofracture Demilitarization Facility (MCDF) access. This will allow the MCDF Positive Feed System to utilize the incinerator on a single-user non-interference basis.

(a) Unit Design Capacity

The design capacity of the incinerator is 2.88 short tons (Net Explosive Weight) per day and 1051.2 short tons per year.

(b) Feed Room

The feed room contains the main control panel, the continuous emissions monitoring unit, the waste feed rate monitoring system, and the feed conveyor. The main control panel contains various pieces of control equipment to monitor and control the furnace operation. The rotary furnace system is equipped with a continuous emissions monitoring (CEM) system which measures oxygen and carbon monoxide in the exhaust stack.

The waste feed rate monitoring system (WFRMS) controls how fast and how much ammunition is fed into the furnace. The WFRMS major components are an explosion proof scale for weighing the ammunition, a push-off box, and a slide chute. The feed conveyor is used to move the ammunition from the feed room through the concrete barricade wall into the barricade area.

(c) Barricaded Area

The barricaded area is the area containing the rotary furnace, the cyclone, the afterburner, and the discharge conveyor. The rotary furnace is designed to ignite the ammunition items and effectively burn out reactive components from the metal shells. Fugitive emissions from the rotary furnace are controlled by a metal shroud that completely encloses the retort sections and the draft fan and retort combustion air fan. A draft fan is used to maintain negative pressure at the feed end of the furnace. Rotary furnace flue gases are transported to the cyclone by 24-inch

diameter carbon steel ducting. The cyclone is placed between the rotary furnace and afterburner to remove particulate from the flue gas. The flue gases from the cyclone are transported to the afterburner, which is designed to further destroy any organics in the flue gas. Solid waste exits the rotary furnace at the discharge/burner end. This waste is removed from the barricaded area via a wide belt, S shaped, discharge conveyor.

(d) Pollution Control Equipment

The APCE area contains equipment for managing the exhaust gases and consists of the high temperature cast ceramic filters baghouse, the high temperature draft fan and stack. The flue gases from the afterburner are transported to the baghouse. The baghouse is designed to filter small particulate ash and heavy metals from the flue gas. The flue gases from the baghouse are transported to the high temperature draft fan. The draft fan is used to produce negative pressure throughout the entire furnace system. The cleaned and cooled flue gases from the draft fan are discharged into the exhaust stack and then the atmosphere.

(e) Munitions Cryofracture Demilitarization Facility

The MCDF is utilized to cryofracture an explosive item prior to demilitarization in the APE 1236M2 incinerator. The cryofracture process for ammunition demilitarization involves cooling of the ammunition items in liquid nitrogen, then fracturing the embrittled ammunition in a hydraulic press, and finally thermally treating the fractured ammunition item and associated debris to deactivate the explosive and detoxify the metal debris.

During the two pressing processes that fracture the ammunition, the dust and emission system will collect emissions that may or may not contain energetics. The dust emissions are routed through the afterburner of the incinerator for destruction.

(2) Start-Up and Shakedown Conditions

Start-up and shakedown conditions were established during the trial burn. The conditions utilized during the trial burn are described in the SOP.

(3) Shutdown Procedures

Shutdown procedures established during the trial burn and are described in the SOP.

(4) Waste Feed Cut-Off Requirements

The incinerator is equipped with a functioning automatic waste feed cut-off system that immediately and automatically cuts off the hazardous waste feed system when any of the following events occur:

- An Operating Parameter Limit (OPL), an emission standard monitored by a Continuous Emissions Monitoring System (CEMS), or the allowable combustion chamber pressure is exceeded.

- The span value of any Continuous Monitoring Systems (CMS) detector, except a CEMS, is met or exceeded;
- A CMS monitoring an OPL or an emission level malfunctions; or
- Any component of the Automatic Waste Feed Cut-Off (AWFCO) system fails.

The AWFCO system is inspected weekly to verify operability. This preventive maintenance measure is intended to help increase the reliability of the AWFCO.

b) Selection of Materials to be Treated

The specific types and amounts of hazardous wastes to be introduced into the unit will be restricted by the FAP as described in Section C of this application.

c) Post Closure Requirements [40 CFR 270.14 and 270.23(a)(3)]

The incinerator is not a hazardous waste disposal facility. Therefore, it is not subject to post-closure requirements unless clean closure cannot be obtained.

When the unit is taken out of service, all PEP and residues will be removed from the site. Site closure details are contained the Closure Plan.

3. Open Burning of Non-Hazardous Wastes in Trenches

MCAAP generates many items that are not considered D003 hazardous wastes, but may potentially contain minuscule amounts of explosives because they have been in contact with PEP. Even though these wastes are not classified as reactive hazardous waste, they are required to be thermally treated to meet Army safety requirements (Army Material Command Regulation 755-8). Therefore, these non-hazardous wastes are transported to an area adjacent to the OB unit and flashed in a trench.

Examples of types of non-hazardous wastes potentially flashed in this area include packing boxes, packaging materials, PPE, and other materials removed from production buildings. After flashing, the items are managed as solid wastes.

SECTION I – GENERAL PERMIT CONDITIONS

A. GENERAL

The Permittee shall monitor and maintain the facility in compliance with all conditions of this Operations Permit ("Permit") approved by the Oklahoma Department of Environmental Quality (ODEQ), and with applicable requirements of the Oklahoma Hazardous Waste Management Act ("OHWMA"), 27A O.S. § 2-7-101 *et seq.* and the rules promulgated thereunder at Oklahoma Administrative Code ("OAC") 252:205, incorporating the requirements of the Federal Hazardous Waste Management Regulations, 40 CFR Parts 260-279 (familarly known as "RCRA").

B. BASIS OF PERMIT

This Permit is granted based on the information submitted and the design criteria presented in the RCRA Part B Permit Application. Any inaccuracies found in this information could provide cause for the termination or modification of this Permit, and for enforcement action. The Permittee is to inform the Land Protection Division of the Oklahoma Department of Environmental Quality of any deviation from or changes in the design or operation of the facility which could affect the Permittee's ability to comply with the applicable regulations or Permit Conditions.

The term of this Permit is ten years. However, this Permit may be reviewed by the ODEQ at any time after permit issuance and shall be modified as necessary, as provided in 40 CFR 270.41 and OHWMA § 2-7-127(B). Except as provided in condition I.F.3., (40 CFR 270.51) the term of this Permit shall not be extended by modification beyond the expiration date appearing on the face of this Permit (40 CFR 270.50(b)).

C. INCORPORATION BY REFERENCE

All the referenced Code of Federal Regulations (40 CFR) Parts 124, 144, 146, 260 through 266, 268, 270, 273 and 279 as specified in the Permit are, unless otherwise stated, incorporated in their entirety by OAC 252:205-3-1 through OAC 252:205-3-6 and OAC 252:652-1-3.

D. DEFINITIONS

For purposes of this Permit and the special conditions pursuant to the 1984 Hazardous and Solid Waste Amendments to RCRA, terms used herein shall have the same meaning as those in 40 CFR Parts 124, 144, 146, 260, 261, 262, 264, 266, 268, 270, 273 and 279; and OAC 252:205-1-2 through OAC 252:205-3-6 and OAC 252:652-1-3; unless this Permit specifically provides otherwise. Where terms are not defined in the Oklahoma Administrative Code or the Permit, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

"Action Levels" means health and environmental-based levels of constituent concentrations determined by the ODEQ to be indicators for protection of human health and the environment. Oklahoma Drinking Water Maximum Contaminant Levels (MCL's) or an alternate limit

established by the Oklahoma Department of Environmental Quality as per 40 CFR 264.94(b) will be considered Action Levels for ground and surface water. The calculation of action levels is specified in the RFI guidance.

"Area of Concern" (AOC) means any discernable unit or area which, in the opinion of the ODEQ, may have received solid or hazardous waste or waste containing hazardous constituents at any time. The ODEQ may require investigation of the unit as if it were a SWMU. If shown to be a SWMU by the investigation, the AOC must be reported by the Permittee as a newly-identified SWMU. If the AOC is shown not to be a SWMU by the investigation, the ODEQ may determine that no further action is necessary and notify the Permittee in writing.

"CMS" means Corrective Measures Study.

"Director" means the Executive Director of the Oklahoma Department of Environmental Quality, or his/her proper designee or authorized representative.

"Division Director" means the Director of the Land Protection Division of the Oklahoma Department of Environmental Quality, or his/her proper designee or authorized representative.

"EPA" means the United States Environmental Protection Agency.

"Facility" means:

- (1) All contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste.
- (2) For the purpose of implementing corrective action under 264.101, all contiguous property under the control of the owner or operator seeking a permit under subtitle C of RCRA. This definition also applies to facilities implementing corrective action under RCRA Section 3008(h)(3) Notwithstanding paragraph (2) of this definition, a remediation waste management site is not a facility that is subject to 40 CFR 264.101, but is subject to corrective action requirements if the site is located within such a facility.

"HSWA" means the 1984 Hazardous and Solid Waste Amendments to RCRA.

"Hazardous constituent" means any constituent identified in Appendix VIII of 40 CFR Part 261, or any constituent identified in Appendix IX of 40 CFR Part 264.

"Hazardous waste" means a solid waste that meets the definition of hazardous waste specified by the ODEQ in the Oklahoma Hazardous Waste Management Act and at OAC §252:205-3-2 incorporating the EPA definition found at 40 CFR Part 261.

"Land Protection Division" means the Land Protection of the Oklahoma Department of Environmental Quality.

"ODEQ" means the Oklahoma Department of Environmental Quality.

"OHWMA" means Oklahoma Hazardous Waste Management Act

"Permit" means this Permit, all Permit Attachments, and all provisions and documents that are incorporated herein.

"Permittee" means McAlester Army Ammunition Plant (McAAP), Highway 69 South, Pittsburg County, Oklahoma EPA ID #OK6213822798.

"RCRA" means the Resource Conservation and Recovery Act as amended by HSWA in 1984.

"RFA" means RCRA Facility Assessment.

"RFI" means RCRA Facility Investigation.

"Regional Administrator" means the Regional Administrator of EPA Region VI, or his/her designee or authorized representative.

"Release" means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes or hazardous constituents into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents).

"Remediation Waste" means all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments) and debris that contain listed hazardous waste or that themselves exhibit a hazardous characteristic and are managed for implementing cleanup.

"Solid Waste Management" means the systematic administration of activities which provide for the collection, source separation, storage, transportation, transfer, processing, treatment, and disposal of solid waste.

"Solid Waste Management Unit" (SWMU) means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released. The definition includes regulated units (i.e., landfills, surface impoundments, waste piles and land treatment units) but does not include passive leakage or one-time spills from production areas and units in which wastes have not been managed (e.g., product storage areas).

If, subsequent to the issuance of this Permit, regulations are promulgated which redefine any of the above terms, the ODEQ may, at its discretion, apply the new definition to this Permit by modifying the Permit in accordance with 40 CFR Section 270.41.

E. EFFECT OF PERMIT

The Permittee is allowed to treat, store and dispose of hazardous and non-hazardous waste in accordance with the conditions of this Permit. Any treatment and/or storage of hazardous waste not authorized in this Permit is prohibited, unless exempted from permit requirements.

Compliance with a RCRA permit during its term constitutes compliance, for purposes of enforcement, with subtitle C of RCRA except for applicable requirements not included in the Permit which: (1) Become effective by statute; (2) Are promulgated under Part 268 of Chapter 40, Code of Federal Regulations restricting the placement of hazardous wastes in or on the land; and (3) Are promulgated under Part 264 of this chapter regarding leak detection systems for new and replacement surface impoundment, waste pile, and landfill units, and lateral expansions of surface impoundment, waste pile, and landfill units; or (4) Are promulgated under subparts AA, BB, or CC of part 264 limiting air emissions. Applicable leak detection system requirements under Part 268 include double liners, CQA programs, monitoring, action leakage rates, and response action plans, and will be implemented through the procedures of §270.42 Class 1 permit modifications.

The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege. The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

Compliance with the terms of this Permit does not constitute a defense to orders issued or actions brought under the Oklahoma Environmental Quality Code to address an imminent and substantial endangerment, Sections 3008(a), 3008(h), 3013, or 7003 of RCRA; Sections 104, 106(a) or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq., commonly known as CERCLA), or any other law providing for protection of public health or the environment from an imminent and substantial endangerment. [40 CFR 270.4, 270.30(g)]

F. PERMIT ACTIONS

1. Permit Modification, Revocation and Reissuance, and Termination

This Permit may be modified, revoked and reissued, or terminated for cause, as specified in 40 CFR 270.41, 270.42, and 270.43. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay the applicability or enforceability of any Permit Condition. [40 CFR 270.4(a), 270.30(f)]

2. Permit Renewal

This Permit may be renewed as specified in 40 CFR 270.30(b) and Permit Condition I.H.2. Review of any application for a permit renewal shall consider improvements in the state of control and measurement technology, as well as changes in applicable regulations. [40 CFR 270.30(b), HSWA Sec. 212]

3. Permit Expiration

Pursuant to 40 CFR 270.50 and OAC 252:205-3-2(j), this Permit shall be effective for a fixed term not to exceed 10 years.

- a. Notwithstanding the expiration date or the ten year life of this permit, the conditions of this permit will continue in full force and effect ("Continued Permit") until the effective date of a new permit or issuance of a final denial of the new permit pursuant to 27A O.S. § 2-14-304, if the following conditions are met and an enforcement action pursuant to subparagraph (b) below has not been instituted:
 - i. The Permittee has submitted an application for a new permit that is both complete and timely pursuant to 27A O.S. §2-14-101 *et seq.*; OAC 252:4-7-1 *et seq.*; 40 CFR §270.10(c), §270.14 and the applicable sections in §§ 270.15 through 270.29; and
 - ii. The DEQ, through no fault of the Permittee, does not issue a final denial of the new permit or does not issue a new permit with an effective date under 27A O.S. §2-14-304 on or before the expiration date of the expiring permit.
- b. Enforcement. When the Permittee is not in compliance with the conditions of the Continued Permit, the DEQ may do any or all of the following:
 - i. Pursuant to 27A O.S. § 2-7-126, §2-7-127, §2-7-129, §2-7-130, §2-7-131 and/or §2-7-134, issue an order with penalties; require corrective action; temporarily suspend the Continued Permit; revoke the Continued Permit and/or cause proceedings to be instituted in the district court for civil or criminal penalties, and;
 - ii. Issue a final denial of the new permit. If the permit is denied, the owner or operator shall cease the activities authorized by the Continued Permit or be subject to enforcement action for operating without a permit; or

- iii. Take other actions authorized by 27A O.S. 2-1-101 *et seq.*, OAC 252:205-1-1 *et seq.* or other applicable laws or regulations.

4. Transfer of Permits

This Permit is not transferable to any person, except after notice to the Director. The Director will consider the information submitted by the Permittee or the proposed transferor, as required in 27A O.S. §2-7-109, and may require modification or revocation and reissuance of the Permit pursuant to 40 CFR 270.40 to identify the new Permittee and incorporate such other necessary requirements. Before transferring ownership or operation of the facility, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264 and 270 and this Permit. [40 CFR 270.30(l)(3) and 264.12(c)]

G. SEVERABILITY

The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby. [40 CFR 124.16(a)]

H. DUTIES AND REQUIREMENTS

1. Duty to Comply

The Permittee shall comply with all conditions of this Permit, except to the extent and for the duration that noncompliance is authorized by an emergency permit. Any permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of OHWMA and RCRA and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. [40 CFR 270.30(a)]

2. Duty to Reapply

If the Permittee wishes to continue an activity allowed by this Permit after the expiration date of this Permit, the Permittee shall submit a complete application for a new permit at least 180 days prior to permit expiration. [40 CFR 270.10(h), 270.30(b)]

3. Monthly Reports

The Permittee shall submit monthly reports: Hazardous Waste Treatment, Storage, Disposal Facility or Recycling Facilities. [OAC 252:205-9-2] The Permittee shall comply with the manifest discrepancy reporting requirements of 40 CFR 264.72 and the unmanifested waste reporting requirements of 40 CFR 264.76.

4. Biennial Report

The Permittee shall comply with the biennial reporting requirements of 40 CFR 264.75.

5. Permit Expiration

Refer to permit condition I.F.3.

6. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit. [40 CFR 270.30(c)]

7. Duty to Mitigate

In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. [40 CFR 270.30(d)]

8. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit. [40 CFR 270.30(e)]

9. Duty to Provide Information

The Permittee shall furnish to the ODEQ, within a reasonable time, any relevant information which the ODEQ may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the ODEQ, upon request, copies of records required to be kept by this Permit. [40 CFR 270.30(h)]

10. Inspection and Entry

Pursuant to 40 CFR 270.30(i), the Permittee shall allow the ODEQ, or an authorized representative, upon the presentation of credentials and other documents, as may be required by law, to:

- a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and
- d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

11. Monitoring and Records

- a. Samples and measurements taken for the purpose of monitoring shall be taken in accordance with the Waste Analysis Plan, Permit Attachment 1. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from the Waste Analysis Plan, Permit Attachment 1, Appendix I of 40 CFR Part 261, or an equivalent method approved by the ODEQ. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/ Chemical Methods SW-846, Standard Methods of Wastewater Analysis, or an equivalent method, as specified in the Waste Analysis Plan (See Permit Attachment 1). [40 CFR 270.30(j)(1)]
- b. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original printouts from data logging of monitoring instruments, copies of all reports and records required by this Permit, the certification required by 40 CFR 264.73(b)(9), and records of all data used to complete the application for this Permit for a period of at least 3 years from the date of the sample, measurement, report, record, certification, or application. These periods may be extended by request of the ODEQ at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility. The Permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations for the active life of the facility. [40 CFR 270.30(j)(2)]
- c. Pursuant to 40 CFR 270.30(j)(3), records of monitoring information shall specify:
 - 1) The date(s), exact place, and times of sampling or measurements;
 - 2) The individual(s) who performed the sampling or measurements;
 - 3) The date(s) analyses were performed;

- 4) The individual(s) who performed the analyses;
- 5) The analytical techniques or methods used; and
- 6) The results of such analyses.

12. Reporting Planned Changes

The Permittee shall give notice to the ODEQ, as soon as possible, of any planned physical alterations or additions to the permitted facility. [40 CFR 270.30(1)(1)]

13. Reporting Anticipated Noncompliance

The Permittee shall give advance notice to the ODEQ of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Advance notice shall not constitute a defense for any noncompliance. [40 CFR 270.30(1)(2)]

14. Certification of Construction or Modification

The Permittee may not commence treatment or storage of hazardous waste in the modified portion of the facility until the Permittee has submitted to the ODEQ, by U. S. mail or hand delivery, a letter signed by the Permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the Permit; and

- a. The ODEQ has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the Permit; or
- b. The ODEQ has either waived the inspection or has not within 15 days notified the Permittee of his intent to inspect. [40 CFR 270.30(1)(2)]

15. Transfer of Permits

Refer to permit condition I.F.4.

16. Monitoring and Other Periodic Reports

Monitoring results and the other Periodic Reports required by this Permit shall be reported as specified in the table below:

BIENNIAL REPORTING	
Biennial Hazardous Waste Report	March 1 of evenly numbered years for the previous odd numbered years
SEMI-ANNUAL REPORTING	
Groundwater Monitoring Status Report for Open Burning/Open Detonation Areas For sampling events of February and August	August, February
QUARTERLY REPORTING	
ODEQ Large Quantity Generators of Hazardous Waste Report	January, April, July, October
Quarterly HSWA Report	March, June, September, December
MONTHLY REPORTING	
RCRA ODEQ Hazardous Waste TSD Report	End of month

[40 CFR 270.30 (1)(4)] [OAC 252:205-5-3, 252:205-9-2]

17. Compliance Schedules

Reports of compliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted no later than thirty (30) days following each schedule date. [40 CFR 270.30 (1)(5)]

18. Twenty-Four-Hour Reporting [40 CFR 270.30(1)(6)]

- a. The Permittee shall report to the ODEQ any noncompliance which may endanger health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. The report shall include the following:
- 1) Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.
 - 2) Any information of a release or discharge of hazardous waste, or of a fire or explosion from the hazardous waste management facility

which could threaten the environment or human health outside the facility.

- b. The description of the occurrence and its cause shall include:
- 1) Name, address, and telephone number of the owner or operator;
 - 2) Name, address, and telephone number of the facility;
 - 3) Date, time, and type of incident;
 - 4) Name and quantity of materials involved;
 - 5) The extent of injuries, if any;
 - 6) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and
 - 7) Estimated quantity and disposition of recovered material that resulted from the incident.
- c. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and, if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The ODEQ may waive the five-day written notice requirement in favor of a written report within 15 days.

19. Other Noncompliance

The Permittee shall report all other instances of known noncompliance with this Permit not otherwise required to be reported above, Permit Conditions I.H.12. - 18, at the time monitoring reports related to that activity are submitted. The reports shall contain the information listed in Permit Condition I.H.18 [40 CFR 270.30(I)(10)]

20. Other Information

Whenever the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the ODEQ, the Permittee shall promptly submit such facts or information. [40 CFR 270.30(I)(11)]

I. SIGNATORY REQUIREMENT

All applications, reports, or information submitted to or requested by the ODEQ, his designee, or authorized representative, shall be signed and certified in accordance with 40 CFR 270.11 and 270.30(k).

J. REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE ODEQ

All reports, notifications, or other submissions which are required by this Permit are to be sent by mail or given to:

Oklahoma Department of Environmental Quality
Land Protection Division
707 North Robinson
Oklahoma City, Oklahoma 73102
Phone Number (405) 702-5100

K. CONFIDENTIAL INFORMATION

In accordance with 40 CFR 270.12 and OAC 252:205-3-1, the Permittee may claim confidential any information required to be submitted by this Permit. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions, or in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of the submission, EPA and ODEQ may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in OAC 252:205 which incorporates 40 CFR Part 2 (Public Information) and the Oklahoma Open Records Act. Claims of confidentiality for the name and address of any permit applicant or Permittee will be denied.

L. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The Permittee shall maintain at the facility, until closure is completed and certified by an independent, registered professional engineer, the following documents and all amendments, revisions and modifications to these documents:

1. Waste Analysis Plan, as required by 40 CFR 264.13 and this Permit (See Permit Attachment 1).
2. Inspection schedules, as required by 40 CFR 264.15(b)(2) and this Permit (See Permit Attachment 2).
3. Personnel training documents and records, as required by 40 CFR 264.16(d) and this Permit (See Permit Attachment 3).
4. Contingency Plan, as required by 40 CFR 264.53(a) and this Permit (See Permit Attachment 4).
5. Operating record, as required by 40 CFR 264.73 and this Permit.
6. Closure Plan, as required by 40 CFR 264.112(a) and this Permit (See Permit Attachment 5).

7. Manifesting, Reporting and Recordkeeping, as required by 40 CFR 264.70 and this Permit.
8. Procedures, Structures, Equipment for Prevention of Hazards, as required by 40 CFR 270.14(b)(8) and (9) and this Permit (see Attachment 2).

SECTION IV. OPEN BURNING AND OPEN DETONATION (OB/OD)

A. SECTION HIGHLIGHTS

The OB/OD facilities at McAlester Army Ammunition Plant (McAAP) consist of an area for open burning and two different areas for open detonation. These areas are known as the Open Burning Grounds, the Old Demolition Area (Demo Range 1), and the New Demolition Area (Demo Range 2).

The propellants, explosives and pyrotechnics (PEP) or munitions that are treated at the demolition units are under the control of the Department of Defense. The categories of PEP to be treated at McAAP consist primarily of military energetic materials and ordnance that have exceeded their shelf life and off-specification versions of these same materials.

Open Burning (OB). This area consists of five (5) burning pads with pans and three (3) rocket static-firing pads in the south central area of McAAP. The burning pads are leveled, open areas, cleared of all vegetation, measuring approximately 100-200 feet wide by 100-200 feet long. Each pad is equipped with steel burning pans. The pans are covered when not in use to restrict accumulation of precipitation and are cleaned following each burn. The pans are of sufficient depth to contain the PEP being burned and are set off the ground to allow visual inspection after each burn for any material ejected to the ground during the burn. The pans have a refractory lining to protect them from warping from the high temperatures generated by the burn. Small amounts of solid residue left in the pans are routinely collected and disposed of as hazardous waste. Net Explosive Weight (NEW) per burn, per pad (or pan,) is limited to 4,000 pounds or a total of 20,000 pounds of NEW per burn event. Also, the NEW is limited to 6,400,000 pounds in any yearly period.

The rocket static-fire pads are located 300 feet from the nearest burning pad. This area measures approximately 125 feet wide by 600 feet long. The rocket is placed onto the saddle of the pad, strapped down, and burned out. The area is inspected after each burn for any ejected items. Saddles are inspected after each burn for any structural damage that is repaired prior to future burns. The NEW from rocket burns is limited to 1,280,000 pounds in any yearly period.

Open Detonation (OD). McAAP utilizes two OD units. Each OD unit is composed of a series of 26 pits connected by an access road. The pits, measuring approximately 15 feet wide and 30 feet long, and access roads are excavated approximately 10-15 feet below grade and are constructed of the naturally occurring soil materials. Explosive items are placed in the pits, wired for detonation, and covered with a minimum of two feet of dirt. After all personnel are inside the shelter, all roads blocked and the area checked and confirmed clear, the detonations are started by remote firing from inside the shelter. Two shots are fired and sound levels checked. If sound levels are not exceeded, detonation is to continue one pit at a time. From time to time trials may be conducted utilizing new technologies to investigate other methods of demilitarization. The

immediate area of the pits is checked daily for unexploded items or energetic pieces. If any items are found that are unsafe to move, they are detonated in place. Scrap metal is picked up from the pits and the pit roads after each detonation and turned in for proper disposal. A scrap metal removal operation will be performed annually. NEW per pit is limited to 500 pounds. Also, the NEW detonated is limited to 2,280,000 pounds in any yearly period.

The open burning operations are governed by the McAAP Standing Operating Procedure MC-0000-H-003 (OB SOP) and other SOPs specific to each rocket burned at the static firing pads. The open detonation operations are governed by the McAAP Standing Operating Procedure MC-0000-G-274 (OD SOP). Each of these SOPs is maintained as part of the hazardous waste management operating record of McAAP.

The Permittee is required to report to the Division Director any revision or change in the above-mentioned SOPs that materially relates to any of the conditions of this Permit.

B. PERMITTED AND PROHIBITED WASTE IDENTIFICATION

- B.1** The Permittee may treat the following wastes subject to the terms of this permit and as described below. No waste prohibited under Condition IV.B.2 may be treated in the OB/OD units.

Propellants, Explosives and Pyrotechnics (PEP) in bulk and contained in various munitions, rockets, missiles, missile sub-assemblies and ordnance items in the Department of Defense stockpile having the hazardous waste code of D003. The Waste Analysis Plan, Permit Attachment 1, describes PEP and gives representative chemical compositions of expected PEP waste compounds. Ancillary waste codes may also apply to the PEP.

Miscellaneous Waste Streams as identified in Section 2) d) of the Waste Analysis Plan, Permit Attachment 1.

The permittee is limited to the following maximum amounts of waste treatment expressed in terms of net explosive weight (NEW):

Open Burning Pads: 20,000 pounds per five pads per burn and 6,400,000 pounds in any yearly period.

Rocket static-fire pads: 1,280,000 pounds in any yearly period.

Open Detonation: 500 pounds per pit per detonation event for each of fifty-two (52) pits and 2,280,000 pounds in any yearly period.

- B.2** The Permittee is prohibited from treating by OB/OD any hazardous waste except for waste explosives; waste explosives include waste which has the potential to detonate and bulk military propellants which cannot safely be disposed of through other modes of treatment [40 CFR 265.382]. The Permittee is prohibited from treating, in the OB/OD areas, any hazardous wastes not identified in the previous permit section. Also, the Permittee is prohibited, except under emergency conditions, from treating any material containing, contaminated with, or suspected of being contaminated with, military chemical warfare agents such as choking agents, nerve agents, blood agents, blister agents, incapacitating agents, vomiting compounds, tear-producing compounds, herbicides, radioactive materials, smokes, incendiary devices or biological agents as identified in Section 3) g) of the Waste Analysis Plan, Permit Attachment 1. Before treating any waste not authorized under this permit, the Permittee shall obtain approval for a permit modification authorizing such treatment.
- B.3** The Permittee is required to report to the Division Director any revision or change in the above-mentioned SOPs that materially relates to any of the conditions of this Permit.

C. DESIGN, CONSTRUCTION AND OPERATING REQUIREMENTS

The permittee shall maintain the OB/OD areas in accordance with the design plans and specifications contained in the Part B Permit Application.

C.1 General Operating Conditions

C.1.1. OB/OD operations shall be conducted within the secure area of the OB/OD area with controlled access. At a minimum, DOD Explosives Safety Standards found in the Defense Disposal Manual DOD 4160.21-M shall be used to dictate safe separation distances from external receptors.

C.1.2. The OB/OD area shall be posted with warning signs to keep unauthorized personnel out. Warning flags shall fly and/or red lights shall flash and access roads shall be barricaded and posted during OB/OD operations.

C.1.3. During OB/OD operations, telephone or two-way radio contact shall be available and operational with support personnel, including security and fire fighting units.

C.1.4. The integrity of the OB/OD area and support equipment shall be determined through regular inspections in accordance with the inspection schedule in Tables F-3 and F-4 of Permit Attachment 2, Procedures to Prevent Hazards. Inspection records shall be maintained at the facility.

C.1.5. Prior to OB/OD, meteorological data including wind speed and direction, approach of storms (including electrical storms), precipitation, cloud cover, and visibility shall be monitored to ensure that OB/OD is not conducted under adverse weather conditions. Meteorological data shall be recorded for each burn or detonation and maintained in the operating record.

C.2. Open Burning in a Containment Device

Open burning shall be conducted in steel pans elevated above earthen pads. Rocket and missile static-firing shall be conducted on saddles inside earthen pads with a ten (10) foot high earthen berm.

C.2.1 Design and construction of open burning pads and pans are detailed in Permit Attachment 6.

C.2.2 The Permittee shall operate and maintain the open burning devices in accordance with procedures contained in the appropriate Standing Operating Procedure(s).

C.2.3 The Permittee shall use precipitation covers on all burning pans during non-operational periods in accordance with the OB SOP.

C.2.4 The Permittee shall manage accumulated precipitation within the burn pans, if any, in accordance with the OB SOP.

C.2.5 Ash residue from the open burning unit shall be managed in accordance with the Waste Analysis Plan, Permit Attachment 1.

C.3 Open Detonation On/In the Ground

The open detonation areas consists of two separate units, each unit having twenty-six (26) pits for a total of fifty-two (52) pits.

C.3.1 The Permittee shall maintain the open detonation areas in accordance with the design plans and specifications found in Permit Attachment 6.

C.3.2 The Permittee shall operate the open detonation areas in accordance with the OD SOP.

C.3.3 The Permittee shall manage residue from the open detonation area in accordance with the OD SOP.

C.3.4 The Permittee shall maintain run-on control by the present design of demolition pits. Both the pits and access roads are excavated approximately 10-15 feet below

grade and are constructed of the naturally occurring soil materials, as referenced in Permit Attachment 6.

- C.3.5 The Permittee shall maintain run-off control by the sedimentary lagoons at both ranges. Both lagoons shall be sampled semi-annually as a part of McAAP's Storm Water Monitoring Plan.

D. HANDLING AND STORAGE REQUIREMENTS

The Permittee shall handle/manage energetic waste in accordance with the applicable SOPs and with 40 CFR Part 266 Subpart M. The waste will be loaded and transported by personnel trained in munitions handling as well as hazardous waste handling. All provisions for loading, handling, transporting, accidental spillage or ignition/detonation will be in accordance with the applicable SOPs.

E. INSPECTION SCHEDULES AND PROCEDURES

The Permittee shall inspect the OB/OD areas in accordance with the inspection schedules, Permit Attachment 2, and shall complete the following as part of those inspections.

- E.1 The Permittee shall inspect burning pans for precipitation accumulation prior to each burn.
- E.2 The Permittee shall inspect detonation units after the completion of each detonation series for scrap metal and unexploded items.

F. PREVENTION OF UNINTENDED IGNITION, REACTION OR RELEASE OF WASTES

Policing and maintenance of the OB/OD area will be conducted according to Facility SOPs. A search will be conducted after the completion of each detonation series of the immediate surrounding area of each pit to locate any unexploded munitions or materials containing explosives. Non-hazardous waste (e.g. scrap metal) removed by personnel is screened and taken to the flashing trenches to be flashed; once the materials have been flashed they are turned over for recycling. In addition, during the policing and maintenance, pieces of energetic material will be removed along with the scrap metal.

G. MONITORING REQUIREMENTS

The units authorized to conduct open burning/open detonation of explosives by this permit must be located, designed, constructed, operated, maintained and closed in a manner that will ensure protection of human health and the environment. This section contains detection and monitoring requirements necessary to demonstrate that no releases to soil, surface water, ground water, wetlands, or air are occurring which may have an adverse impact on human health or the environment.

ODEQ provisionally accepts the unit boundaries of the OB/OD units described in Permit Attachment 6. The ground water point of compliance (POC) shall be as defined in 40 CFR 264.95. The unit boundaries will be reassessed in consideration of future EPA permitting guidance for Subpart X units.

G.1. Tiered Monitoring Approach

It is the intent of this permit that a tiered monitoring approach be implemented to determine whether a release of hazardous constituents to the environment has occurred (Release Detection Monitoring), and if so, to delineate the extent of the release (Release Delineation Monitoring). If a significant release is found to have occurred, the Permittee shall be required to submit a work plan to evaluate the risks to human health and the environment, including characterization of current emissions, which shall be used to determine whether operating modifications to the unit and/or corrective actions to address the release are necessary.

G.2. Release Detection Monitoring Work Plan Submittal

The Permittee is required to submit, within six months of the effective date of this Permit, a Release Detection Monitoring Work Plan to implement a monitoring program, in accordance with 40 CFR 264.602, to characterize any hazardous waste or hazardous constituents released from the OB/OD units. This work plan shall include the following:

- G.2.1. A complete list of hazardous constituents identified in the Waste Analysis Plan as having been historically treated in the unit, or expected to be treated in the unit in the future, and all hazardous degradation products of these constituents.
- G.2.2. For each hazardous constituent, Media Specific Screening Levels (MSSLs) appropriate for industrial and residential soils, surface waters, and ground waters (i.e. drinking water Maximum Contaminant Levels (MCLs), when available), as well as Ecological Screening Levels (ESLs);

- G.2.3. A plan for implementation of a release detection groundwater monitoring system. The monitoring well system shall meet the requirements of 40 CFR §264.97 and §264.98.
- G.2.4. Procedures to sample and analyze soils, sediments, surface water, and any other environmental media for contaminants deposited by the OB/OD processes.
- G.2.5. Procedures for statistical evaluation of the data in determining whether background values of concentrations have been exceeded [40 CFR 264.98(f)];
- G.2.6. Procedures to determine the groundwater elevation of the well prior to each sampling event;
- G.2.7. Procedures to sample and analyze unfiltered groundwater samples;
- G.2.8. A Quality Assurance Project Plan which documents the data quality objectives and procedures used to ensure sample collection, handling, and analyses are performed in a technically sound manner, including Standard Operating Procedures (SOPs) describing anticipated sampling activities;
- G.2.9. A Sampling and Analysis Plan to quantify the organic, inorganic, and explosive constituents in the OB/OD areas;
- G.2.10. A site specific Health and Safety Plan;
- G.2.11. A three-tiered monitoring approach (Release Detection Monitoring, Release Delineation, and Risk Evaluation and Emissions Characterization Program) which shall implement a program designed to determine whether releases of hazardous constituents to the environment are occurring, then characterize and evaluate any such releases; and
- G.2.12. A schedule for monitoring including quarterly monitoring for all constituents at the new sampling locations, and semi-annual monitoring for existing sampling locations. In accordance with Condition IV.G.4, the Permittee may request a reduction in the monitoring frequency. The schedule shall require the Permittee to submit a report of the sample results within one hundred and eighty (180) days after each sample collection event;

G.3. Release Detection Sampling Event Report

The Permittee shall submit Release Detection Sampling Event Reports which will document the results of each sampling event, including:

- G.3.1. Field collection activities and any variations from sampling plans;
- G.3.2. Analytical results, presented in summary tables, of detections in the body of the report, with those values exceeding any MSSLs or ESLs, or background concentrations (for metals) in bold type or highlighting, and complete analytical documentation in the appendices;
- G.3.3. A discussion of any QA/QC problems;
- G.3.4. Maps depicting the location and distribution of any hazardous constituents detected (other than naturally occurring metals at concentrations at or below background levels);
- G.3.5. Historical data trend analyses;
- G.3.6. A statement of whether releases have been detected (or metals detected above background levels) and thus implementation of release delineation is required, and if so, whether such detections exceed MSSL's or ESL's;
- G.3.7. Any proposed modifications to the Release Detection Monitoring Program.

G.4. Frequency of Monitoring

The Permittee may request a Class 1 permit modification to reduce the required groundwater sampling frequency for any constituent which was not detected (or in the case of metals, which was not detected above background levels) for four (4) consecutive sampling events. The Permittee may request a Class 1 permit modification to adjust sampling frequency of other media.

G.5. Air Monitoring

The Permittee shall perform air monitoring as directed by the Air Quality Division of ODEQ. The Permittee is required to examine any new air emissions factors for OB/OD which may become available as a result of current and future studies and utilize such data in studies required by ODEQ.

G.6 Storm Water Monitoring

The Permittee shall conduct storm water sampling in accordance with the storm water regulations of 40 CFR 122.26 and as directed by the Water Quality Division of ODEQ.

G.7 Release Detection Monitoring Program

In addition to the preceding requirements, the Permittee's Release Detection Monitoring Work Plan shall document the collection of samples of each of the following:

G.7.1. Composite surface soils from multiple locations across the units, to be selected based on historical sampling data, surface water drainage patterns, wind rose data, and blast ejecta patterns at the OD units; and

G.7.2. Sediment from multiple locations within all sedimentation ponds located within the OB/OD areas.

These samples shall be analyzed for each hazardous constituent identified in the facility operating record as having been historically treated in the unit.

Release Detection Monitoring shall continue regardless of the Permittee's implementation of Release Delineation program or Risk Evaluation and Emission Characterization.

G.8. Release Delineation Program

Should hazardous constituents (other than naturally occurring metals at concentrations below background levels) be detected in the Release Detection Monitoring Program, the Permittee shall submit a Release Delineation Work Plan, proposing efforts to delineate the detected release(s), within one hundred and eighty (180) days of submission of the Release Detection Sampling Event Report notifying the ODEQ of such detection(s). The Release Delineation Work Plan shall document the following:

G.8.1 Maps depicting the current and, if appropriate, historical location(s) and distribution of any hazardous constituent(s) detected (other than naturally occurring metals at concentrations at or below background levels);

G.8.2. Proposed sample locations and analyses to delineate the detected releases in each media. As a minimum, ground water monitoring wells that have had a statistically significant increase of the concentrations of a constituent of concern (COC) or of a background concentration for any constituent must be re-sampled;

- G.8.3. Proposed sample types and locations to evaluate whether contamination has migrated into another media;
- G.8.4. For each hazardous constituent detected in the Release Detection Monitoring Program, MSSLs appropriate for industrial and residential soils, surface waters, and ground waters (e.g., drinking water Maximum Contaminant Levels (MCLs), when available), as well as ESLs;
- G.8.5. Any required changes to the Quality Assurance Project Plan;
- G.8.6. A proposed schedule for implementing field activities and submitting interim reports at least every six (6) months, and not to exceed 24 months for submission of the final Release Delineation Report.

G.9. Format for the Release Delineation Report:

The Release Delineation Report will document the results of the sampling efforts, including:

- G.9.1 Installation of any borings, temporary wells, or monitoring wells;
- G.9.2. Field collection activities and any variations from sampling plans;
- G.9.3. Analytical results, presented in summary tables, of detections in the body of the report, with those values exceeding any MSSLs or ESLs, or background concentrations (for metals) in bold type or highlighting, and complete analytical documentation in the appendices;
- G.9.4. A discussion of any QA/QC problems;
- G.9.5. Maps depicting the location and distribution of any hazardous constituents detected (other than naturally occurring metals at concentrations at or below background levels);
- G.9.6. Historical data trend analyses;
- G.9.7. A statement of whether releases have been detected (or metals are above background levels) and thus implementation of Release Delineation monitoring is required, and if so, whether such detections exceed MSSLs or ESLs;
- G.9.8. Any proposed modifications to the Release Detection Monitoring Program.

G.10. Risk Evaluation and Emissions Characterization Program

If the results of the Release Delineation Program indicate releases of hazardous constituents to the environment have occurred at concentrations exceeding appropriate MSSLs, ESLs, or metals background levels, or at any other time the ODEQ determines it is necessary, the Permittee shall be required to implement a program to evaluate risks to human health and the environment.

ODEQ will determine the appropriate components of the Risk Evaluation and Emissions Characterization Program at the time it imposes this requirement, but as a minimum shall include:

- G.10.1.A projection of future environmental concentrations from continuing the treatment operations;
- G.10.2.Evaluation of risks to human health and the environment from current and projected future concentrations;
- G.10.3.Development of design and/or operations changes to reduce releases from the unit;
- G.10.4.Evaluation of whether corrective actions are required to address the contaminated media.

G.11 Geotechnical Investigation

The Permittee is required to submit a work plan for an expanded hydrogeological study for the OB/OD facility areas, in accordance with the considerations of 40 CFR 264.601, to the ODEQ within six months of the effective date of this Permit. The work plan is to contain the description of a field investigation which will define the occurrence and flow direction of groundwater beneath the OB/OD areas by means of direct measurement.

H. CLOSURE

Upon commencement of closure of any OB/OD unit, the Permittee shall follow the procedures in the Closure Plan, Permit Attachment 5.

I. OB/OD OPERATION RECORD

The Permittee shall maintain an operating record describing the OB/OD activities. Portions of the operating record may be maintained at the area where the report is generated. For example, records of waste treated at the OB/OD units may be maintained by ammunition operations

personnel and kept in their office. The record shall include the following information:

- I.1. Description and quantity (number and NEW) of each type of hazardous waste received and treated at the OB/OD units.
- I.2. Date of treatment.
- I.3. Copies of documents showing the disposition of hazardous waste residues transported off the OB/OD area.
- I.4. Current copies of all SOPs used at the OB/OD units,
- I.5. An annual running total of the NEW of all energetics treated at the OB/OD units.
- I.6. Meteorological conditions during each burn or detonation as listed in Condition IV.C.1.5.



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
MCALESTER ARMY AMMUNITION PLANT
1 C TREE ROAD
MCALESTER OK 74501-9002

March 31, 2014

Environmental Management Office

Subject: Notice of Class 1 Modification to Hazardous Waste Permit #OK6213822798
McAlester Army Ammunition Plant
1 C Tree Rd Bldg 22
McAlester, Oklahoma 74501-5000

Dear Sir or Madam:

Under 40 CFR 270.42 (a) (1)(ii), McAlester Army Ammunition Plant must send notice of all permit modifications to persons on the facility mailing list within 90 days after a change is put into effect. Because either you or your company is listed on the facility mailing list, you are receiving notice of this submittal per the above regulation. This letter serves as notification for Class 1 modification made to the subject facility's Hazardous Waste Management Facility Storage and Treatment Permit.

Class 1 permit modifications are those types of modifications which affect the operation of the facility the least (i.e., administrative changes, correction of typographical errors, changes in personnel, etc.)

March 11, 2014 section C.3.5 The permittee shall maintain run-off control by sedimentary lagoons at both ranges. Both lagoons shall be sampled annually versus semi-annually as was stated in the permit, as part of MCAAP's Storm Water Monitoring Plan.

If you have any questions or comments, please contact Mr. Dale A. Starry, Environmental Protection Scientist, 918-420-7221.

Sincerely,

Darrell Elliott, Director
Environmental Management Office

Permit Attachment 5. Closure and Post-Closure Plans

**SECTION I
CLOSURE AND POST-CLOSURE PLANS**

This section is submitted in accordance with the requirements of 40 CFR 270.14(b)(13), 270.14(b)(15-18), 261.110-264.115, and 264.178.

1. Closure of RCRA Units

This section contains the closure plan describing the steps necessary to permanently close the RCRA units at MCAAP. Presently, MCAAP intends to perform a risk-based clean closure as described in *Standards Applicable to Owners and Operators of Closed and Closing Hazardous Waste Management Facilities; Post-Closure Permit Requirement; Closure Process*, 63 Federal Register 56710, October 22, 1998. However, a post-closure plan is also provided in this section in the event that significant contamination has occurred and it is not possible to achieve clean closure standards.

2. Schedule for Closure [40 CFR 264.112(b)(7)]

The closure dates for the MCAAP RCRA units have not been determined. However, for the purpose of this discussion, the year 2050 will be used as a closure date.

3. Extensions for Closure Time [40 CFR 264.113(a)]

Within 90 days of receiving the final volume of waste at any of the units, MCAAP will either treat or remove all wastes in accordance with the approved closure plan. Closure activities will be completed within 180 days after receiving the final volume of waste. Therefore, an extension for closure time is not anticipated.

4. Closure Plan Documentation [40 CFR 270.14(b) (13)]

a) Description of Partial or Final Closure Activities [40 CFR 264.112(b)(1) and (2)]

MCAAP intends to perform a risk-based clean closure for all RCRA units. Clean closure is defined as closure to background levels, screening levels, or to site-specific risk-based levels. In the event that these standards cannot be achieved, remediation will be conducted as necessary. The units will be closed in a manner that minimizes the need for further maintenance, and also controls or eliminates the post closure escape of hazardous constituents into the soil or water.

b) Comparison to Background for Environmental Media

Background concentrations will be developed when MCAAP notifies ODEQ of their intent to close the units. For parameters that occur naturally, such as metals, the existence of contamination will be determined by a comparison with background concentrations. For contaminants that do not occur naturally, such as explosives, any

detectable levels may indicate potential contamination; natural occurring levels for explosives are zero.

If background values are not exceeded for any parameter, the soil at the RCRA units will be considered clean, and no further analyses will be conducted. If background values are exceeded, comparisons to soil-screening levels will be made.

c) Comparison to Screening Levels

Analytical results will be compared to EPA Region 6 Regional Screening Goals (RSGs) in effect at the time of closure. Screening levels for constituents that do not have established screening levels will be developed using Region 6 methodology. The screening level used at closure (industrial or residential) will be based on the probable future use of the units.

If screening levels are not exceeded, the unit will be considered clean and no further evaluations will be conducted. If screening levels are exceeded, a quantitative risk assessment will be conducted.

d) Description of Maximum Unclosed Portion During the Active Life of the Facility [40 CFR 264.112 (b)(2)]

The RCRA units are expected to remain in service throughout the active life of MCAAP; however, one or more structural components may be taken out of service for repair or replacement. Replacement of individual components such as burn pans or pan covers, would not be considered a closure activity since the other units would remain active. Classification and disposal of these items would be conducted in accordance with State and Federal regulations.

e) Estimate of Maximum Waste Inventory in Storage and Treatment During Facility Life [40 CFR 264.112 (b)(3)]

(1) OB/OD Unit

Wastes are not stored at the OB/OD units. The SOPs for these practices set the weight limits for thermal treatment operations at the MCAAP OB/OD units.

(2) Incinerator

The maximum inventory of hazardous waste at the incinerator is 2.88 tones per day (Net Explosive Weight (NEW)). Therefore, this number will be use as an estimate for the purposes of anticipating the type and amount of decontamination that will be required for closure.

f) Description of Procedures for Removal or Decontamination of Hazardous Waste Residues, Structures, and Environmental Media For OB/OD units [40 CFR 264.112 (b)(4)]

(1) Burn Pans and Static Firing Units

After treatment of the final volume of wastes, the burn pans, static firing units, and the concrete pads beneath the units will be inspected for the presence of any ejected untreated waste. This will include inspections for cracks in which ejected waste may have lodged. If any ejected waste is discovered, it will be placed into the burn pans and retreated.

Any ash and shrapnel remaining in the pans will be placed into containers and tested for toxicity characteristics and land disposal restriction requirements as specified in the Waste Analysis Plan.

The metal burn pans and the static firing units will be inspected to verify that no treatment residuals remain. Once this inspection is performed, the pans will be removed and sold as scrap metal. The concrete pads from the static fire operations will be removed and representative samples will be analyzed for all constituents in Table 1 of the 40 CFR 261.24 by the TCLP.

(2) Soils Surrounding Burn Pans and in OD Area

At closure, the soils in and around the OB/OD units will be inspected for the presence of PEP and treatment residues. The presence of debris, ash, explosives, and other ordnance-related items will be noted. A surface sweep using a magnetometer will be conducted to ensure surface soil is cleared of any UXO.

During closure, soil samples will be collected from the OB pan area, the static firing unit area, and the OD area. A soil-sampling grid will be established over these areas, and samples will be taken from the center of each grid or where the grid lines intersect. Records of locations surrounding the OD area where ejected UXO have been detonated in place will be reviewed, and these areas will also be sampled. Soil samples will be collected to the depth of disturbed soils, plus one additional foot. All samples will be analyzed for metals and explosives. Soil samples around the burn pans used to treat waste 2-butanone peroxide will also be analyzed for organics.

If the analysis of the soil samples shows that concentrations of all constituents are below background levels, screening levels, and risk-based levels, no further sampling or soil removal will be necessary.

If hazardous wastes are present, or if hazardous constituents are detected above background levels, screening levels, or risk-based levels, additional samples will be collected to characterize the nature and extent of contamination.

(3) Removal and Disposal of Contaminated Soil, Debris, and Ground Water

Any contaminated soil at the OB/OD units exceeding background and risk-based concentrations will be excavated using backhoes or other excavation equipment. Soils will be removed in layers up to 2-feet deep, after a sweep of the OD area has been conducted for UXO. After a layer of contaminated soil is removed, sampling and analysis will be conducted to determine whether cleanup goals have been attained. If the cleanup goals are not attained, additional layers of soil will be removed until closure goals are reached or the unit is closed as a landfill.

Any contaminated ground water exceeding background and risk-based concentrations will be addressed using the most appropriate technology available at the time. The specific technology needed cannot be determined at the present time as it is contingent upon the contaminants present and the nature/extent of contamination.

All scrap metals will be collected, containerized, and recycled. These materials will not be evaluated for toxicity characteristics as they are exempted from the majority of Subtitle C requirements when recycled (40 CFR 261.6(a)(3)). Other waste materials that do not meet the definition of scrap metal will be fully characterized via the TCLP.

(g) Description of Procedures for Removal or Decontamination of Hazardous Waste Residues, Structures, and Soils For Incinerator [40 CFR 264.112 (b)(4)]

MCAPP intends to permanently shut down and remove the incinerator and all pollution control equipment at the time of closure. Any remaining energetic wastes will be processed through the system prior to initiation of closure. All structure-related materials meeting the regulatory criteria for scrap metal will be recycled as such through the DRMO. All non-scrap materials will be characterized in accordance with 40 CFR 261 and managed accordingly.

(h) Location of Disposal Facility (Equipment, Structures, and Soils When Removed [40 CFR 264.112 (b)(3)]

The DRMO located on MCAAP is responsible for managing contracts for disposal and recycling of non-D003 residuals and scrap metal. The DRMO will be responsible for establishing contracts with treatment, storage, and recycling facilities for wastes and metals generated during closure activities.

5. Post-Closure Plan [40 CFR 264.603]

It is expected that the RCRA units will be closed in a manner that meets acceptable environmental standards for cleanliness. This "clean" closure will require no Post-Closure Plan because the area will be available for use without restriction. In the event that clean closure is unattainable, a revised closure plan will be required to address conditions at the time of closure.

d) Land Treatment

There are no land treatment facilities at MCAAP. Therefore, this section is not applicable.

e) Notices Required for Disposal Facilities [40 CFR 264.119]

Hazardous wastes will not remain at MCAAP after closure; therefore, this section is not applicable.

6. Closure Cost Estimate [40 CFR 264.142]

As stated in 40 CFR 264.140(c), Federal Government installations are exempt from the financial requirements of the hazardous waste regulations. Therefore, this section is not applicable.

7. Financial Assurance Mechanism for Closure [40 CFR 264.143]

Federal Government installations are exempt from the financial requirements of the hazardous waste regulations. Therefore, this section is not applicable.

8. Post-Closure Cost Estimate [40 CFR 264.145]

Federal Government installations are exempt from the financial requirements of the hazardous waste regulations. Therefore, this section is not applicable.

9. Financial Assurance Mechanism for Post-Closure [40 CFR 264.146]

Federal Government installations are exempt from the financial requirements of the hazardous waste regulations. Therefore, this section is not applicable.

10. Liability Requirements [40 CFR 264.147]

Federal Government installations are exempt from the financial requirements of the hazardous waste regulations. Therefore, this section is not applicable.

Permit Attachment 3. Personnel Training

SECTION H TRAINING FOR PERSONNEL AT RCRA UNITS

This section outlines the personnel training program required under 40 CFR 264.16 and 270.14(b)(12) for personnel working at the RCRA units located on MCAAP.

1. Training Program for Incinerator and OB/OD Personnel

a) General

Personnel who handle hazardous waste at the permitted units must successfully complete a program of classroom instruction and/or on-the-job training in order to prepare them to operate and maintain the facility in a safe manner and ensure the facility's compliance with 40 CFR 264. No employee works unsupervised until he/she has completed either the formal training courses or the equivalent in on-the-job training, or a combination of the two.

b) Outline of Training Program [40 CFR 270.14(b)(12)]

The purpose of the MCAAP hazardous waste training program is to train personnel who are responsible for implementing the hazardous waste management program in accordance with 40 CFR 264.16. All personnel involved in the hazardous waste program will receive training. The amount and level of training will be tailored to each individual's job and duties and level of responsibility. Personnel will receive both introductory and continuing training through classroom instruction and on-the-job training in hazardous waste management.

All personnel assigned hazardous waste management duties will complete introductory training within 6 months of their hazardous waste management assignment, or their date of employment, whichever is later.

Hazardous waste management personnel at MCAAP will participate in continuing training on an annual basis. In addition to a review of the introductory training program, continuing training will update personnel on the status of the topics outlined below.

- Treatment, Storage, Operating Conditions, and Procedures: Current or potential problem identification with respect to treatment, storage, operating conditions, and procedures for the handling of hazardous materials. Special emphasis will be placed on employees to participate in revising procedures and operating conditions.
- RCRA Permit: Requirements contained in the facility's RCRA permit are discussed. Existing and potential problem areas are identified and effective solutions are sought.

- Contingency Plan: Emergencies that occurred and actions taken in the past year, identifying causes of the incident, and preventive measures to be taken to avoid recurrence. Potentials for emergencies that existed are also discussed. Current or potential problems with the facility's contingency plan are identified, and effective solutions are sought.

c) Job Title and Duties [40 CFR 264.16(d)]

The complete job description for each employee performing hazardous waste duties is maintained at the Environmental Coordinator's office.

Job Title: Environmental Protection Specialist/Environmental Scientist

Major Duties: Responsible for environmental enhancement and pollution abatement matters for MCAAP. Directly oversees testing, inspections, and storage of hazardous materials. Implements contingency plan in hazardous waste emergencies. Acts as Training Director for hazardous waste management training at MCAAP.

Job Title: Environmental Protection Specialist/Environmental Scientist

Major Duties: Assists the Environmental Coordinator in the environmental enhancement and pollution abatement matters of MCAAP. Assists in coordination of hazardous waste management activities at MCAAP and coordination of activities with local, State, and Federal regulating agencies.

d) Training Content, Frequency, and Techniques [40 CFR 264.16]

All personnel assigned hazardous waste handling duties will complete initial training within 6 months of their hazardous waste management assignment or date of employment, whichever is later. Training will consist of 40 hours of classroom instruction in hazardous waste operations. The purpose of this training will be to familiarize personnel with hazardous waste facilities and operations at MCAAP, and to outline emergency procedures.

After initial training has been completed, all hazardous waste handling personnel will receive continuing training on an annual basis. Continuing training will consist of an 8-hour review of the initial training program, followed by discussions and reviews on current hazardous wastes being handled by MCAAP, current treatment, storage, operating conditions and procedures relating to these wastes, existing and potential problem areas in these operations, and any emergency situations. All current hazardous waste types handled by the installation will be identified with respect to characteristics, volume, source, and location. Current or potential problems in treatment, storage, operating conditions, and handling will be identified, with special emphasis placed on employee participation in identifying problem areas and seeking effective solutions. Emergencies that occurred and actions taken in the past year, together with preventive measures to be taken to avoid recurrence, will also be reviewed.

In addition to the training described above, all personnel working at the incinerator will receive detailed training on procedures related to the proper operation of the unit. The course outline and training materials are included the permit application.

e) Training Director

The Environmental Protection Specialist/Environmental Scientist for the hazardous waste management program will serve as the hazardous waste management Training Director. This person will be trained in hazardous waste management procedures, and will meet the educational requirements stated in the position job description. In addition, this person will receive training at least once per year in the area of environmental protection. Training records will be kept in the office of the Training and Employee Development Branch and the Environmental Management Office. The Training Director will designate appropriate personnel to assure training for the personnel handling hazardous wastes.

f) Relevance of Training to Job Position

The Training Director is responsible for overseeing training of all hazardous waste handling personnel in hazardous waste handling procedures. Training received by the hazardous waste handling personnel is tailored to offer specific training for specific duties performed under various job descriptions. For example, foreman of facilities require more training in administrative details, such as recordkeeping, while other employees at the same facilities require more training in normal and emergency operating procedures.

g) Training for Emergency Response

Training in emergency response procedures will be covered in the initial training session received by all hazardous waste handling personnel. These procedures will be reviewed and updated annually in continuing sessions. All topics listed under Emergency Procedures and Contingency Plans are covered in the Contingency Plan.

An Emergency Response Team is maintained at MCAAP for response to all major spills. This team is given an initial 24 hours of training in emergency response procedures with annual 8-hour refresher training.

h) Implementation of Training Program

All new personnel assigned hazardous waste handling duties will complete the initial training within 6 months of their hazardous waste handling assignment, or date of employment, whichever is later. No employee at a hazardous waste facility will work unsupervised prior to completion of the initial training program.

i) Recordkeeping [40 CFR 264.16]

Training records for all hazardous waste handling personnel will be maintained at the office of the MCAAP Training and Employee Development Branch and the Environmental Management

Office. The training records will include the type, date, and amount of hazardous waste training received for each person holding a hazardous waste handling position at MCAAP. Initial training and continuing sessions will be documented, as well as specialized hazardous waste handling courses received by key hazardous waste handling personnel. Training records will be kept for a minimum of 3 years, or until closure of the hazardous waste facilities, whichever is the longer period of time.

SECTION III. DEACTIVATION FURNACE

A. SECTION HIGHLIGHTS

The APE 1236M2 deactivation furnace was designed by the U.S. Army to destroy obsolete or unserviceable ammunition. The unit is capable of processing ammunition ranging from small arms through 20-mm rounds. Ammunition larger than 20-mm must be sectioned or disassembled prior to feeding to the unit. The MCAAP deactivation facility includes a Munitions Cryofracture Demilitarization Facility (MCDF) that was built to process Area Denial Artillery Munition (ADAM) mines. The MCDF disassembles the mines prior to feeding them to the furnace. The cryofracture process freezes, fractures, punches, and exposes the energetic material prior to delivering it to the incineration system.

The deactivation furnace includes the following major elements in order:

- Rotary kiln
- Cyclone scrubber
- Afterburner
- Ceramic baghouse
- Draft fan
- Exhaust stack

Waste munitions can be fed from either an Automatic Waste Feed Conveyor that delivers ammunition smaller than 20-mm or a Positive Feed system that delivers cryofractured waste from the MCDF. The system is configured so that only one of the delivery systems can operate at any given time. The rotary kiln is equipped with a No. 2 fuel oil burner that is used to pre-heat and maintain the combustion chamber temperature for ignition and incineration of the waste munitions. A combustion air fan provides oxygen for combustion of the fuel and waste streams. Ash and metal components that are not entrained in the flue gases are discharged at the burner end of the kiln onto a discharge conveyor. The discharge conveyor moves the remaining material to an adjacent accumulation area for subsequent removal.

From the kiln, the flue gas is transported to the cyclone to ensure that no sparks are conveyed to downstream equipment. After the cyclone, the flue gas enters the afterburner equipped with a No. 2 fuel oil burner to further heat the combustion gases and destroy any remaining organics. Propane is used during the burner ignition sequence to ignite the afterburner. Following the afterburner, the flue gases pass through stainless steel ductwork to the high temperature ceramic baghouse. An induced draft fan pulls the flue-gases through the incineration system before discharge through the exhaust stack.

The furnace is equipped with continuous monitoring systems that measure process parameters and emissions.

B. REGULATORY STATUS

The ODEQ Air Quality Division has issued Clean Air Act Title V Operating Permit No. 2005-301-TV which incorporates the standards of 40 CFR Part 63, Subpart EEE. This permit allows McAAP to operate the deactivation furnace for the destruction of hazardous waste munitions. RCRA regulation 40 CFR 264.340(b) Integration of the MACT standards, states that standards of 40 CFR 264 Subpart O-Incinerators no longer apply when an owner or operator demonstrates compliance with the maximum achievable control technology (MACT) requirements of part 63, subpart EEE. McAAP has demonstrated this compliance. Additionally, the ODEQ has examined the waste analyses included in the Part B of the permit application and does not find that the described wastes will pose a threat to human health and the environment when burned in the deactivation furnace.

C. ALLOWABLE WASTE FEEDS

The Permittee may feed the hazardous wastes as identified in Waste Analysis Plan, Permit Attachment 1.

D. CLOSURE

The Permittee shall follow the procedures in the Closure Plan, Permit Attachment 5.
[40 CFR 264.351]

SECTION II – GENERAL FACILITY CONDITIONS

A. DESIGN AND OPERATION OF FACILITY

The Permittee shall construct, maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned, sudden or non-sudden release of hazardous waste constituents to air, soil, groundwater, or surface water which could threaten human health or the environment, as required by 40 CFR 264.31.

B. REQUIRED NOTICES

1. Hazardous Waste Imports

The Permittee may not receive hazardous waste from a foreign source.

2. Hazardous Waste from Off-Site Sources

The Permittee may not receive hazardous waste which is not generated at Department of Defense (DOD) facilities or is not under the control of the DOD or other agencies of the United States government.

C. GENERAL WASTE ANALYSIS

The Permittee shall meet the waste analysis requirements of 40 CFR 264.13 by following the procedures set forth in the attached Waste Analysis Plan, Permit Attachment 1.

At a minimum, the Permittee shall maintain proper functional instruments, use approved sampling and analytical methods, verify the validity of sampling and analytical procedures, and perform correct calculations.

The Permittee shall repeat the analysis when it is notified or has reason to believe that the process or operation generating the waste has changed.

D. SECURITY

The Permittee shall comply with the security provisions of 40 CFR 264.14(b)(1) and (c) and the Procedures to Prevent Hazards, Permit Attachment 2.

E. GENERAL INSPECTION REQUIREMENTS

The Permittee shall follow the inspection schedules set out in Permit Attachment 2. The Permittee shall remedy any deterioration or malfunction discovered by an inspection, as required by 40 CFR 264.15(c). Records of inspections shall be kept, as required by 40 CFR 264.15(d).

F. PERSONNEL TRAINING

The Permittee shall conduct personnel training, as required by 40 CFR 264.16. This training program shall follow the attached outline set forth in Permit Attachment 3. The Permittee shall maintain training documents and records, as required by 40 CFR 264.16(d) and (e).

G. SPECIAL PROVISIONS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

The Permittee shall comply with the requirements of 40 CFR 264.17(a). The Permittee shall follow the procedures for handling ignitable, reactive, and incompatible wastes set forth in Permit Attachment 2.

H. PREPAREDNESS AND PREVENTION

1. Required Equipment

At a minimum, the Permittee shall maintain at the facility the equipment set forth in the Contingency Plan, Permit Attachment 4, as required by 40 CFR 264.32.

2. Testing and Maintenance of Equipment

The Permittee shall test and maintain the equipment specified in the Contingency Plan, Permit Attachment 4, as necessary to assure its proper operation in time of emergency, as required by 40 CFR 264.33.

3. Access to Communications or Alarm System

The Permittee shall maintain access to the communications or alarm system, as required by 40 CFR 264.34.

4. Arrangements with Local Authorities

The Permittee shall maintain arrangements with state and local authorities, as required by 40 CFR 264.37. If state or local officials refuse to enter into preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.

I. CONTINGENCY PLAN

1. Implementation of Plan

The Permittee shall immediately carry out the provisions of the Contingency Plan, Permit Attachment 4, whenever there is a fire, explosion, or release of hazardous waste or constituents which could threaten human health or the environment.

2. Copies of Plan

The Permittee shall comply with the requirements of 40 CFR 264.53.

3. Amendments to Plan

The Permittee shall review and immediately amend, if necessary, the Contingency Plan, as required by 40 CFR 264.54. Such amendment may require permit modification in accordance with 40 CFR 270.42.

4. Emergency Coordinator

A trained emergency coordinator shall be available at all times in case of an emergency, as required by 40 CFR 264.55.

J. MANIFEST SYSTEM

The Permittee shall comply with the manifest requirements of 40 CFR Part 262, Subpart B, and Part 264, Subpart E.

K. GENERAL CLOSURE REQUIREMENTS

1. Performance Standard

As required by OAC 252:205-9-5 and 40 CFR 264.111, the Permittee shall conduct all required closure activities for hazardous waste management units in accordance with the Closure Plan, Permit Attachment 5.

2. Amendment to Closure Plan

The Permittee shall amend the Closure Plan, in accordance with 40 CFR 264.112(c), whenever necessary. Such amendment may require permit modification in accordance with 40 CFR 270.42.

3. Notification of Closure

The Permittee shall notify the ODEQ in writing at least 60 days prior to the date on which he expects to begin closure of the permitted units or final closure of the regulated units, as required by 40 CFR 264.112(d).

4. Time Allowed For Closure

After receiving the final volume of hazardous waste, the Permittee shall treat, remove from the unit, or dispose of on site all hazardous waste and shall complete closure activities, in accordance with 40 CFR 264.113 and the schedules specified in the Closure Plan, Permit Attachment 5.

5. Disposal or Decontamination of Equipment, Structures, and Soils

The Permittee shall decontaminate or dispose of all impacted equipment, structures, and soils, as required by 40 CFR 264.114.

6. Certification of Closure

The Permittee shall certify that the regulated unit has been closed in accordance with the specifications in Permit Attachment 5, as required by 40 CFR 264.115.

7. Survey Plat

The Permittee shall submit a survey plat no later than the submission of certification of closure of each hazardous waste disposal unit, in accordance with 40 CFR 264.116.

L. GENERAL POST-CLOSURE REQUIREMENTS

1. Post-Closure Care Period

Unless clean closure is achieved, the Permittee shall begin post-closure care for each regulated unit after completion of closure of the unit. Until the time that a post-closure permit or other authorization is issued, the facility shall be maintained in accordance with 40 CFR 264.117 and the Closure Plan, Permit Attachment 5.

2. Post-Closure Security

The Permittee shall maintain security at the regulated unit during the post-closure care period, in accordance with 40 CFR 264.117(b).

3. Amendment to Post-Closure Plan

The Permittee shall amend the Post-Closure Plan in accordance with 40 CFR 264.118(d), whenever necessary.

4. Post-Closure Notices

- a. No later than 60 days after certification of closure of each hazardous waste disposal unit, the Permittee shall submit records of the type, location, and quantity of hazardous waste disposed within each cell or disposal unit, in accordance with 40 CFR 264.119(a).
- b. Within 60 days of certification of closure of the first hazardous waste disposal unit and the last hazardous waste disposal unit, the Permittee shall do the following:
 - 1) Record a notation on the deed to the facility property, in accordance with 40 CFR 264.119(b)(1).
 - 2) Submit a certification that a notation, in accordance with 40 CFR 264.119(b)(2), has been recorded.